

CONSTRUCTING A TEACHING APTITUDE TEST

THESIS

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C E R T I F I C A T E

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"CONSTRUCTING A TEACHING APTITUDE TEST", submitted to the
University of Madras, for the award of the degree of Doctor
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work, done by Smt. G.Thilakam, during the period of research
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Also certified that the thesis represents independent
work on the part of the candidate.



Signature of the Guide

A C K N O W L E D G E M E N T

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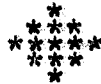
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Chapter - I
INTRODUCTION

1. The Teacher

"A Teacher is the Image of Brahma, - the Creator" says Manu, in the ancient law book in India. Yes, it is very true: the teacher is the maker of man, the builder of the Nation and the moulder of the destiny of tomorrow. The teacher is the single, most important key factor in the success of any educational system. A good teacher is one who in personality, character and attitudes exercises a wholesome and inspiring influence on young people. By inspiration is meant, the quality of teaching that somehow strikes a spark deep inside the student, raising his level of awareness in life, enlarging rather than satisfying his natural curiosity, opening up a sense of individual capacity and responsibility, holding up before the student an ideal worth pursuing and realising as a person. The factual content of education may fall away from the individual over the years or it may become obsolete. What is not lost, however, is the deep influence of a great inspiring teacher, someone whose general approach to knowledge and life serves as a practical guide for the individual in the world beyond school. It is possible only for a teacher situated miles away to affect the spirit of the pupils by his way of living.

"According to Adams (1960), a teacher affects eternity, he can never tell where his influence stops", because by profession, the teacher is dedicated to the search for truth and is a pilgrim on the path which leads to the goal of intellectual satisfaction. The teacher is a centre from which eddies of thoughts spread, on his inventions and discoveries depend much of the progress and welfare of the nation and it is only through him that a nation's culture is preserved, fostered and developed. The influence of a teacher indirectly extends over many generations; it transcends national and geographical boundaries; and it advances the cause of civilisation and world order. India was fortunate to have such great teachers in the past. Teaching is a noble and demanding occupation, but in the last few years as Moir (1983) observes, there has been increasing evidence that teachers are expressing greater feelings of anxiety, frustration and dissatisfaction with their jobs. The features present in the ancient system of education are unfortunately conspicuous by their absence in the present days. We no longer find the ancient glory of the teacher. Many of the attributes paid to the profession like "Nation Building", "Man making", "Noble and Sacred" are only high sounding words which do not mean much to-day.

A large number of teachers of the present day have no interest in their profession and it is very rarely that we come across teachers who are dedicated to the profession. The fruits reaped by many are neither mental satisfaction nor material contentment but only disgust and dissatisfaction. For various reasons teaching profession is usually the last choice among many and have chosen it as an immediate solution for unemployment or to pass the spare time { Sharma (1984) and Chauhan (1983)}. As a result of the foregoing conditions, there appears to be a wide spread dissatisfaction in the teaching profession. A dissatisfied teacher is not only lost to himself but also to the entire society. No system of education can ever rise higher than the quality of its teachers and the need of the hour is good teachers capable of fulfilling the multifarious roles of the present day changing society. According to Avinashilingam (1954) "The best scheme of education can become futile if the teachers handling it are bad; even so a scheme though bad can in practice be made a good one, if the teachers are good."

2. Education and the Teacher in the Emerging Indian Society

The second half of the twentieth century has been marked by rapid changes in all aspects of human affairs such as political, cultural, social, economic, scientific

and technological. Education and training are considered as the important means for the continuous supply of new knowledge and skills, so as to master the challenge of the new situations. Education should also promote open-mindedness, rationality and scientific spirit in students and thereby lead to the integration of society at newer levels by promoting the capacity to devise and accept new basis of social stratification. Promotion of autonomy in the individual members as well as the society as a whole is also conceived to be the major goal of education. Education is also conceived to be a liberalising force in the realm of thought and action and is expected to promote social sensitivity among the recipients of education. Further education is expected to disabuse the minds of students of erstwhile ignorance and prejudice. Inculcation of a new set of values based on social equality, individuality, justice and freedom would naturally be regarded as an important goal of education. Thus education is looked upon to promote efficiency as well as a new set of values which would be dynamic enough to take cognisance of the changing situations.

This should be the entry behaviour of students of the oncoming twenty first century. In a developing society, therefore, very heavy demands are made on education and a great deal depends on the teachers' role and performance in

ensuring the goals of education. According to Ruhela (1983) "In an industrial society, the teacher has to socialise, judge, select and classify the students, promote equality of opportunity, impart training in democracy and make them sensitive to the needs and expectations of the modernising society of the present and future. Today, the teacher is required to go beyond transmitting the knowledge of the historically accumulated facts to explore the potential abilities of the students and develop them accordingly to be deserving citizens of a sovereign, secular, socialistic and democratic India, by building good moral character, instilling in them the virtues of tolerance and seeing that they do not fall a prey to untouchability, communalism, provincialism, religion, language and fanaticism. They also have to co-ordinate teaching and learning process in the community. Outside the school, the teacher is expected to make active educational efforts in the field of health education, general cultural development and citizenship education. Lot of education could and should take place outside the classroom. It is valuable experience for students to start thinking about their own and society's alternative futures. Therefore, as stressed by the Education Commission (1964-'66), of all the different factors which influence the quality of education and its contribution to national development, the quality,

competence and character of teachers are undoubtedly the most significant. Nothing is more important than securing a sufficient supply of high quality recruits to the teaching profession. In this space age, when educated intelligence is essential to progress in all fields and even, perhaps to national survival, the best must teach. A programme of high priority, therefore, is to feed back a significant proportion of the talented men and women from schools and colleges into the educational system.

3. Need for the Study:

It is the teacher who serves the humanity and leaves impressions that help to change the destiny of their society since, they are developing future statesmen, lawyers, doctors, ministers, scientists, technicians, labourers, white collared workers, housewives, salesmen and almost every adult in a job. In spite of it, securing a sufficient supply of the right kind of people to the teaching profession has hardly received the needed attention and consideration. Teaching as a profession calls for many exacting standards. Teachers are to possess a variety of traits such as intelligence, creativity, knowledge and information, communication ability, sincerity, willingness, devotion, perseverance tolerance, adaptability and a host of other qualities along with a positive attitude towards the profession founded on academic excellence at the apex. Greater the degree of

these traits in a person, greater will be his effectiveness as a teacher. Therefore in the interest of a successful, meaningful and developmental educational system for the country it is absolutely essential that the choice of the category of the teachers is made scientifically and objectively.

Secondly even after a choice is made, if the ability of the teaching class as a whole is to be improved, there should be a standardised system to assess their effectiveness and to suggest ways and means of better performance. If the desirable characteristics are to be developed in teacher trainees, the trainees need to have the aptitude for these characteristics. In the absence of aptitudes they may not be developed to the required level.

North (1958) has shown through analysis, that the teacher education students in certain colleges that maintain high admission standards compare quite favourably with other liberal arts, science and engineering groups and not otherwise. It is also well realised as Richy (1952) says that the degree of success and job satisfaction that one will experience in any career will depend largely upon the extent to which one meets adequately the educational competencies required. Heads of various institutions at different levels also feel that there is a need for objective tests, as it is generally felt that persons coming for the profession do not have the necessary aptitude for teaching.

Therefore the investigator felt that there is a great need to construct a teaching aptitude test to measure to what extent the candidates opting to become teachers possess the traits and abilities related to teaching and thereby to help in selecting the appropriate personnel for the teaching profession.

4. Aim of the Present Investigation:

The aim of the present investigation is to develop a suitable teaching aptitude test which can be used to select appropriate personnel who would shape good citizens in their classrooms.

5. Objectives of the Study:

The objectives of the study are as follows:

1. To identify the characteristics, both personal and professional that are considered as the constituents of teacher efficiency and to construct a teaching aptitude test.
2. To utilise the test to predict teaching efficiency and thus to assist in screening and selecting the personnel for training in the teaching profession.

6. Statement of the Problem:

The problem of this investigation is "Constructing a Teaching Aptitude Test".

7. Defining Important Terms in the Problem:

Teaching:

Good (1959), says teaching in the narrow sense is "the act of instruction in an educational institution". Broadly, it means "the act of providing activities, materials and guidance that facilitate learning, in either formal or informal situation by the teacher".

According to Hough and Duncan (1970) Teaching is an activity - a unique professional, rational and human activity in which one creatively and imaginatively uses himself and his knowledge to promote the learning and welfare of others". It is acquiring of knowledge and its application and relationships which are learned on either memory, explanatory or understanding level. This may include reflective learning procedures as well.

As an operational definition in this investigation, it may be said that, teaching is what teachers do. They present information orally, they give instructions to pupils; they organise materials for pupils to deal with, they have goals, worries, fears frustrations and satisfactions related to their jobs. They react emotionally to pupils and other teachers. They estimate the progress of pupils. They carry out a variety of activities that are characteristic of the institution, we call the school". These include both problem raising and problem solving techniques. All of these things are parts of teaching.

Aptitude:

Aptitude is a special ability or potentiality which enables an individual to learn or acquire the necessary skills in a specialised field. Aptitude is a present condition with a forward reference.

Super (1949) points out that aptitude, the set of characteristics which enables one person to learn something, may even be different from that which enables another person to learn the same thing. He favours the use of the word aptitude to convey the idea of a discrete, unitary characteristic which is important in varying degree, in a variety of occupations and activities.

Mahn and Maclean (1955), have stated that, "Aptitudes are correctly, referred to as latent potentialities, undeveloped capabilities to acquire abilities and skills and to demonstrate achievement".

Freeman (1955) states that when we speak of an individual's aptitude for a given type of activity, we mean the capacity to acquire proficiency under appropriate conditions, i.e. his potentialities at present, as revealed by his performance on selected tasks that have predictive value.

According to English and English (1961) aptitude may be regarded as "the capacity to acquire proficiency with

the given amount of training. Here it is emphasised that an aptitude refers to the capacity of an individual to be skilled in some work.

Smith, Krouse and Atkinson (1962) define aptitudes as the potential to master a specific series of skills. Encyclopedia of Psychology (1972) also defines aptitude as a potential ability.

An examination of the different definitions cited above reveal that aptitude represents more than an innate capacity and is pluralistic.

Individuals differ from each other in aptitude and each individual differs within himself and these differences are, within limits, constant. For the present investigation it is assumed that, aptitude, in most instances represents more than innate capacity. Aptitude is taken here as a present condition, with a forward reference. It is a condition or set of characteristics, regarded as symptomatic and indicative of potentialities.

Teaching Aptitude:

Teaching aptitude means, the traits and abilities that constitute to success in teaching. A person with teaching aptitude is one who has a good proportion of the traits/and abilities required for becoming successful in teaching.

Aptitude Test:

Any measure of present capability or knowledge which is intended to predict some future capability can be regarded as an aptitude test (Deighton, 1971). Aptitude tests measure present performance. The estimate is necessarily in terms of probabilities only. A test of aptitude samples the relevant abilities and characteristics of the individual tested, as he is on that day. It helps to find out what he can do now and how well he can do it in the near future. In Bingham's words, they ascertain what an individual actually does in certain standardised situation and from those measurements, the estimate of capacity for future accomplishment is an inference, a statistical probability, not a certainty. Moreover, tests cannot sample all the important aspects of behaviour, nor plumb the depths of vocational purposes. Even with full data at hand, an inquirer's questions regarding his aptitudes can rarely be answered precisely and with positive assurance. The main function of standardised tests of aptitude, therefore is to help in estimating the probabilities of a person's success in his occupation.

Teaching Aptitude Test:

The tool prepared in this investigation to measure the aptitude for teaching is termed as "Teaching Aptitude

Test" which is designed to measure a person's aptitude for teaching. The test items in the tool were constructed after deciding the content of the teaching aptitude which was done after a thorough study of the previous researches.

The teaching aptitude test constructed consists of the following subtests.

- Subtest 1: Mental ability test
 - A. Problem solving ability test
 - B. Reasoning ability test.
- Subtest 2: Creativity test
- Subtest 3: General information test
- Subtest 4: Professional awareness test
- Subtest 5: English Language ability test.

Subtest 1 - the mental ability test - is designed to measure the normal intelligence of the teacher candidates. Successful teaching does pre-suppose a teacher to be endowed with intellectual abilities. A teacher who shows mental readiness, alertness and insight in handling the various situations in the class will be successful in achieving the goals of education. An intelligent teacher will be quick in taking decisions, learning and expression. Teachers who generally prove to be a failure in the class, do not possess the necessary mental abilities. Therefore

this subtest includes items to test the mental abilities of the candidates.

Subtest 2 - the creativity test - is included in this teaching aptitude test, because, research studies have found high correlation between creativity and successful teaching. Moreover, in today's educational field more importance is given for the development of the creative abilities in children and a creative teacher can develop the creative potential in the pupils. Thus this teaching aptitude test battery is unique to have a subtest on creativity in it.

Subtest 3 - the general information test - measures the teacher candidates' general knowledge and the knowledge of the various subjects in the school curriculum. It is well known that teacher effectiveness is highly related to proficiency in content and general knowledge. The teacher should be well informed and stay a scholar all the time by remaining constantly in touch with the current events. He must also have a basic knowledge of the subjects in order to have correlated teaching and thus this test forms an important and legitimate subtest in this teaching aptitude test battery.

Subtest 4 - the professional awareness test intends to measure the professional information, professional interest, teacher pupil rapport, tolerance and adaptability. The job analysis and an indepth study into the functions of a teacher have revealed that the teacher should have a love for teaching and a sense of commitment to his profession. He should have abiding concern for the wards under his care. He should be tolerant and adapt to individual differences and other demands of the situation. The teacher should be conscious of the highest standards of ideal behaviour expected of him.

Subtest 5 - is the English language ability test. Language is the only effective tool of a teacher to impart knowledge, to translate, interpret, extrapolate and the like. Effective communication depends upon the structure and the formal properties of the language the teacher uses. The investigator intended to test only the English language ability of the teacher candidates for English language is common for all the candidates and a common test construction is facilitated.

Thus the teaching aptitude test constructed in this investigation is a unique combination of traits and includes many of the traits considered important by educationists. (Devadas, 1983) (Joshi, 1984).

8. Attitude towards the Teaching Profession:

Besides constructing an aptitude test, the investigator has also constructed an attitude scale towards the teaching profession, because research studies and job analysis have revealed beyond doubt that if a person possesses positive attitude towards teaching and school work, he will enjoy teaching, able to maintain harmonious relationship with pupils, show mutual affection, and extend sympathetic understanding. It is intended to finding out the correlation between the aptitude and the attitude scores.

9. Sample Selected for the Study:

The teaching aptitude test constructed was administered to a random sample of 1000 teacher trainees from 10 colleges of education belonging to all the five universities that have colleges of education affiliated to them.

10. Scope of the Study:

The teaching aptitude test constructed can serve as a tool in Colleges of education to select and admit capable young people who hold the highest promise of becoming successful teachers. This test provides information which may form the basis for the selection of teachers in schools. Descriptions of these tests with the information sheet given in the appendix, may be useful to other investigators who desire to use them or develop similar tools.

11. Assumptions:

- 1) Only persons with teaching aptitude can be effective and successful teachers.
- 2) Since aptitude is pluratistic and includes a set of abilities, it is assumed that teaching aptitude is not a single faculty, but includes a set of traits and abilities.
- 3) These traits and abilities can be listed by analysing the earlier researches on teacher personality and characteristics and teacher effectiveness.
- 4) Individuals differ in the traits and abilities and in the amounts of these traits and abilities possessed by them.
- 5) An individual differs within himself and these differences are within limits constant.
- 6) It is possible to measure both overt and covert teaching traits in the individuals through a battery of teaching aptitude test.

12. Hypotheses formulated:

1. The distribution of the scores on the teaching aptitude test constructed follows the normal curve.
2. The discrepancy between the observed and the expected frequencies, if there is any, is insignificant and is due to chance factor only.

3. The aptitude scores of the teacher trainees are influenced by such factors as sex, locality, their qualifications and educational and occupational statuses of their families.
4. The teaching aptitude of the teacher trainees is related to their attitude towards the teaching profession.

13. Limitation of the Study:

1. The test does not measure traits like physical appearance, voice, expression etc.
2. This test is applicable to the teacher trainees at the secondary and higher secondary levels only and not at the collegiate and/or at the primary school levels.
3. Teachers who are committed to reflective teaching would usually neither test their students on a memory level nor use true false tests. Instead they would prefer to use essay tests and strive to make their questions truly reflective. In this battery there is not much scope for testing reflective teaching. The investigator could not include essay type test because it was not intended.
4. No parallel test forms are developed.

14 Research Reporting:

This thesis is mainly concerned with the construction of teaching aptitude test. The various methods employed and the discussion of the results are presented in seven chapters i.e. I. Introduction; II. Theoretical Frame Work of Aptitude and Aptitude Testing; III. Review of Literature; IV. Design of the Present Study - The Construction of Teaching Aptitude Test; V. Construction of 'Attitude Towards the Teaching Profession Scale'; VI. Analysis and Interpretation of the Data and VII. Summary and Conclusions. The Bibliography and a few appendices are given at the end.

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CHAPTER - II

THEORETICAL FRAMEWORK OF APTITUDE AND APTITUDE TESTING

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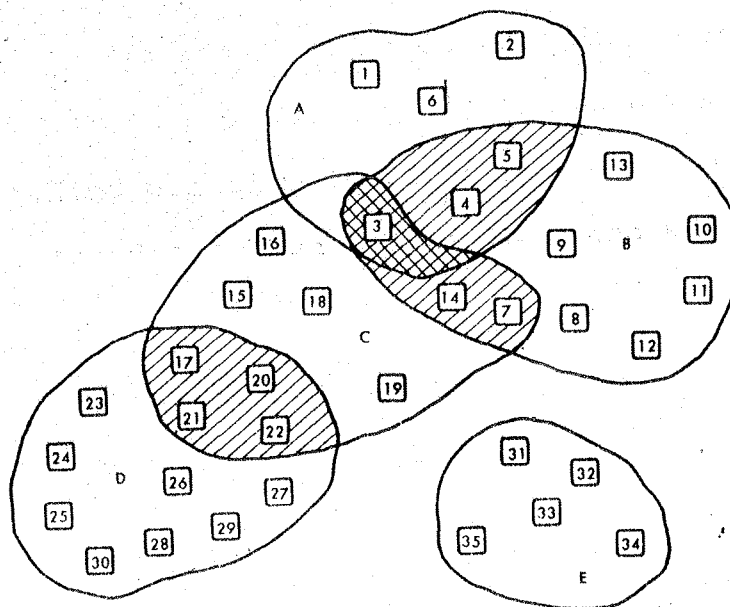
Chapter II

THEORETICAL FRAME WORK OF APTITUDE AND APTITUDE TESTING

1. Aptitude:

In analysing and predicting behaviour we often find it convenient to consider a whole cluster of special abilities, all of which seem essential in the performance of some task or series of tasks. Such clusters of special abilities are usually called aptitudes and the following figure (Horrocks, 1968) is a diagrammatic representation of the foresaid concept.

FIGURE 1
Schematic Representation of Clusters of Special Abilities
Serving 4 Related Aptitudes



NOTE: Small numbered squares represent single special abilities; large lettered circles represent aptitudes.

In the above representation, aptitude 'A' consists of a cluster of 6 special abilities, while aptitude 'B' consists of 11 special abilities. Of these special abilities, 3 are shared or possessed in common by the two aptitudes. Aptitude 'C' shares one special ability with 'A' and 2 with 'B', but only one of these special abilities is common to 'A', 'B' and 'C'. Aptitude 'D' shares 4 special abilities with 'C', but none with 'A' and 'B'. Aptitude 'E' has no special abilities with A, B, C and D.

To obtain a complete picture of all existing special abilities and aptitude, one would have to visualise, an enormous number of aptitudes or clusters of special abilities, all, more or less related or inter-connected.

The possibilities for permutation and combination of special abilities would seem practically infinite. And underlying all of these many clusters is their relationship to the activating principle of general ability which may be viewed either as a kind of energy underlying all aptitudes, or as simply a very special cluster of special abilities in its own right some elements of which are related to every single one of all the aptitude clusters, that exist. This is the make up of human behaviour and the behaviour of any human being is composed of or governed by a number of such special aptitudes.

Unfortunately, there is no definition of "aptitude" found acceptable in toto by all psychologists.

2. The Nature of Aptitudes:

In the Dictionary of Education aptitude is described as a "pronounced innate capacity for or ability in a given line of endeavor, such as a particular art, school subject, or vocation". In the same volume, capacity is defined as "the potentiality of a person for a given function as conditioned by the total pattern of causes; partly hereditary and partly environmental". Ability is defined as "the actual power present in an organism to carry to completion any given act or to make adjustments successfully". According to Warren (1934) in the Dictionary of Psychology, aptitude is "A condition or set of characteristics regarded as symptomatic of an individual's ability to acquire with training some (usually specified) knowledge, skill, or set of responses, such as the ability to speak a language, to produce music

Bingham (1942) defines aptitude as "A condition symptomatic of a person's relative fitness, of which one essential aspect is his readiness to acquire proficiency - his potential ability - and another his readiness to develop an interest in exercising that ability".

Super (1949) points out that both Warren's and Bingham's definitions imply that, an aptitude is not necessarily an entity but rather a constellation of entities; the set of characteristics which enable one person to learn something, may even be different from that which enables another person to learn the same thing.

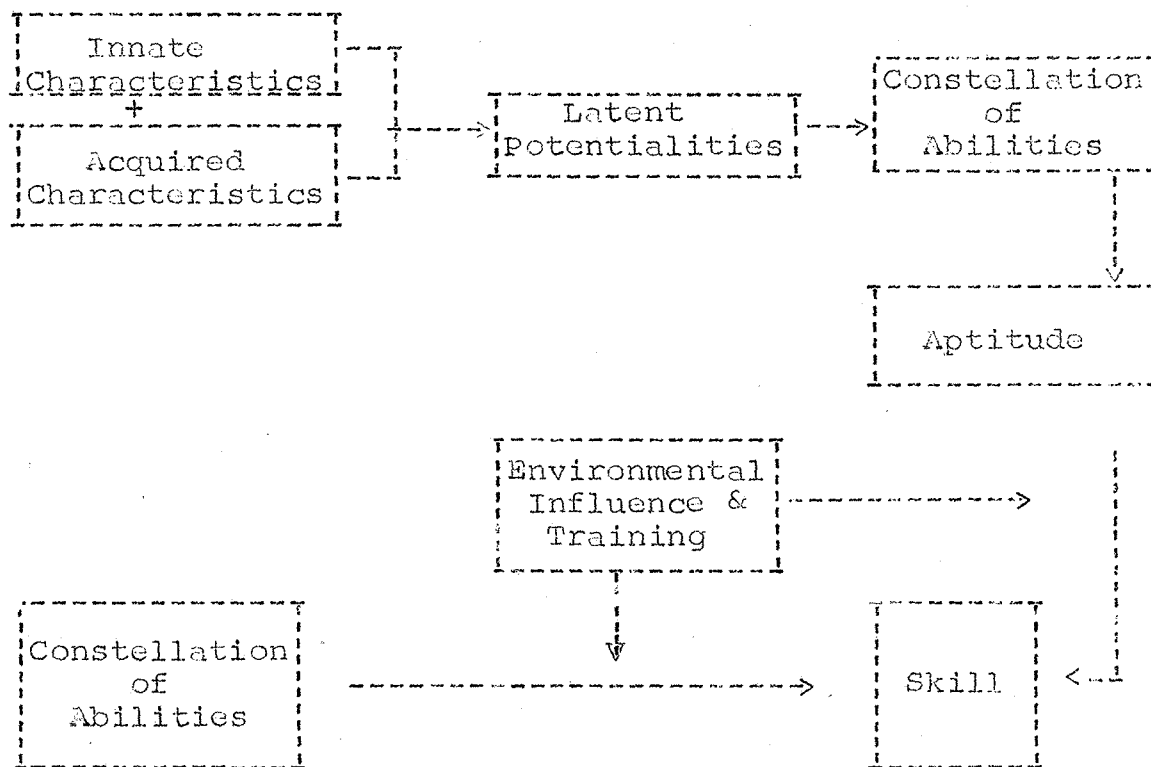
Super favours the use of the word aptitude to convey the idea of a discrete, unitary characteristic which is important, in varying degrees, in a variety of occupations and activities".

Freeman (1955), has defined an aptitude as a "Combination of characteristics indicative of an individual's capacity to acquire some specific knowledge, skill or set of organised responses such as the ability to speak a language, to become a musician, to do mechanical work".

Smith, Krouse and Atkinson (1962) defined aptitudes as the potential to master a specific series of skills.

Encyclopaedia of Psychology (1972) defines aptitude as a potential ability.

The following paradigm can be evolved for aptitude basing on the theoretical background discussed so far.



3. Assumptions Implied in the Concept of Aptitude:

The concept of aptitude carries within it certain assumptions. The facts of human nature, as also the three generalisations of differential psychology, justify them.

These assumptions are:

- A) Individual Differences: The trait is constant; the individuals differ in the amount of it possessed by each.

B) Trait Differences: It should also be considered how the various traits or talents possessed by an individual differ in amount. Here the individual is constant, but the magnitudes of his various traits differ.

C) Many of these differences are relatively stable. They tend to persist. Any change subsequently taking place in an individual's potentialities occur within limits imposed by his present constitution.

A. Individual Differences:

Individual differences occur because of variations in heredity and environment and the interaction between these factors. Individuals, therefore, differ widely in any given personality trait-ability, achievement, or interest. In each measurable trait, the scores or ratings of individuals tend to be distributed according to the normal curve.

Another important result which has come from the investigation of individual differences is an indication as to the magnitude of the differences which may exist in a given trait between the best and the poorest individuals in a normal population.

We shall probably not be in a great error if we conclude that among individuals ordinarily regarded as normal, in the average vocation the most gifted will be between three and four times as capable as the poorest.

B. Trait Differences:

Individuals rarely rank consistently high or consistently low in all traits. Instead, they usually show some degree of variation in their rankings in different areas of aptitudes, achievements, interests and other traits. That there are usually wide inequalities among an individual's various talents can scarcely be questioned. There need be little argument on this point.

To distinguish these differences from individual differences, they are termed as "trait differences" (within the individual) or "intra-individual differences". Despite the fact that trait differences have received scant attention in works on differential psychology, it can be shown that they are for the masses of mankind of far greater significance than individual differences.

The question really of importance is only as to the size of these trait differences. By what amounts do an individual's best and worst capacities differ from his own average?

Hull (1928), after reviewing the evidence on this point, arrived at the conclusion that,

The best person in a normal group is between three and four times as efficient as the poorest. If the variability within the individual is 80 per cent as great as that, then the average individual's best vocational potentiality must be between two and one-half and three times as good as his worst.

Another point about trait differences that needs clarification is about the nature of the distribution of the trait magnitudes within the individual. Regarding this question again Hull (1928), Says,

The indication is clear that the distribution of talent within an individual follows the normal law much as do the distributions of individual differences.

Bingham (1942) utters a word of caution against accepting Hull's (1928) conclusions in toto. He says,

Such quantitative estimates are necessarily very tentative. Only a sampling of the numerous distinguishable vocational aptitudes have as yet been measured with any degree of precision. . . . But even if Hull's estimate should turn out to be some what too large, the fact would nevertheless remain that a person's chances of satisfactory occupational adjustment are notably heightened when he

comes to realise what his different abilities are and prepares for an occupation in which his best potentialities may find full scope.

C. Are these Differences Persistent?

The theory of aptitude implies that a person's potentialities are fairly stable.

If behaviour or success is to be predicted, the entity upon which the prediction is based should be relatively stable. An aptitude which varied irrationally from one day, month, or year to the next would not provide a sound basis for predicting achievement at some further date. To put it statistically, an aptitude which is itself unreliable could be neither reliably measured nor significantly correlated with anything else.

About the constancy of traits Super (1949), writes, Whether largely innate or largely acquired, the aptitudes, about which we know something, appear to become crystalized in early childhood and that after that they are relatively constant.

Bingham (1942) in concluding the discussion on constancy of traits, remarks,

A theory of aptitude must not assume that each of the factors determining a person's traits is constant in the

sense that it will not alter, more or less, with time. We must, however, assume-if the concept of educational and vocational aptitudes is to have any meaning at all-that the changes which undoubtedly do take place in the relative potency of these factors are seldom sudden, and that they occur within limits which can often be ascertained in advance.

The investigator feels that Bingham's (1942), views regarding constancy of traits are plausible and may be accepted as far as the present work is concerned.

From the above discussion, it can safely be concluded that (i) individuals differ from one another, (ii) an individual differs within himself and (iii) these differences are, within limits, constant. These findings enable one to measure aptitudes.

4. The Test of Aptitude:

A test of aptitude has as its purpose the discovery and classification of potential ability. Such tests are used in vocational and educational counselling for the purpose of identifying those vocational, academic, and avocational activities from which an individual will be most apt to derive maximum benefits. Aptitude tests are also used for selection, classification, placement and promotion in

industrial and other work situations. They are also used by the clinician to determine those activities in which a client will be most apt to derive satisfaction and success and thus promote his own general adjustment. Institutions, particularly professional schools, use tests of aptitude as screening and selection devices in accepting or rejecting candidates for admission.

Theoretically, a test of aptitude purports to measure inherent ability entirely apart from the knowledge and skill that an individual has acquired through the processes of education and of living. Practically, such an attempt is impossible since the measurement of inherent ability would exclude from the test the material or performance which would give an individual with more knowledge, skill, or opportunities for learning an advantage over an individual of equal potential ability but with a less wide range and depth of background.

While some tests of special ability, particularly those of the performance or manipulation variety, tend to confine themselves to the measurement of inherent factors pretty well independently of learned factors, there is also a recognition that the experience and the information and skills that an individual has permitted himself to acquire

to be exposed to, are of very great importance in the determination of special abilities as well as of aptitude. For example, an individual who knows quite a bit about mechanical things, has familiarity with mechanical terminology, and has bothered to acquire some skill in dealing with mechanical things is displaying interest and probably some ability and success, since, other things being equal, one tends to be interested in and to do those things in which one has had satisfactory and successful experiences.

The inclusion of non-inherent aspects is particularly appropriate in tests of professional aptitude such as aptitude for law, medicine, teaching etc., In these areas interest in things and people is of paramount importance. One would hesitate to select for training as a lawyer, a person who had never been interested or alert enough to pick up considerable information about government, current events, sociology and words.

To complicate matters, special ability or aptitude is not a unitary or single factor but a very complex organization of various components. One does not have a potentiality but potentialities, and any activity or occupation calls upon many of these potentialities. For that reason the construction of an aptitude test may proceed only after

a very careful analysis of the components of the performance that is being measured and predicted. Since potentialities tend to overlap and to be interrelated, tests of aptitude also tend to overlap and to be interrelated. Some aspects that would determine one's potential ability to succeed at teaching or psychology would also determine success as a scientist or as a salesman.

Thus, tests of aptitude are concerned with the co-ordinated measurement of both the inherent and the non-inherent aspects of performance. There is, however, a definite line of demarcation between an aptitude test containing non-inherent factors as a supplement to inherent factors and a test whose purpose is purely the measurement of whether or not learning has taken place entirely apart from a consideration of ability. Such a test, known as an achievement test, is interested in the status at the time of administration of a person's information, knowledge or skill. Unlike the aptitude test it is not ordinarily the purpose of the achievement test to predict, its purpose is simply that of measuring what an individual has achieved to date.

More closely related to the test of aptitude are the tests of intelligence or mental ability. In a sense, tests of intelligence may be thought of as a special kind of

aptitude test measuring mental ability or potentiality. While they have much in common with tests of aptitude and have, in fact, been called tests of academic aptitude, they serve a separate and special function, and by virtue of consideration of construction and use have been historically and practically considered as a separate and independent entity.

Essentially, then, the aptitude test looks to the future while the achievement test looks to the past. Actually, however, it is not possible to draw a clear line of demarcation between the two. Because an examinee has already made use of certain inherent attributes through experience and training, his aptitude scores will exhibit evidence of both aptitude and achievement. On the other hand, achievement in a given area will frequently reveal the existence of unusual aptitudes for this area. Writing on this relationship Bingham (1935), has contended that an achievement test is also measure of aptitude in the sense that past achievement is usually related to potential

achievement in the same area. For counsellors and others who make use of tests, the important point is the usefulness of the test rather than the name it has been given. If a test designated as one of achievement finds successful use in specific instances to measure aptitude, then for the moment that test becomes one of aptitude. The converse is also true. The essential question is, "What can this test tell about the examinee, and to what practical or theoretical end can the results be used?". In the final analysis use is the key to a test's significance.

Tests of aptitude may be either paper-and-pencil in nature or they may come in a form that requires the examinee to exhibit his proficiency in terms of some type of manipulative dexterity or spatial discrimination. Paper-pencil tests of aptitudes require the examinee to answer test items^{by} marking, writing or drawing in response to the directions given on the test. In contrast, the performance test of aptitude requires the examinee to manipulate objects which comprise the task. The examinee puts something together as a series of blocks or a puzzle; or he assembles an appliance-as a door bell or a lock for a door. He may, in some tests, be required to insert blocks or pegs into holes of various sizes. Such performance tests are often samples

of the activities found in jobs done by machinists, carpenters, electricians or mechanics in other trades.

A test of aptitude, no matter what its classification, is intended to show whether an individual has the potential to become proficient at a given activity. As a means of making this prediction, such tests, typically given before training, indicate the extent to which an examinee has or is able to acquire the specific knowledge and skills necessary for performing the defined job or learning activities. In appropriate circumstances some measures of aptitude may also be used as measures of achievement.

5. Aptitude Testing:

From ancient times to the present, those charged with the duty of evaluating people have been interested in methods of measuring aptitude. Some methods used or discussed many centuries ago, would be called sophisticated even by to-day's standards. DuBois (1965), described an elaborate series of examinations used by the Chinese over 3,000 years ago to select appointees to the civil service. In the Republic, Plato wrote of the desirability of developing tasks for judging men who were being considered for the military profession. "Aptitude tests sampling the skills and knowledge relevant to success in a particular situation have survived scientific scrutiny and have proved to be useful (but not infallible) predictors" (Deigton, 1971).

According to Garrett (1959), Aptitude tests can be classified under four heads:-

I. General Aptitude Batteries:

a) Mechanical Aptitude

1) Macquarrie Test of Mechanical Ability.

This test consists of 7 paper and pencil tests as follows:-

- (1) Tracing:- following a narrow path
- (2) Tapping:- making dots rapidly
- (3) Dotting:- placing dots precisely
- (4) Copying:- making a figure from co-ordinates
- (5) Location:- locating items by co-ordinates
- (6) Block Counting:- Counting hidden blocks
in a stacle
- (7) Pursuit:- tracing a line thro' a tangled
pattern

2) Bennett Mechanical Comprehension Test.

This is a paper and pencil test in which comprehension of mechanical relation is determined by means of pictures and sketches.

b) Clerical Aptitude (Reading, Writing, Sorting, Clucking etc.,)

- (1) Minnesota Clerical Test
- (2) General Clerical Test.

II. Aptitude Tests in Special Areas:

Differential Aptitude Tests,
Minnesota - paper form Board,
Murphy - Durrell Diagnostic Reading Readiness Test,
Orkans Algebra Prognosis Test,
Turse short-hand Aptitude Test.

III. Aptitude Tests for the Professions:

Medical College Admission Test,
Law School Admission Test,
Pre-Engineering Ability Test,
National Teacher Examination.

IV. Tests of Artistic Aptitude or Talent:

Seashore Measures of Musical Talents
Diagnostic Tests of Achievement in Music
Meier Art Judgement Test.

According to Garrett (1959), Aptitudes are probably inherited basically, but they cannot appear unless the environment is favourable - that is, unless the opportunity is provided. Very often some training, often a great deal of it, is necessary, too, before an aptitude reveals itself in performance.

6. Job Aptitude:

A job aptitude is much more comprehensive than the ordinary cluster of special abilities which go to make up

a relatively homogeneous single aptitude such as musical aptitude. A job aptitude may be thought of as consisting of a whole group of related aptitudes important in the performance of some job classification such as mechanic, clerk, school teacher, musician, or engineer. As a matter of fact the job aptitude is usually a medley of several different but more molecular aptitudes operating under specified conditions of general ability, interest, attitude, and past learning. In other words, when we speak of the ability to become a clerk or a mechanic or a musician, we look for all of the things that a person might have to do, know, be, like, and so on and put them together to form a job aptitude. Having a high level of musical aptitude is only one aspect of the larger job aptitude ^{of} being a musician since so much goes on in becoming and remaining a musician that has little if anything to do with musical ability as such, even though of course, one cannot become a musician without, among other things, the possession of musical ability.

The component parts that go to make up a job aptitude may be arrived at by means of a job analysis. Thus the definition of any given job aptitude evolves from watching and analysing job performance.

Certain professions demand certain definite skills in an individual - when we trace back these skills it will lead to certain characteristics, *such as*

Comprehending	Proficiency	Ability	Communication
characteristics	in the	to express	skill
	language		

7. Aptitude - a measure of future reference:

If we measure the abilities and characteristics we can predict the degree of development of his skill.

Researches show that aptitudes get developed by the age of 15 in an individual. Individuals aspiring to become doctors, engineers, professors, teachers, lawyers and so on, if they choose a vocation, befitting their aptitudes, they will prove successful in the job and will have a happy life and personality. Otherwise, it may have an adverse effect on their personality and may have emotional upset and maladjustment. Such wrong placements, besides affecting the individuals, may cause huge waste of money, resources, time and energy. Therefore, aptitude tests become important.

8. Teaching Aptitude:

Teaching Aptitude means, the traits and abilities that contribute to success in teaching. By this, we mean that the person should have a good proportion of the traits required for becoming successful in teaching. The magnitude of these

traits may differ from individual to individual and even, the number of traits possessed by each individual may also differ. The number of traits required for being successful in teaching compose as a whole, the teaching aptitude.

9. Teaching Aptitude Test:

The test specially prepared in this investigation to measure aptitude for teaching is termed as "Teaching Aptitude Test".

Freeman (1962) is of the opinion that they cannot be easily devised due to differences in the content of courses. Moreover, teachers have to teach different subjects. Thus, a test of aptitude for teaching law will differ from a test of aptitude for teaching education or engineering or medicine.

Freeman (1962) with regard to the content of teaching aptitude tests ^{says,} that although the general and professional information and judgements are essential to be evaluated, for teaching success, it is also recognised that knowledge of subject matter to be taught, understanding of teaching methods, a sound educational philosophy and psychological information about human behaviour do not necessarily indicate one's ability to apply these in actual teaching. Other aspects of the candidates personality need evaluating if future classroom effectiveness is to be estimated.

In other words, a test of teaching aptitude should deal with those personality traits, which are needed in a successful teacher. According to Freeman, a test of teaching aptitude should include items pertaining to motives for teaching, emotional stability, social values, ability to communicate, ability to establish rapport, attitude towards a concept of one's self".

Therefore, the behaviour characteristics which might be associated with successful teaching were analysed and listed. The following domains of behaviours were considered to be closely linked with successful teaching.

1. The physical characteristics:- A teacher who is healthy, is efficient in work, has a clear voice and a reasonable fluency in speech. Teacher's dress is another significant aspect of his physical impression in the class.

2. Intellectual characteristics:- Successful teaching does pre-suppose a teacher who is endowed with this intellectual equipment. A teacher to be alert and is quick to adjust to the changing circumstances of life, evinces insight into the problems related to his growth in the environment and shows an ability to comprehend and take decisions on crucial moments may be considered to be in possession of adequate intellectual equipment for teaching.

3. Social characteristics:- A successful teacher has essentially a sense of social awareness and a spirit of cooperation. He understands and appreciates the needs of the society and follows the rules and the ideals as set forth by the society. He is cooperative and has a broad and liberal attitude towards various problems encountered by him in the social life. In class his social qualities help children to learn the ideals of democratic education.

4. Emotional characteristics:- A teacher who shows self control, balanced expression and is unbiased and impartial is realistic in his conduct and has the capacity to adjust in various circumstances.

5. Educational characteristics:- A teacher who has adequate control over his subject and shows a reasonable acquaintance with other subjects, has the knowledge of child psychology, teaching objectives, teaching methods, techniques and aids of teaching and can evaluate the achievement of his pupils through objective devices, can be successful

6. Interest characteristics:- A teacher who takes spontaneous interest in working with children, in the study of subjects, in curricular activities, in social work and in understanding the problems of educational process in general is always successful.

7. Attitude characteristics:- A successful teacher shows positive attitude towards the society, the community, the country, the school, the children and the teaching profession.

Thus the above said characteristics were considered to be the most important components of the act of successful teaching. A list of such characteristics was circulated for finally fixing up the traits for test construction.

CHAPTER - III

REVIEW OF LITERATURE

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Chapter III REVIEW OF LITERATURE

1. Introduction:

Review of research pertaining to the problem under investigation is of fundamental importance to provide insight into, broaden the general concepts and principles and sharpen understanding. Besides keeping abreast of the work being done in this field, the review also permits corroborative evidence. The present chapter summarises research studies related to the problem, 'Constructing Teaching Aptitude Test'.

The review examines first the characteristics and traits of teachers. Various studies related to the problem such as studies on motives for choosing the teaching profession, admission procedures in the colleges of education, creativity and teacher effectiveness, measurement of aptitude for teaching, and attitude towards teaching profession are also reviewed. A final discussion on the studies reviewed reiterates the need for the present study.

2. Review of Research on Characteristics and Traits of Teachers:

Morsh and Wilder (1954), after reviewing research on teacher effectiveness, published between 1900 and 1952, concluded that no single, specific, observable teacher act had yet been found whose frequency or per cent of occurrence is invariably and significantly correlated with student achievement. Midley and Mitzel (1963) also substantiated

the conclusion that much of the work on teaching efficiency must be discarded as irrelevant either because the criteria of teaching effectiveness, were invalid or because no objective measures of teaching behaviour were used.

Charter and Waples (1929) exhaustively studied what teachers did, tabulated the duties performed by them and studied the skills and abilities and knowledge required in order to perform these duties successfully. They listed the following 25 traits as needed by teachers. They were: adaptability, attractive personal appearance, breadth of interest, carefulness, co-operation, dependability, enthusiasm, fluency, forcefulness, good judgement, health, honesty, industry, leadership, magnetism, neatness, openmindedness, originality, progressiveness, promptness, refinement, scholarship, self-actualisation and thrift.

In studies conducted by Hart (1934) Jersild (1940), Witty (1947), Crow and Crow (1948), Richy and Fox (1948), Singh (1960) and Kulandaivel and Rao (1968), it had been directly elicited from the pupils themselves, that they like teachers who are democratic, co-operative, considerate and who have patience, a breadth of interest, ability to explain lessons clearly, fairness in guiding and pleasant manners.

According to Barr et al, (1960) & Meal and Sharrnon (1960) the general qualities of efficient teachers are normal health and physical fitness, normal general intelligence,

good habits of daily life, a well developed moral life and emotional maturity and stability. According to them, the specific qualities are the knowledge of the subjects, ability to impart knowledge, understanding and love for children, leadership and command over language, Hawson (1960) and Fattu (1962) reviewed researches on and concluded that there were slight positive correlation shown between scholarship and teaching effectiveness. Professional knowledge proved to be a more successful predictor.

Harris (1960) and Robert et al (1969) have analytically surveyed the teachers' effectiveness. Gage (1965) furnishes us the basic references in the various issues associated with the evaluation of teacher effectiveness. The research findings uniformly confirm that intelligence or mental ability, knowledge of the subject one teaches, general knowledge, personality factors, communication ability and professional information, in addition to sympathetic, kind, affectionate and impartial behaviour of teachers toward the students are some of the probable factors in teachers' effectiveness. Gage (1965) selected from a review of literature five global characteristics which seemed to be components of effective teaching. They were: warmth, cognitive organisation, orderliness, indirectness and problem solving ability.

Biddle (1964) while presenting the integration of teacher effectiveness research, had offered, a seven variable model for studying their effectiveness. One of the seven variables studied was teacher properties. This included, properties such as motives, abilities, attitudes, social intelligence, sympathy, social skills, sincerity, enthusiasm, warmth, knowledge, democratic leadership traits and skill to transmit ideas. Biddle and Ellena (Eds) (1964), had observed in one of their studies, an indefinite extension of the teachers' role into almost all kinds of moral values. It was evidenced by a checklist by Kolesnik (1970), which required the teacher to have intellectual qualities such as "liking good books" and "enjoying serious discussions", personal and social qualities like, "enjoying being with children" and "being kind and fair to almost everybody", of emotional qualities such as, "being patient and easy going and having neither inferiority nor superiority complex", of physical qualities like, "having good vigour and having good voice" and lastly of moral and spiritual qualities like, "having high standard of personal conduct and trustworthiness". It was rightly stated by him, that the teacher, besides being an instructor, was expected to act as a parent substitute, law enforcement agent, modern citizen, arm chair psychologist, friend and confidants to her students and a host of other minor roles, Kolesnik (1970)

in rating of behaviour and personality traits had shown a wide range of teacher traits demanded of a teacher. They included energy and responsibility, punctuality, mental abilities, thoughtfulness, courtesy and honesty and many others. A study on job analysis of teaching by Dwivedi (1968) concluded that social, moral and aesthetic interests as well as intellectual requirements and professional skills were necessary for teachers to meet the situation in relation to child management and society at large. Emerald (1959) said that teachers should have a loving, affectionate and sympathetic temperament, self control and honesty.

According to Ryan (1969) good teachers had characteristics such as superior intellectual abilities, above average school achievement, good emotional stability, attitude favourable to pupils, enjoyment of pupil relationship, generosity in the appraisal of the behaviours and motives of other persons, strong interest in reading and literacy matters, interest in music and painting, participation in social and community affairs, early experience in caring for children and teaching, history of teaching in the family, family support of teaching as a vocation and strong social service interests. Start (1966) and Warburton (1974) found that teaching ability was related to personality factors. Koul (1973) showed popular

teacher as more sober, conscientious, venturesome, tough minded shrewd placid, controlled and relaxed than the teachers who were unpopular among their pupils.

According to Devadass (1983), "The good teacher is innovative, original and able to inculcate interest and creativity in pupils. He would practice always professional integrity and etiquette. A good teacher knows his subject and how to teach effectively. He goes on learning continuously to be upto date in his field of knowledge". Joshi (1984) in a study on teacher effectiveness found "proficiency in content and general knowledge as the major characteristic of effective teachers". Teaching has been scholarship and service oriented and proper teacher aptitude has been considered very central to this field. Teaching profession demands, a deep and abiding love for scholarship, a readiness to communicate skillfully and a concern for the student group.

Bryant et al (1978) and Auchmuty (1980) are of the view that personality variables such as patience, initiative enthusiasm, ability to work with people, flexibility, tolerance, sensitivity and communication skills as important factors in selecting students for training.

Amiah (1980), found in a study, commitment to teaching to be more significant character of the students who intended to major in teacher education. Wallace (1980) found that the teachers' educational level, years of experience in teaching, the percentage of time the teacher spent on academic tasks and the type of instruction by the teacher were related to the academic achievement of secondary school Spanish students. Wilbur (1981) showed no significant difference in their personality assessment between either the successful or less successful teacher groups.

Anton (1984) identified a superior ability for asking probing questions, a high degree of self confidence, a wide range of interest, flexibility, imagination, creativity, high motivation, professional interest, and excellent critical thinking as traits associated with successful teaching of the gifted students.

Adaval (1952) found high correlation between intelligence and aptitude for teaching and concluded that intelligence was an important factor in determining one's aptitude for teaching.

In many studies correlation between the results of intelligence tests and assessments of teaching efficiency were high but there were other investigators who produced

evidence, that intelligence was less correlated with teaching efficiency. Bliss (1922) showed that the chances were twice as good to have superior or excellent teachers if individuals of superior ability were employed, as when individuals of average ability were employed, and almost four and a half times as good as when individuals of low mental rank were hired. Champ (1948) found that the characteristics most likely to predispose to success in teaching were good intelligence, a good background, emotional stability and good health. Lovell (1951) in a study through factor analysis showed that three factors were sufficient to account for teaching success. They were (1) intelligence and the willingness to use it in the education of children (2) an empathy factor, the ability to appear live and interesting to children and (3) a speech factor. Uttley (1952) found positive correlation between leadership, co-operation, emotional stability, mental alertness, sympathy, persistence, and expressiveness of personality and teaching ability. A study of the best and worst teachers suggested that students who obtained high teaching marks also had high intelligence, but that high intelligence did not necessarily result in high teaching marks.

Burrough (1958) in a study identified intellectual maturity and powers of self expression to be important in

teaching and said that they gave the best prediction of success in teaching.

Getzel and Jackson (1963) found intelligence and ability for making good human relationships as important factors for effective teaching.

Sherry (1964) made a battery of psychological tests for prediction of success in teaching and found intelligence to be the most important factor for teaching success. The next important factor was the emotional stability of the teacher and attitude occupied a more important place than interest. Nair (1977) concluded that persons with above average intelligence may serve as efficient teachers. Other factors like aptitude and attitude should be given more weightage in selecting candidates for the profession.

Sharma (1974) reported 'Intelligence' to be a very important factor for teaching effectiveness and correlation between the two was .28 and was significant at 99 per cent level.

Benerji (1974) found that intelligence and clear thinking were the basic qualities - necessary for making a good and efficient teacher and successful class teaching needed qualities like quick thinking, ready wit, easy adaptability and humour.

Singh (1970) has made a study of the teacher trainees performance, in relation to certain intellectual abilities and the results of the study showed that the significance of performance in theory papers were two indices of intelligence and two indices of academic achievement.

Flanders (1960) commented, that there is no substitute for knowledge of what is being taught for a teacher. In a number of studies, the academic marks obtained by students during their college courses were positively correlated with their marks in practical teaching. Evans (1959) concluded that students in training, who were strong academically were better teachers than those who were weak academically. Similar results had been obtained when college academic records of experienced teachers had been compared with their ratings as teachers in the field. According to him there was plenty of evidence in research reports in support of the following statements.

1. Poor teachers tend to be lacking in scholarship.
2. Students who are lacking in scholarship tend to make poor teachers.
3. Well informed students tend to make good teachers.
4. Good teachers tend to be well informed.

Gupta (1975) found that efficiency in teaching increases with greater academic qualifications and training. Adayal(1952)

Singh (1960), Hawson (1960) and Fattu (1962), Debanth (1974), Banerji (1974) have all concluded that knowledge of subject matter and general knowledge are important aspects among other traits to be found in successful teaching.

Wesley (1978), observed that teachers uniformly regarded the major personal traits of 'knowledge', 'perception', 'beliefs' and 'enthusiasm' as the most important factors for success in teaching.

Carpenter (1973), Grees (1977) were of the view that academic attainment continues to be the most important criterion, though its relevance as a predictor of performance in the teacher education courses or of performance of the classroom teacher has been queried.

A number of aptitude tests such as the coxe-orleans Prognosis Test of Teaching and studies by Knight (1950), Bossing (1950), Gupta and Others (1974), Shah (1965), Sharma (1969), Hawson (1960) and Fattu (1962) have all found professional knowledge to be of a successful predictor of teaching efficiency.

McDonald (1983) found that English grades, grade point average and physical health to be significant as specific requirements for candidate to be admitted to teacher education programme.

Labrecque (1982) developed and validated an instrument to assess the speaking competence of prospective teachers. Development of the instrument began with literature review. The scale was demonstrated to be useful for diagnosing speaking competence and focussing attention on the importance of effective communication in teaching. Visveswaran (1979) has said that in a college of education students are admitted on the basis of aptitude test, attitude test and proficiency in English. Researches by Barr et al, Meal and Sharrnon (1960) and a number of research finding uniformly confirm the importance of the communication ability to the teachers.

3. Studies on Motives for Choosing the Teaching Profession:

Channa (1954) had made an investigation into the reasons which made men to take up teaching profession. The first five reasons as marked by the subjects were as follows:

1. It is a noble and honest profession
2. It is difficult to take up any other profession of one's choice due to weak financial position
3. The service was sure after training
4. Failure to get into any other profession
5. Love for children

Chatterji and Kundu (1959) found the following motives that influenced individuals to choose teaching profession.

1. Desire to continue further studies
2. Much time available to continue studies undisturbed.
3. Scope for having free imagination and thinking
4. Best suited job for them
5. Fondness for students

Lawrence (1972), gave the following reasons as mentioned by trainees for choosing teaching profession.

1. Interest in teaching
2. The respect for the profession
3. Opportunity to improve one's knowledge
4. Opportunity for doing public service
5. Company of youngsters

Butt (1977), found in a study, that 90 per cent of the students who sought admission to the B.Ed. course said that their motive in joining the course was their love for the profession. Theresa (1983) found 'affiliation' (liking pupils) and 'power' (Wanting to shape the mind of the child) as the career motivation of student teachers.

4. Studies on the admission procedures in the Colleges of Education:

A number of researches have been undertaken to study the existing admission procedures and the predictors used in the colleges of education and to suggest suitable selection procedures so that the best candidates are admitted to the colleges of education.

Lawton (1939) correlated school records, academic ability and interview impressions of training college students with their final teaching marks. All the co-efficients obtained were significant. A composite estimate of teaching ability, based on academic pursuits and estimates of character qualities was found to give a correlation with teaching marks sufficiently high to suggest that it would be a satisfactory instrument for the selection of students for admission to training colleges.

Gupta (1971) studied the admission procedures of all the teacher training institution in India and found the requirements for the admission to the secondary teacher training institution as:

1. a minimum qualification of B.A., or B.Sc., with 40 to 45 per cent of marks.
2. an age limit of 18 to 30
3. credits on written tests, interviews, academic records and teaching experience
4. Intelligence tests.

Bali (1968), on the selection of student teachers revealed that there was no objective and scientific method of selection for admission to teachers' colleges.

Hutt (1981), in a study concluded that a performance based tool would be an effective component of the selection

process used to determine appointment of teachers. Scores on the Longley Predictor Scale were significantly and positively correlated to scores teachers were assigned by principals on the evaluation tool. Soshowski (1983), identified English and professional education, grade point average and teaching level, as predictor variables of success on the National Teacher Examination - weighted common Examination Total Scores.

Ellesberg (1984) in a study on relationship between current selection criteria for teacher education programme and teacher skills says that the members of selection committees should consider, especially, issues related to the ability to engage in critical, insightful thinking as admission policy.

5. Studies on creativity and teaching effectiveness:

Creativity is a mental ability and capacity to do things or produce something of a particular nature; and is a subjective experience or process having special characteristics.

According to Deo and Gupta (1975) Creativity is the "Capacity, whether innate or cultivated, of an organism, to express his own self, in ways which are unique, novel, appropriate, productive and satisfying".

Creativity is a universal quality, creative ability exists to some degree in every normal human being. It is not the special prerogative of scholars, artists and saints. Men exhibit it to the extent that they show resourcefulness, initiative and independence in the successful solution of their problems.

Creativity does not develop in vacuum. The creative mind has to interact with the environment. In the words of Torrance (1963) "The creative classroom is an ideal centre, a place where students and teachers are excited about learning and open to experience, a place where there is less 'Talking to and talking back and more of talking with' Through creative strategies teachers express respect for the individual student and his ideas and in turn such felt respect from an authority - figure, fosters self respect and self discovery in the student.

A developing country like India, the economy of which is passing through great strains, can neglect its creative talent only at its own peril. It is only creative teachers who can produce creative adults because it has been amply demonstrated that creative teachers are seen by their pupils as more acceptant of their ideas and using a wide variety of materials in the classroom (Palermo, (1966); Hansen (1967)) and thus making teaching learning more effective and interesting.

Creative teachers are highly sensitive to problem solving. They are with fluent ideas, more original and more flexible. They have more flexibility in adjusting their methods to the needs and demands of children and environment.

Torrance (1965) and Halpin et al (1973) considered creative teachers as tolerant and humanists. Creative teachers respect the learning and thinking a by allowing them to learn through creative problem solving activities. They can arrange an environment which extends certain indications to search and experiment. Creative teachers always show certain patterns within and around themselves and hence affect the pupils in different ways.

Ishler (1972) investigated the classroom verbal behaviour of creative and less creative English and Social Studies student teachers. The creative teacher was found to exhibit 10 per cent more of indirect behaviour asking divergent and convergent questions, encouraging more pupils talk, more self initiated pupil talk and more flexibility in study periods.

Bruch (1967) observed that the effectively creative teachers in verbal interactions with children were spontaneously more flexible, tolerate a longer delay in classroom management procedures than does a less creative teacher.

A number of studies have shown positive, correlation between measures of creativity and teaching success, Konell (1953) reported significant correlation between identional fluency and teaching success. Cortis (1969), Raina (1970), Storm and Larimore (1970) Goyal (1973) had all reported positive correlation between creativity and teaching performance.

Crocker (1968) found flexibility significantly related to teaching competency of student teachers ($\gamma = .41$). Chorness and Nottleman (1956) studied the relationship of fluency with teaching success as determined by principal's ratings, and reported the correlations to be ranging from 0.11 to 0.32 for associational fluency measures.

Sahab Singh (1978) in a study found that the high teachers possessed better intellectual capacity and efficiency than the average and low teachers. The creative potential and the level of aspiration of the high teachers was high in comparison to the average and low teachers.

Ajit Singh (1979) concluded that there was a positive and significant relationship between verbal creativity in teachers and their indirect/direct teaching behaviour and that there was a positive and significant relationship between verbal creativity in teachers and their using students ideas. He also found that teachers with high verbal creativity

significantly talked less, encouraged more students' talk, asked more divergent questions and gave more time to their students for thinking before responding to their questions as compared to teachers with low verbal creativity.

Febinger (1966) observed that the student teachers who open, tended to be bright, emotionally mature, dominant adventurous, trustful, self sufficient and relaxed. Ohnmacht (1967) on the other hand reported that out of 64 correlations between the divergent production measures and the 16PF scales only two were statistically significant. Associational fluency was found related to higher ego strength and the ideational fluency to guilt proveness. Jenking (1967) found dominance, venturesomeness and radicalism as characteristics associated with innovative behaviour, demonstrately proved to be characterised by high creativity in secondary school teachers. Somewhat similar results were obtained by Zimmerman and Williams (1971).

MASIH (1979) found significant correlation between the measure of creativity and marks in theory papers of B.Ed. (Science) students.

Thomas (1980) in a study found support to the overall hypothesis that teachers creativity fostered more positive social interaction and were able to tolerate and encourage higher levels of student productivity.

Goyal (1984) reported that verbal fluency, flexibility and originality do have significant and positive relationship with teaching competence as manifested by subjects performance in actual classroom teaching and in theory of teaching. A number of studies, have shown positive correlation between measures of creativity and teaching.

Goyal (1984) found that intelligence was the only factor which discriminated between the high and low creatives, the high creatives being higher on it. Thus research studies have found high correlation between creativity and teaching success and concluded it to be an essential potential to be found in teachers.

6. Studies on Measurement of Aptitude for Teaching:

A number of investigations have been carried out on the "Prediction of Teaching Success", "Teaching Aptitude" and on allied topics by a number of investigators. Super (1949) writes that "Tests of aptitude for teaching have been experimented with by a number of individuals and schools of education in attempts to improve the selection of students of education. According to Sanford and Trump (1960), as many as 675 articles and monographs concerning the various problems incident to the preservice selection of teachers have appeared since Meriam's study in 1905. Anastasi (1955) comments, "The development of special aptitude tests for the teaching field

has not met with much success. A number of such tests have been prepared along the same general pattern as the tests for medical students, law students and other professional groups. One of the best known of these tests is the Coxe-orelans Prognosis Test of Teaching Ability.

According to Super (1949) the Coxe-Orleans Prognosis Test of Teaching Ability is a good example of custom - built tests of aptitude for teaching. It consists of 5 subtests: (1) General information; (2) knowledge of teaching methods and practices, (3) Ability to learn the type of material included in professional texts; (4) comprehension of educational reading matter; (5) Judgement in handling educational problems. Commenting upon the test, Anastasi (1957) wrote, "Several of the items were outdated, the test not having been revised since 1930 and the test did not appear to be suitable for administration".

Other tests used for the selection of teacher candidates were "The National Teacher Examinations". They were designed to measure the professional background, general intellectual ability and cultural knowledge of candidates for teaching positions. According to Super (1949), these tests include only intellectual aspects of ability to teach and do not include interest in children, emotional stability and other factors which are generally believed to be important to success in teaching.

'Teaching Aptitude Test' of George Washington University series was another test published in 1927. Seagoe (1953) said that some of the terminology were obsolete, the pictures were noticeably crude and the typography was difficult. . . . and the test was useful only as a research instrument.

Skinner (1949) developed a rating scale to assess the teaching ability of the student trainees. Correlations between scores of this rating scale and a global assessment of teaching ability were +0.88, when unweighted and +0.90 when weighted. Factorial analysis revealed that the ability to stimulate and arouse interest, the ability to evoke pupil cooperation and the ability to make the lesson material of value to the pupils were those which made the highest contribution to the teaching ability.

Knight (1950) in his study "Qualities related to success in teaching", used the following tests:

1. Personal data
2. Two intelligence tests and
3. a professional test of techniques of teaching.

Whitney (1950), in his study, "The Prediction of Teaching Success" used tests such as:

1. Intelligence test
2. High School Record

3. Academic record
4. Marks in professional courses
5. Student-teaching success, by rating and
6. Physique

Bossing (1950) in his study "Teacher Aptitude Tests and teacher selecting used the following tests:

1. Cadet teaching grades
2. Professional education grade
3. all academic grades exclusive of those in professional subjects.

Castleman, Grover, and Moore (1950) conducted a study, "An Aptitude Test for teachers based on traits judged necessary for success in teaching".

Bowers (1953) developed an "Aptitude Test for Elementary School Teachers - in - Training" during 1946-'51. The purpose of his project was to develop an aptitude test which would predict the ability to teach lessons in classroom. This test consisted of seven parts as follows:

- 1) Opinions (attitudes towards various social activities);
- 2) Books (attitudes towards the titles of six imaginary works);
- 3) Occupations (preference for certain occupations);
- 4) Interest (expressed interests in various activities);

- 5) An aspect of Judgement (Judgements of the degree of truth or falsity of several propositions);
- 6) Performance (ratings of various traits such as resourcefulness, vocabulary, ability to organise material etc. in a standardised situation);
- 7) High school percentile (a measure of High School performance).

Thus the measures derived from the test included expressions of preferences and judgement in a paper and pencil test situation, ratings and a measure of previous academic achievement.

As given by Buros, (Ed) (1953), in 1927 Moss, Hunt and Wallace of George Washington University constructed a "Teaching Aptitude Test". This test is divided into five parts:

- 1) Judgement in teaching situations
- 2) reasoning and information concerning school problems
- 3) comprehension and retention,
- 4) observation and recall, and
- 5) recognition of mental states from facial expression.

Hunt has used this test and has reported correlations to be ranging between .30 and .50 with teachers' ratings, .60 with social intelligence test and .57 with Mental Alertness Test.

An important contribution of the test is its attempt to get away from entirely verbal and remote abstractions and to devise practical situations requiring the application of judgement and professional information. Correlations with grades in student teaching, teacher ratings and supervisors ratings are low in part because of the low reliability of such ratings.

Shah (1962) developed a tool to measure teaching aptitude of secondary school teachers. Construction of the test started with the job analysis. The battery of tests was formed with five subtests, viz., mental ability, attitude towards children, adaptability, professional information and interest in the profession.

The study revealed that (i) the reliability co-efficient of the tests varied from .802 to .878; (ii) the validity co-efficients were around .502; (iii) the multiple 'R' of the final test battery was 0.533; and (iv) the predictive efficiency of the test was sixteen per cent.

Battacharya and Shah (1966) endeavoured to develop an instrument for the selection of primary and secondary school teachers. The reliability co-efficient of the whole inventory was .81. External validity was established by obtaining the co-efficient of correlation between the test scores and the principal's ratings on a five point scale. It was found

to be .63. The predictive validity co-efficient established by correlating internal practical examination marks and test scores was 0.72. The percentile ranks corresponding to the raw scores were also calculated.

Pandey (1968) developed a standardised tool for use as a teaching aptitude test in the selection of trainees in the institution of teacher education of Uttar Pradesh.

The test included the following 8 subtest: Professional knowledge, vocabulary, inferential reasoning, number series, numerical reasoning, logical selection, general information and reading comprehension. The test was validated against supervisor's ratings and final examination marks and the validity co-efficients were .49 and .62 respectively. Using the Thurstonics centroid method, the data were analysed which yielded the four factors, namely: General Educational Factor; Reasoning Factor; Numerical skill factor and reading comprehension factor.

The reliability co-efficients of the test, calculated by split-half method, test-retest method and K.R. formula 20 were .98, .97 and .89 respectively. Predictive validity co-efficients with internal assessment and with ratings by a board of instructors were .36 and .42 respectively. The factorial validity of the test established by applying Thurstone's centroid method. Content validity of the test

was also established. Standard score norms, T score norms, percentile norms and letter grade norms have also been worked out.

Pandya (1972) designed a test to measure the various traits needed to be present in an individual to become a good professional in teaching. After studying the different traits necessary for becoming an effective teacher on the basis of the opinions of forty experts and experienced educationists and educational administrators, test items measuring the different traits were constructed. They were divided into seven subtests in all. The whole battery was circulated among five experienced principals of Secondary Schools of Greater Bombay. On the basis of their opinions, the items were revised. Pre-tryout was done by administering the test to about 350 trainees of B.Ed. College at Ulhasnagar and the items were modified. To overcome the language difficulty, the equivalent forms in English, Marathi, Gujarati and Hindi were prepared and administered to about 400 trainees, selected from different training colleges of the city of Bombay. Item analysis was carried out and the items were again revised. The final test was administered to 1,500 B.Ed. trainees at various training colleges of Bombay, Ulhasnagar, Poona and Nasik, Mean, Media, Mode, Standard deviation, Percentiles, Standard scores, Z-scores and T-scores were computed. The

test retest and split half reliability co-efficients were found out. Validity of the test was determined by concurrent validity method.

Jayamma (1962) constructed and standardised an inventory for predicting teacher efficiency for the primary school teachers of Mysore City. The variables studied were: professional knowledge and skill, acquaintance with the principles of psychology, class-management, school organisation and educational administration, relationship with others, individual qualities of humour, patience and sympathy.

The observations were that a teacher's professional success was in no way influenced by sex or by locality of work and training, experience and qualifications could add to professional success.

Sherry (1979) developed 'A Battery of Psychological Tests for Prediction of success in Teaching'. This battery included four different self prepared tools namely: i) intelligence test, (ii) interest inventory (iii) personality inventory and (iv) attitude-scale. The validity and reliability coefficients of all the four tests were found to be high.

Jarvella (1985) traced the historical development of the National Teacher Examinations programme from its antecedents in the first few decades of this century to the early seventies

and provides a comparative conceptional analysis of four prototypic versions of the examinations, those administered in 1940, 1951, 1964, 1965 and 1970-'71. Initiated to assist urban school superintendents in selecting teacher candidates from an over supply, the tests assessed those aspects of general knowledge, professional information, and intellectual and basic skills which the administrators and the first test developers believed all teachers should possess. Although modified occasionally to reflect contemporary content and practices and eventually to forms upon the curricula of teacher training institutions, the structure and form of the examinations remained remarkably consistent over the period of this study.

7. Studies on Attitude towards Teaching Profession:

The attitudes of prospective teachers towards their vocation have a good deal of relevance for making teaching a respectable profession. This has attracted sufficient degree of attention from all those who constitute employers teacher - educators, parents and others. Teachers who detest teaching are indifferent to it are surely not desirable for the profession. There is need to identify them and getting them weeded out of the profession, because in a country like India, where jobs are scarce even a frustrated person would like to go on doing the job he does not particularly value.

Efforts are therefore, made before pre-service training is offered to prospective teachers to identify them for their positive attitude and predicting their possible success. Tools are available in the areas of teacher attitudes, prediction of success and efficiency in teaching and the like. But they are scarce.

Evans (1946) constructed and administered a test of attitude towards teaching as a career. Attitude to school seemed to be most closely correlated with attitude to teaching as a career. Neither the socio-economic level of the home nor the possession of relatives and or friends who were teachers appeared to have any relationship to the attitude, but students whose interests were mainly academic or social had a significantly more favourable attitude than those whose interests were mainly practical.

Semantary (1971), made a study on teacher attitude and its relation with teacher efficiency. He found that there exists some degree of positive relationship between the variables, teacher attitude and teaching efficiency, thereby showing that superior efficiency goes with favourable attitude and vice versa. He also found a positive relationship between the variables, viz., teacher adjustment and teaching efficiency thereby showing that superior efficiency goes with good adjustment and vice versa.

Buch (1972) surveyed the attitude of teachers towards the profession. The results indicate that, in general, training has a favourable effect on the attitude of teachers towards their jobs, Ponnambalam and Visveswaran (1966) have constructed an attitude towards the teaching profession scale. Ahhuwalia (1979) developed a "Teachers Attitude Inventory". Singh and Shukla (1979) have given a number of attitude scales in their article. The are as follows:

1. Attitude towards teaching profession scale by shalini bhogle.
2. Attitude towards teaching profession by Katti, N.V. and Bennur, C.S.
3. Teacher Attitude Inventory by Parameswaran, E.G., Ravichandra, K. and Narayana Rao, T.S.,
4. A Scale of Attitude of Secondary School Teachers towards Teaching by Santi-dutt.
5. Attitude scale for the teaching profession by Bureau of Educational and Psychological Research Calcutta.
6. Measurement of Attitudes towards Professional Training by Malti Shukla (1954).
7. A test for Measuring Teachers Attitudes Towards Teaching as a Profession by Russel Robins and Herbert H. Hughes (1967).
8. Teacher Attitude Inventory Form by North (1961)
9. Teachers Attitude towards Self and Others (Weight, 1958), Sherman, 1962 and Jurka, 1963.

10. Minnesota Teacher Attitude Inventory (Cook, W. Walter and others 1951).

Besides these the authors also have described a number of rating scales, diagnostic tests and tests related to student teachers.

Emerson (1980) developed a scale for assessing the attitude of preservice teachers towards selected principles and attributes of competency based education (CBE) and systematic instructional development (ID). The instrument development process was completed in three stages. The preparation of the 'preliminary' form of the instrument and of the instrument battery; the administration of the "preliminary" instrument and battery to sets of subjects, with subsequent analysis and revision of the instrument and battery; and the administration and analysis of the revised, "experimental" form of the instrument and battery.

The results of this study indicated that the CBE - ID Attitude scale is a reliable one and measured the attitudes of groups of preservice and inservice teachers towards selected principles and attributes of competency based education and systematic Instructional Development. Edward (1983) determined the relationship between the criterion variable of achievement on the National Teacher Examinations and the predictor variables of sex and teaching attitude as measured

by the Minnesota Teacher Attitude Inventory. A statistically significant relationship was found to exist between attitude and achievement on the common and composite scores of the National Teacher Examination for males and females.

Sylayman and Sulayman (1985) found a weak but statistically significant positive relationship between attitudes towards educational change and job satisfaction.

Andries (1982) says, the universal aim of educational authorities is to provide schools only with those people who are competent to guide and assist the pupil potential. This is why all people are not considered equally suited to the teaching profession and why certain criteria are employed in the pre-selection of teaching candidates in order to eliminate potentially unsuitable teachers.

8. Conclusion:

A survey of existing literature on the topic, in order to determine the history of the development of the teacher selection was done contemporary procedures in certain overseas countries were also investigated. It became clear from this that no country is employing a scientific method of selection. In comparison with other professions, the selection of teaching

CHAPTER - IV

DESIGN OF THE STUDY -THE CONSTRUCTION OF TEACHING APTITUDE TEST

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Chapter IV
DESIGN OF THE STUDY

The Construction of Teaching Aptitude Test

1. Introduction:

The details of the construction of the Teaching Aptitude Test (TAT) are given in this chapter. The selection of items, pilot study, final study, standardisation procedure and norms established are examined in detail.

2. General Procedure Adopted in the Study:

The construction of teacher aptitude test passed through five stages and the process in each stage is explained in the present section. The five stages are:

- 2.1 Analysis of the Teaching Job and Selection of the Traits that Constitute Teaching Aptitude.
- 2.2 Construction of the Teaching Aptitude Test Items Based on the Selected Traits.
- 2.3 Preliminary Study for Validating the Test Items.
- 2.4 Pilot Study for Refining the Tool
- 2.5 Final Study.

2.1. Analysis of the Teaching Job and Selection of the Traits that Constitute Teaching Aptitude:

A list of teacher traits was prepared out, after a thorough study of related literature in the form of published books, manuals, bulletins, and research reports as well as

discussions with experts. An opinionnaire (Appendix I) with a list of twenty teacher traits that serve to measure teaching aptitude was prepared in the form of a rating scale. This opinionnaire with the requisition letter was circulated to principals of colleges of education, teacher-educators, Professors of Psychology, Heads of schools and Veteran teachers. The distribution and return of the opinionnaire are given in Table - 1.

Table - 1

DISTRIBUTION AND THE RETURN OF COPIES OF OPINIONNAIRE

Sl. No.	Designation of Experts	No. of copies Distributed	No. of copies Returned
1.	Principals of Colleges of Education	3	3
2.	Teacher Educators	20	15
3.	Professors of Psychology	10	7
4.	Heads of Schools	25	20
5.	Veteran Teachers	40	30
Total		98	75

The experts were requested to indicate their rating on a four point scale provided. The values for the four

points and instructions to the raters, are given clearly in the opionnaire, Appendix I. The responses were analysed and the first eleven traits with maximum scores ranging from 106 to 152 were selected and the following Table No.2 presents the list of traits selected and their scores as given by the experts.

Table - 2
LIST OF TRAITS SELECTED AND THEIR SCORES

S.No.	Name of the Trait	Scores
1	Knowledge of the subject matter	152
2	Positive attitude towards the profession	148
3	General Knowledge	130
4	Rapport with pupils	125
5	Mental Ability	120
6	Professional information	120
7	Interest in the profession	118
8	Creative Ability	118
9	Language Ability	116
10	Adaptability	112
11	Tolerance	108

The other traits which had lower scores were left out.

Out of the eleven traits selected the second one was about the attitude of a person towards the teaching profession and the investigator decided to construct an attitude scale to assess that trait. The remaining ten traits were taken to form the content for the teaching aptitude test and it was decided to club some of the traits and to have the following sub tests.

Subtest 1 : Mental Ability Test

a. Problem Solving

b. Reasoning

Subtest 2 : Creativity Test

Subtest 3 : General Information Test

It includes general knowledge and
subject matter knowledge

Subtest 4 : Professional Awareness Test

In this test professional information,
interest in the profession, rapport with
pupils, adaptability and tolerance are
included for assessment.

Subtest 5 : English Language Ability Test

A number of aptitude tests for teachers and tests for the prediction of teaching success include many of the above traits. The present test is unique in the sense it has a creativity test included in the aptitude test battery.

2.1.1

Description of the Important Behaviours Related to the Selected Traits:1. Mental Ability:

Mental ability is an innate capacity of an individual. An individual with strong mental ability has the capacity to think independently and critically and has the ability to learn with the power of imagination, memorisation and of minute observation. Such abilities help a person to face problem situations successfully and solve them. Researches (Thurstone, 1938; Thurstone, 1941; Guilford, 1956) have established a number of dimensions of mental abilities, such as verbal comprehension, numerical facility, general reasoning, perceptual speed, spatial orientation, spatial visualisation and word fluency. These dimensions were considered for test construction and assessment of the mental ability of the persons tested.

2. Creativity:

Creativity is a many splendoured thing. It is a mental ability and a capacity to do things or produce something of unique nature. Torrance (1966) defined creativity as a process of becoming sensitive to problems, deficiencies gaps in knowledge, missing elements, disharmonies and soon, identifying the difficulty, searching for solutions, making guesses or formulating hypotheses and possibly modifying and retesting them and finally communicating the results.

A nation's wealth is its creative potential. Promoting creativity should be made as one of the goals of education. A teacher with creative ability can induce creative thinking in pupils, nourish the creative abilities in them and provide suitable environment for their growth and development. Research studies, Storm and Larimore (1980), Crocker, (1968), Cortis (1968); Knoell (1953); Goyal (1973); Chorness and Nottleman (1956); Mahih (1979); Raina (1970) and Goyal (1984) have all found high correlations between creativity and teaching success and concluded it to be an essential potential to be found in teachers David and Scott (1975) had determined eight key dimensions of creative persons, of which fluency, flexibility and originality are the three dimensions taken for assessment in this investigation, as had been done in researches on creativity by Paramesh (1971), Jarial and Sharma (1980), Muddu (1982); Goyal (1984) and many others.

3. General Information:

A thorough knowledge of the subject matter is an important trait to be found in a good teacher. There is no substitute for knowledge of what is being taught (Flanders (1960). A number of researches have found, a thorough knowledge of the subject matter, as the first and foremost requirement of a good and effective teacher.

Researches Erans (1959) Hawson (1960) and Fattu (1962) Flanders (1960); Gupta (1975); Joshi (1980) have established a high correlation between subject matter knowledge and teaching effectiveness. A teacher with a thorough knowledge of the subject matter can definitely do full justice to the teaching of that subject, besides developing the necessary interest, attitudes, values and skills in students. He can be self-confident, alert and lively in the class. Besides his own subject knowledge, a teacher should have a basic knowledge of the other subjects in the curriculum for a correlated and inter disciplinary approach which will help to broaden the outlook and understanding of the students.

Researches have also shown the importance of the knowledge of current events and general knowledge to the teacher, to make his teaching interesting, informative and to answer the diversified queries of the students. Therefore, the investigator attempts to test the trainees of their knowledge of current events, and of the various subjects, in the curriculum such as science, History, Geography and Mathematics. This test is also common for all the trainees of different subjects, because a fundamental knowledge of the various subjects is necessary for teachers,

4. Professional Awareness:

'National Teacher Examinations' do include sections on professional information, general information English

expression and non-verbal reasoning. Freeman (1963) says, "Of equal importance with general mental ability and competence in subject matter to be taught are the personality traits essential in successful teaching. He further states that, motives for teaching, emotional stability, social values, ability to communicate, ability to establish rapport, attitude and concept of one's self are to be evaluated if the future classroom effectiveness is to be estimated.

Successful teaching does presuppose a teacher to have knowledge about the various aspects of the teaching profession. The teacher candidate should have some knowledge about the educational aims and objectives and the means of promoting effective learning. He should be aware of the commitment he has for the profession and the need for continuous learning and the conformity with which he has to serve in a school. Those who are not interested in teaching cannot dedicate themselves for the cause of education. The teacher candidate should have an inquisitiveness to know about his profession, a quality that arouses concern or curiosity and willingness to participate in educational programmes.

The successful teacher is one who establishes strong rapport with pupils. He has to impart knowledge to them, help them build up their character and personality and see that they become good citizens. This is possible only if

he can win their love and respect and have a deep understanding of their needs and problems.

Peace within the mind as well as in one's actions will prevail only if one cultivates the virtue of tolerance. Tolerance is an important requisite in a teacher. No momentary upheavals should shake him of his mental peace and his belief, in the noble and most respectable profession. He must not forget that he is dealing with the world's most delicate material, the human mind. It is said that an irritable teacher is a menace to the sanity of the pupils. Therefore tolerance, peace of mind and patience are very important in a teacher candidate.

The power of adaptability is another quality to be found in the teacher. Teachers, besides teaching have to organise co-curricular activities, maintain a cordial relationship with his superiors, colleagues, pupils, parents and the community at large. If the teachers are able to adapt to the changing circumstances, then half of their game is won. "A teacher should be capable of changing to his circumstances from within and not from without" (Sharma, 1967).

5. English Language Ability:

In an instructional group, what is being taught should reach the pupils in an effective way. A teacher provides information to the pupils and helps to develop in them

knowledge, skills, attitudes and values. All these are to be properly conceived by the teacher and properly received by the pupils. This is the main purpose of teaching or communication. For effective communication, language is a very important factor. The investigator intends to test the English language ability as it is common for all and a common test construction is facilitated. The English language ability test tests the following language skills:

1. Vocabulary
2. Grammar
3. Spelling
4. Comprehension
5. Expression

2.2. Construction of the Teaching Aptitude Test Items Based on the Selected Traits:

The following procedure was followed in constructing test items for each of the subtests.

1) Key concepts that describe the various aspects of the traits, objectives and behaviour specifications were framed for all the traits under the 5 subtests and are given in Appendix - 2.

2) A number of test items multiple choice questions except for subtests 2 and 5 were constructed and those were thoroughly discussed with the guide and other experts in the field of education and psychology for content validity.

3) While framing the multiple choice questions care was taken to incorporate good principles of test construction such as framing similar distractors, avoiding unwarranted clues, avoiding stereotyped phrases, distributing correct responses in random order etc.

4) Correct answer and score for each item were decided. Instructions for answering the items were framed and written on top of the question paper. Worked out example for each type was given.

5) A group of 10 teacher trainees were made to answer the items to check whether they understood the test items given and gave the same meaning to the words, whether the correct answer given by the majority of them followed the answers decided and whether the instructions given were self explanatory and sufficient to take the test.

6) The items which had ambiguities, vague expressions and difficult constructions were either deleted, modified or reconstructed.

7) The time taken for each item was calculated from the time taken by 75 per cent of the trainees and it was found to be about one minute for each item.

Thus the test items were edited and made ready for the preliminary study.

1. DESCRIPTION OF THE ITEMS IN EACH SUBTEST:

Subtest 1: Mental Ability:

This test included 40 multiple choice test items and they were grouped under two headings as:

A. Problem solving ability - 20

B. Reasoning ability - 20

Subtest 2: Creativity:

This test included 10 test items. They were of short answer type. They test the candidates fluency, flexibility and originality.

Subtest 3: General Information:

This test consisted of 74 test items. All were of multiple choice type. They test the candidates' general knowledge and knowledge about the various subjects of study such as History, Science, Geography and Mathematics.

Subtest 4: Professional Awareness:

This subtest consisted of 84 test items. They were also of multiple choice type and tested the candidates' knowledge about the teaching profession, interest in the profession, rapport with pupils and their power of adaptability and tolerance.

Subtest 5: English Language Ability:

There were 12 test items. They were of 'one word' answer type and they tested the candidates vocabulary grammar, spelling, comprehension and expression.

The items in each sub text were arranged roughly according to difficulty level. Each subtest had been cyclostyled on separate sheets of paper. The instructions to be given to the candidates were written at the top of each subtest. Separate answer sheets were prepared. The preliminary aptitude test made ready is given in Appendix - 3. The details about the preliminary test such as the name of the subtest, the number of test items in each subtest and the total number of test items are given in Table No.3.

Table No.3
 DETAILS ABOUT THE PRELIMINARY TEST

Subtest Number	Name of the Sub-test	Items in each Sub-test
1	Mental Ability	
	A. Problem Solving Ability	20
	B. Reasoning Ability	20
2	Creativity	10
3	General Information	74
4	Professional Awareness	84
5	English Language Ability	12
Total		220

2.Scores Ascribed:

Test items in Sub-tests I, IV and V were assigned one mark each. In sub-test 2, creativity test, each question was to be scored on unique and number scores basis objectively giving $\frac{1}{4}$ th of a mark for each response. In subtest 5, English language ability test, each response in the first eleven questions were assigned $\frac{1}{2}$ mark each and for the XII question, each comprehension question framed correctly get 1 mark.

2.3. Preliminary Study for Validating the Test Items:

The present test is designed to measure the teaching aptitude of the teacher candidates and it becomes essential that validity of the test items be established to ensure that the test items measure the teaching aptitude of the individuals to whom the test is administered. In order to validate the test, a satisfactory criterion of success or failure in secondary school teaching should be established and the aptitude scores are to be validated against this criterion score.

In this investigation, the criterion selected was the combined marks of the B.Ed. students in their theory as well as the teaching practice. For this, two criterion groups were formed.

1. The method followed in the formation of the criterion groups:

The criterion groups were selected from among the B.Ed. trainees of the college of education. After the teaching practice in the month of August 1983, the investigator collected the teaching practice marks of the trainees, in both the optional subjects of the trainees. The total marks in this is 400 marks. i.e. 200 for each optional. The first semester university theory marks which is a combination of both internal and external valuation marks was also taken.

The maximum of this is 600 marks. Thus the total marks was 1000. The marks obtained by all the 130 trainees of the college for this maximum was arranged in descending order from the highest. From among the 130 trainees, the top 25 trainees were selected to form a high group and the bottom 25 trainees, who scored the lowest were selected to form the low group. Thus the two criterion groups were formed Shah (1965).

It is assumed that the 25 trainees in the high group, who had secured high marks in teaching and theory have a high measure of teaching aptitude and the 25 trainees in the low group have a low measure of teaching aptitude.

2. Administration of the Preliminary Test:

The preliminary test was administered to the trainees in both these groups. The test was administered under the direct supervision of the investigator. Each sub-test was administered on a separate day. The instructions were at the top of each sub-test and they were also explained to the trainees, by the investigator and were requested to attempt each item in the test and write the answers to them sincerely and honestly. They were permitted to clarify their doubts and to take as much time as they needed. The maximum time taken by the test candidate was noted and the appropriate

time for each item in the sub-test was calculated to be of one minute each.

3. Scoring:

Scoring was done by the investigator based on the scoring key prepared earlier. After scoring, the number of trainees who marked an item correctly both in the high group and in the low group were found out. This was done for all the items under "Mental Ability Test" "General Information Test" and "Professional Awareness Test". Since the items under these tests were all of multiple choice type, it was possible to do so. This type of scoring was not possible in the case of creativity test and English language ability test. In these two subtests, completely correct answer or completely wrong answer may or may not be possible. Therefore in these two tests, the number of trainees who had secured above the passing minimum for each test item in both the high and low groups were counted and utilised for calculating the validity of the items.

4. Selection of Valid Items:

For validating the items in the subtest the chi-test suggested by Cureton was made use of. When the number of trainees in the high group who marked the item correctly was greater than the number in the low group who marked it

correctly, the formula for computing Chi-test was used. Chi. for all the items are shown in Appendix - 4. In the table 4 against each item it is mentioned whether it is retained or rejected.

Out of 220 items, as many as 80 items were rejected as these items did not show any significant discrimination between the two criterion groups. The remaining items were retained in the pilot test. (Appendix - 5).

The Table No.4 shows the number of items rejected and the number of valid items in the different sub-test.

Table No.4

THE NUMBER OF TEST ITEMS REJECTED AND NUMBER OF ITEMS RETAINED
FOR THE PILOT STUDY

Sub-Test No.	Name of the Sub-test	Items Omitted	Items selected for the pilot study	No. of items in sub-test
1	Mental Ability			
	A. Problem solving	4, 7, 14, 19, 20	1 to 3, 5, 6, 8 to 13, 15 to 18	15
	B. Reasoning	3, 7, 12, 17, 18	1, 2, 4, to 6, 8 to 11, 13 to 16, 19, 20	15
2.	Creativity	9 and 10	1 to 8	8
3.	General Information	4 to 6, 9, 12 to 14, 16, 17, 20, 21, 24, 25, 33, 35, 40, 41, 48, 49, 51, 56, 58, 65 to 68, 70, 73, 74	1, 2, 3, 7, 8, 10, 11, 15, 18, 19, 22, 23, 26 to 32, 34, 36 to 39, 42 to 47, 50, 52 to 55, 57, 59 to 64, 69, 71, 72	45
4.	Professional Awareness	2, 4, 5, 11, 12, 14, 20-22, 24, 28-34, 36-38, 40, 43, 45-47, 49, 50, 53, 55, 57, 61, 64, 66, 67, 69, 73-75, 82	1, 3, 6-10, 13, 15-19, 23, 25-27, 35, 39, 41, 42, 44, 48, 51, 52, 54, 56, 58-60, 61 , 63, 65, 68, 70-72, 76-81, 83, 84	45
5.	English Language ability	No omission	All are selected	12
				140

2.4 Pilot Study:

Pilot study is necessary to determine the efficiency and workability of the test constructed. Each sub-test had been cyclostyled on separate sheets of paper. The instructions to be given to the candidates were written at the top of each sub-test. The candidates were to write their answers on separate answer sheets specially prepared for the various sub-tests.

1. Sample Selected and Administration of the Pilot Test:

A random sampling technique was adopted to select 100 trainees from the two city colleges of education in Coimbatore city. The test was administered by the investigator. Proper instructions were given. The worked out examples given in each sub test were well explained. Since this is a power test and not a speed test, although the allotted time was exceeded by some, they were encouraged to answer all the items.

2. Scoring of the Test:

The test was scored objectively as per the prepared scoring key. After objective scoring the marks were entered in separate registers.

3. Collection of Teaching Marks:

To test the validity of the aptitude test scores, the investigator had collected the teaching marks that had been given to these trainees during the teaching practice in the schools.

4. Treatment of the Pilot Study Test Scores:

The 1st scores were subjected to:

1. Correction for chance factor
2. Item analysis
3. Distractor analysis
4. Establishment of reliability and validity.

Correction for Chance Success:

"In tests that require the examinee to choose one of the two or more answers which are presented to him, there is an opportunity for success without knowledge" (Greene, 1941).

The correction for chance success is to subtract from the per cent marking an item correctly the per cent attributable merely to chance or non-chance factors having zero relationship to the function measured.

The following formula was made use of to get the scores cleared of the chance effect.

$$S = R - \frac{W}{n - 1} \quad \text{where}$$

S = Score

R = the number of right responses

W = the number of wrong responses

n = the number of choices in the item.

Item Analysis:

Basically item analysis is concerned with the problem of selecting items for a test and improving the quality of the test, according to Anastasi (1955) through item analysis, it is possible to shorten a test while at the same time, increase its validity and reliability. By item analysis, one is able to find out the difficulty value and the discrimination power of the test items and select the item with desired values and rearrange the test item, discarding others without impairing the value of the test.

Difficulty value means the per cent of trainees who answer a given item correctly.

Discrimination power means the degree to which a single test item differentiates the superior from the inferior students. The difficulty value and the discrimination power were found out by the following procedure.

- 1) After scoring, the answer sheets, were arranged in the order of magnitude of the scores from the highest to lowest.

- 2) The answer sheets were grouped into 3 sub-groups namely, the high groups with the top 27 per cent of the scorers' answer sheets, the low group with the bottom 27 per cent of the scorers' answer sheets and the middle 46 per cent of the group. The high and the low group answer

sheets alone were taken for analysis, discarding the middle group.

4) The number of students who answered each of the item correctly in high and low groups were found out and were represented as U and L respectively.

The difficulty value of each item was found out by dividing the total number of correct response from both the groups by the sum of students in both the groups. This fraction when expressed as percentage gives the item difficulty.

$$\text{Item difficulty} = P = \frac{U + L}{N + N} \times 100$$

P = Percentage of students who answered to item correctly. (i.e) item difficulty.

The discrimination power of each item was calculated by subtracting the number of correct responses of the low group from the number of correct response of the high group and dividing this difference by the number of papers in higher or low group. This quotient, expressed as decimal is the index of discrimination.

$$\text{Discrimination Index} = D = \frac{U - L}{N}$$

Item Selection:

The selection of the item depends upon the item difficulty and item discrimination. It is most desirable that the difficulty percentages cluster around the 50 per cent level.

Test item which are extremely difficult or extremely easy, do not help in differentiating the students, to any noticeable degree.

With regard to discrimination power, the maximum size of the D.Values is + 1.00 and the minimum size -1.00. Those D. Values which exceeds + 0.40 are good; those between + 0.40 and +0.20 are satisfactory; and those between + 0.20 and 0 are poor.

Ebel (1954) suggests that in the cases of well developed achievement tests, more than 50 per cent of the test items should have D-values exceeding + 0.40; less than 40 per cent should have D-values between +.40 and +.20 and less than 0.10 per cent should have D values between +0.20 and 0. There should be no negative D. Values.

Keeping all these in view, the investigator, decided to retain items with discrimination power ranging from 0.26 to 0.70. Items with difficulty values ranging from 18 per cent to 91 per cent were retained. The table showing the question number item difficulty and discrimination and the new serial order of the items are included in the Appendix - 6.

Distractor Analysis:

The next step was an analysis of the distractors in the test item selected. The number of students in the 'high' and

low group who chose the distractors A, B, C, D and E. were analysed and tabulated. On the basis of this information all the distractors not chosen by any group and incorrect distractors chosen by the high group were changed. In order to make the tool of the present investigation as perfect as possible, all the items given in all the sub-tests were analysed and better distractors were substituted for the non-functioning ones. A table containing the analysis of distractors is given in Appendix - 7.

Reliability of the Test:

One of the first requirements of a test is its internal consistency or reliability (Irwin, 1960). It refers to the consistency of scores obtained by the same individuals on different occasions or with different sets of equivalent items (Anastasi, 1975).

Of the many methods of determining reliability, the following two methods were employed to calculate the reliability of the subtests and the whole test.

1) The split half method. This method was applied for the subtest, 1A, 1B, 3 and 4. For this a small random sample of twenty six teacher trainees out of the total sample of hundred were selected, in the order of 1, 5, 10 and so on. The mean, median standard deviation of this reliability sample and the main sample were calculated and found to be satisfactory. The results are shown in the following Table No.5.

Table No.5
 MEAN, MEDIAN & MODE OF THE RELIABILITY SAMPLES
 AND MAIN SAMPLE OF THE VARIOUS SUBTESTS

	Mean		Median		Standard Deviation	
	Main	Reli- ability	Main	Reli- ability	Main	Reli- ability
1A	8.1	81.	8.9	8.4	3.3	3.9
B	8.9	8.88	8.9	8.6	3.8	3.3
2	18.52	18.76	19.5	20.0	4.34	4.27
3	18.40	18.9	18.1	19.2	5.33	5.64
4	19.0	20.08	19.0	20.0	5.08	4.47
5	20.67	21.8	22.0	23.0	5.79	6.02

The test scores of the reliability group were divided into two equivalent halves by the 'odd-even' method. The scores on the two halves were used and the product moment correlation coefficient was worked out. This gave the half test reliability. The self correlation of the whole test was then calculated by applying the Spearman Brown Prophecy Formula.

Test - Retest Method:

This method was used to estimate the reliability of the subtests on creativity and English language ability. The

same reliability group was taken and they were given these two tests after a fortnight and the scores on both the tests were correlated and the coefficients of correlation were found out. The reliability coefficients of the various sub-test and whole test are given in the Table 6.

Table No.6
THE RELIABILITY OF THE VARIOUS SUB TESTS

Name of the Subtest	Method adopted	Reliability Coefficient
1. Problem Solving Ability	Split Half	0.774
2. Reasoning Ability	Split Half	0.645
3. Creativity	Test Retest	0.416
4. General Information	Split Half	0.782
5. Professional Awareness	Split Half	0.612
6. English Language Ability	Test Retest	0.52
Reliability of the Whole Test		.6407

Validity of the Test:

Validity of the test refers to the degree to which the test actually measures that it purports to measure (Anastasi, 1970).

The face validity of the present test was established by constructing the test by methods suggested and practised by eminent men in the field. The content validity of this aptitude test is also high because the selection of the teacher traits was preceded by a thorough and systematic job analysis and the construction of the test items were based on the key concepts, objectives and behaviour specifications of the traits selected. The items were finalised after a thorough discussion with the guide and experts in the field. Moreover the test items were selected after subjecting them for item validation at the preliminary stage.

The concurrent validity of the whole test and the sub-test were estimated by correlating the test scores with teaching marks obtained by the teacher trainees during their teaching practice in the schools. The creativity test was validated also against Wallock and Kogan's creativity test. The validity of each sub-test and that of the whole test are presented in the Table No.7.

Table No.7
 VALIDITY OF THE SUB TEST AND THE WHOLE TEST

Subtest No.	Name of the Sub-test	Validity
1A	Problem Solving Ability	0.57
B	Reasoning Ability	0.59
2	Creativity Test	0.42
3	General Information Test	0.53
4	Professional Awareness Test	0.56
5	English Language Ability Test	0.55
6	All the Sub-tests Combined Together	0.72
7	Creativity Against Wallock and Kogan's Creativity Test	0.586

Flow Chart:

A flow chart illustrating the steps followed in the construction of the teaching aptitude test is given below:

2.5. Final Study:

Based on the analysis of the results of the pilot study, items were selected for the final test. A great deal of care and skill were exercised to make sure that the items included in the final test actually measure teaching aptitude. The details about the final test are given in Table No.8

Table No.8
DETAILS ABOUT THE FINAL TEST

Sub-Test No.	Name of the Sub-test	Traits Tested	No. of Test Items	Maxi. marks	Time (Min)
1.	Mental Ability				
	a. Problem Solving	Numerical facility	10	10	10
	b. Reasoning	General reasoning	10	10	10
2	Creativity	Fluency Flexibility Originality	5	20	No time limit
3	General information	General knowledge, History, Geography, Science & Mathematics	20	20	20
4	Professional awareness	Professional information and interest, rapport with pupils tolerance and adaptability	20	20	20
5	English language ability	Vocabulary, spelling, grammar comprehension & expression	10	20	20
Total			75	100	1 Hr. & 20 Min.

1. The Final Test - An Assembly of Five Subtests:

The final test is an assembly of five subtests printed in the form of a book-let. On the front cover page of the test book-let, standardised general instructions to the candidates are given. The instructions to answer the test items in each subtest are given at the top of each subtest, together with a worked out example. The candidates are to write their answers in separate answer books provided for the same. On the front page of the answer book is the information sheet in the form of a questionnaire. A copy of the printed ^{final} test book-let along with the answer book is given in the Appendix - 8.

2. The Population for the Study:

The population for the study included the newly admitted teacher trainees in colleges and departments of education in different Universities of Tamilnadu. The details about the Universities, the name and location of the colleges of education affiliated to them, the type of management and the number of men and women teacher trainees admitted are given in the Table No.9. The total number of teacher trainees admitted in the year of the study forms the population for this investigation.

Table No.9
LIST OF COLLEGES OF EDUCATION IN TAMILNADU

S. No.	Name of the College of Education	University	Name of the Private place where Or situated	Govt.,	Men	Women	Total
1.	Meston College of Education	Madras	Madras	Pvt.	97	-	97
2.	Govt. College of Education(Saidapet)	Madras	Madras	Govt.	204	-	204
3.	Lady Wellington College of Education	Madras	Madras	Govt.		128	128
4.	N.K.T.National College of Education	Madras	Madras	Pvt.,		80	80
5.	St.Christopher's College of Education	Madras	Madras	Pvt.		99	99
6.	Stella Mattetina College of Education	Madras	Madras	Pvt.		110	110
7.	Govt. College of Education	Madras	Vellore	Govt.	138		138
8.	Sri Sarada College of Education	Madras	Salem	Pvt.		124	124
9.	Govt. College of Education	Madras	Kumara-palayam	Govt.	100		100
10.	Govt. College of Education	Bharathiar	Coimbatore	Govt.		120	120
11.	Sri Avinashilingam College of Education	Bharathiar	Coimbatore	Pvt.		140	140

12.	Sri Ramakrishna Mission Vidyalaya College of Education	Bharathiar	Peria- naicken- palayam	Pvt.	100	-	100
13.	Govt. College of Education	Bharathidasan	pudukottai	Govt.	135	-	135
14.	Govt. College of Education	Bharathidasan	Orathanad	Govt.	84	-	84
15.	N.V.K.S.D. College of Education	Madurai Kamaraj	Attoor K.K.Dist	Pvt.	28	72	100
16.	Lakshmi College of Education	Madurai Kamaraj	Gandhigram	Pvt.	29	70	99
17.	Dr. Alagappa Chettiar College of Education	Madurai Kamaraj	Karaikudi	Pvt.	47	59	106
18.	St. Justin's College of Education	Madurai Kamaraj	Madurai	Pvt.		100	100
19.	Thiagaraja College of Preceptors	Madurai Kamaraj	Madurai	Pvt.	48	52	100
20.	St. Ignatious College of Education	Madurai Kamaraj	Palayam- kottai	Pvt.		105	105
21.	St. Xavier's College of Education	Madurai Kamaraj	Palayam- Kottai	Pvt.	64		64
22.	VOC College of Education	Madurai Kamaraj	Tuticorin	Pvt.	130	-	130
23.	Annamal College	Madurai Kamaraj	Tuticorin	Pvt.	131		131
24.	Department of Education	Annamalai University	Chidambaram	Pvt.	200	150	350
Total					1535	1409	2944

3. Sample:

A representative sample of thousand teacher trainees covering nearly 33.3 per cent of the population was selected. This sample was taken at random using random table numbers from the various colleges of education in Tamilnadu, covering all the five universities. The details of the sample are given in the following tables 10, 11 and 12.

Table No.10
COLLEGES OF EDUCATION SELECTED FOR THE
FINAL STUDY

S. No.	Name of the College of Education	University	Management	No. of Trainees who answered the test		
				Men	Women	Total
1.	Sri Ramakrishna Mission Vidyalaya College of Education, Perianaickenpalayam	Bharathiar	Pvt.	60		60
2.	Govt. College of Education, Coimbatore	Bharathiar	Govt.,		117	117
3.	Lakshmi College of Education, Gandhigram	Madurai	Pvt., Kamaraj	20	87	107
4.	Justin's College of Education, Madurai	Madurai	Pvt., Kamaraj		83	83
5.	Thiagaraja College of Education, Madurai	Madurai	Pvt., Kamaraj	30	60	90
6.	Govt. College of Education, Pudukottai	Bharathi-	Govt.,	100		100
7.	National College of Education, Madras	Madras	Pvt.,		100	100
8.	Lady Wellington College of Education, Madras	Madras	Govt.,		100	100
9.	Meston College of Education, Madras	Madras	Pvt.,	60		60
10.	Department of Education Chidhambaram	Anna-	Pvt.,	80	103	183
					Total	1000

Table No.11
 CLASSIFICATION OF COLLEGE OF EDUCATION SELECTED
 FOR THE STUDY

Management of the college	No. of Men's College	No. of Women's College	Co-Edu- cation Colleges	Strength		Total	
				Men	Women	No.of colleges	Stren- gth
Private	2	2	3	250	433	7	683
Government	1	2	-	100	217	3	317
Total	3	4	3	350	650	10	1000

4. Categorisation and Description of the Sample:

The sample of teacher trainees was divided into different categories according to their sex, locality, and qualifications, The following tables 12 & 13 give the distribution of the sample.

Table No. 12
 THE DISTRIBUTION OF SAMPLE CONSIDERED FOR
 FINAL STUDY

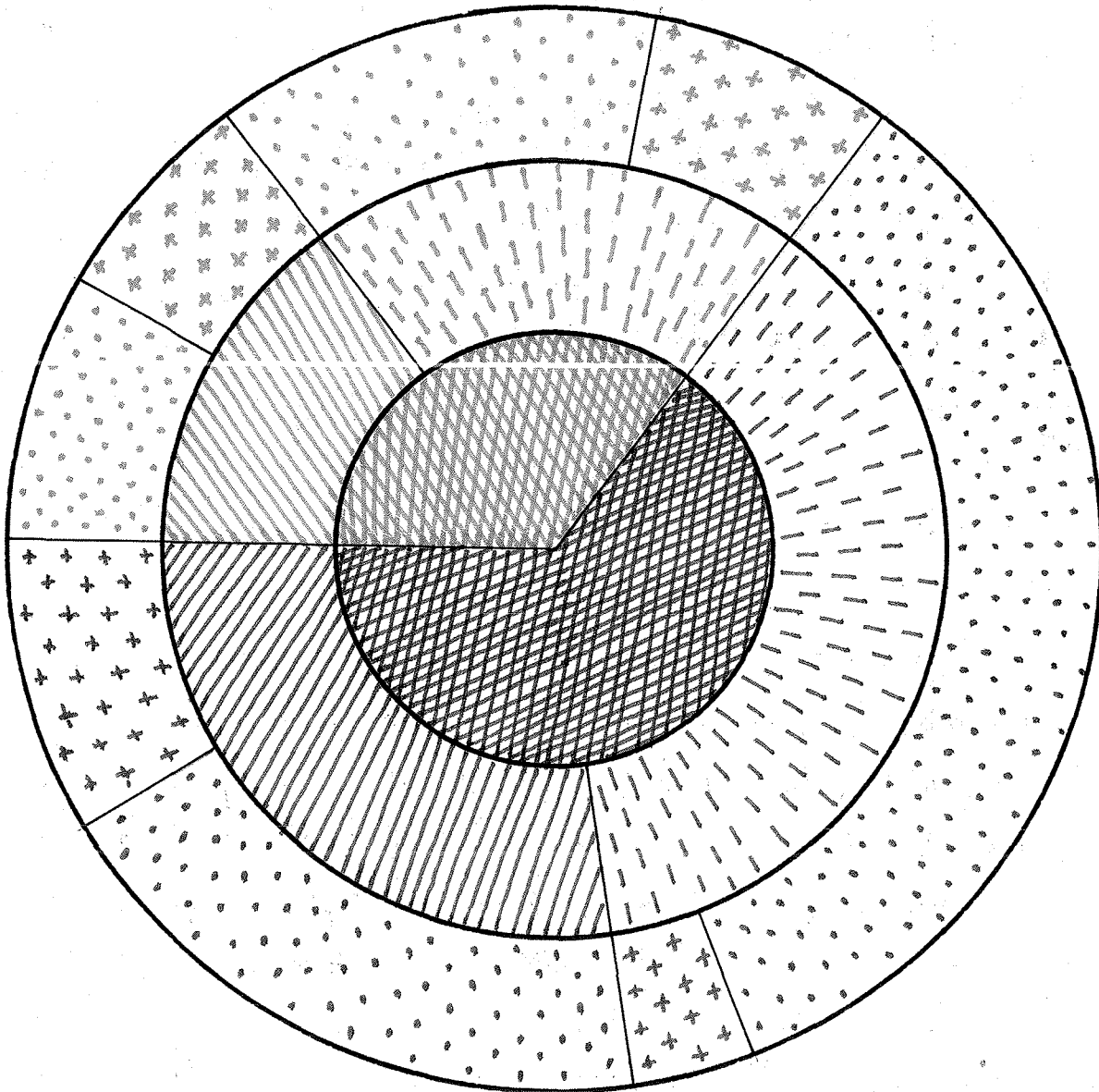
Qualifi- cation	SEX						Total
	Male			Female			
	Urban	Rural	Total	Urban	Rural	Total	
Graduate	80 54%	127 63%	207 79%	187 69%	339 90%	526 81%	733
Post- graduate	67 46%	76 37%	143 41%	85 31%	39 39%	124 19%	267
Total	147 100%	203 100%	350 100%	272 100%	378 100%	650 100%	1000

Table No. 13
 THE DISTRIBUTION OF SAMPLE ACCORDING TO
 LOCALITY AND QUALIFICATION

Locality	Qualification				Total
	Graduate		Post Graduate		
Urban	267	36%	152	57%	419
Rural	466	64%	115	43%	581
Total	733	100%	267	100%	1000

Figure 2

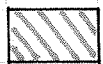
Pie Chart Showing the Distribution of Sample Considered for the Present Study



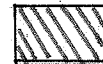
Male 35 per cent



Female 65 per cent



Male Urban 14.7 per cent



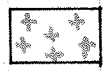
Female Urban 27.2 per cent



Male Rural 20.3 per cent



Female Rural 37.8 per cent



Male Post Graduates 14.3 per cent



Female P. Graduates 12.4 per cent



Male graduates 20.7 per cent



Female graduates 52.6 per cent

The above tables reveal that the sample consists of 35.5 per cent of male teacher trainees and 65.5 per cent of female teacher trainees. Among the whole sample 26.7 per cent are post graduates as against 73.3 per cent of graduates. The student teachers from rural areas comprise of 58.1 per cent while 41.9 per cent are from urban areas. Area wise analysis shows that while 64 per cent of the rural graduates have come for teacher training only 43 per cent of the post graduates have come for the same from the rural areas. Post graduates of urban area to a tune of 57 per cent have come for teacher training whereas only 36 per cent of graduates have come for the same from the urban areas.

Among the men trainees from urban area 54 per cent are graduates while 46 per cent are post graduates. Likewise 63 per cent of men from rural areas, 69 per cent of women from urban area and 90 per cent of women from rural area are graduates. The number of trainees with post graduate qualification is low in all categories. Out of the men trainees from rural area only 37 per cent are post graduates while 31 per cent of women from urban area and 10 per cent of women from rural area are with post graduate qualifications. The distribution of the sample is illustrated diagrammatically in a pie chart in Figure 2.

The total sample was further divided into other categories like the management of the colleges and occupational and educational status of their parents.

Out of the whole sample of 1000 teacher trainees, 68.3 per cent were from privately managed colleges of education, while 31.7 per cent were from government colleges of education. When grouped according to their parents occupation 30.5 per cent of students were from high/well occupied background. Likewise 26.6 per cent were from highly educated family background, while 29.4 per cent of them were having moderately educated family background.

A total number of 107 students had not given the occupation of their parents while 163 of them did not answer the question about their parents education.

The details of the above particulars is given in the following Table No. 14.

Table No.14
 THE DISTRIBUTION OF SAMPLES ACCORDING TO PARENTS'
 OCCUPATION AND EDUCATION

Category	Number of Students	Percentage
<u>Management</u>		
Private	683	68.3
Government	317	31.7
<u>Parents Occupation</u>		
A. Professionals	305	30.5
B. Businessmen	104	10.4
C. Agriculturists	137	13.7
D. Skilled Workers	143	14.3
E. Unskilled Workers	204	20.4
Not-mentioned	107	10.7
<u>Parent Education</u>		
A. Professional Education	266	26.6
B. Graduates, Post-graduates	294	29.4
C. Secondary Education level	166	16.6
D. Illiterates and Primary Educational Level	111	11.1
Not mentioned	163	16.3

5. Administration of the Final Test:

The investigator went personally to each college and administered the teaching aptitude test, to the selected trainees.

They were requested to read carefully the directions at the top of each subtest and the worked out examples below them. The trainees were asked to fill in the information sheet first, and then to proceed further to answer the first items in the sub-test. Wherever there were doubts, they were clarified. They were asked not to leave a single item unattempted. They were also requested to keep in mind that they shall mark only one answer to each question and if they mark more than one answer, they would not receive the credit for that question.

A time limit of 2 hours was given for the whole battery of tests. This was decided upon the pilot test experience as explained and is for administrative purposes. But the trainees were instructed clearly in the beginning itself, that they would be given as much time as they needed for taking the whole test.

The trainees were to return the answer book along with the test booklet immediately after they had completely answered all the items in all the sub-tests. Before accepting the

answer books and test booklets, the investigator made sure that all the information necessary for identification and classification had been entered in blanks provided for the same, on the front page of the answer book and also that all the items in all the subtests were answered completely.

6. Scoring:

The investigator personally assessed all the answer book, with the help of the prepared scoring key. If two or more choices have been marked for a single item, that item was omitted from scoring.

7. Preparing Data for Statistical Analysis:

After scoring all the 1000 answer books, the scores were transferred to a register specially prepared for the same. The scores were entered in the register sub-test wise. Then the total scores of each trainee was found out and ranks were assigned to the trainees for the sake of identification of the answer books.

As the means, SD's etc., were to be calculated for total score and for the subtests scores, the relevant data for the same were prepared. Thus all data for various types of statistical analysis were made ready for use.

CHAPTER - V

CONSTRUCTION OF AN ATTITUDE SCALE TOWARDS THE TEACHING PROFESSION

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Chapter V
CONSTRUCTION OF AN ATTITUDE SCALE TOWARDS
THE TEACHING PROFESSION

1. What is an Attitude?

An attitude is said to be an enduring organisation of the individual world. It provides the "frame of reference" for the conduct and behaviour. All that he sees, feels and does is consistent with this reference.

According to Travers (1978) "An attitude is a readiness to respond in such a way that the behaviour is given a certain direction. Attitude is a tendency which prepares a person to behave in a certain way towards a stimuli. If one keeps positive attitude towards an object he will be attracted towards it and his behaviour will also change in accordance with it. If he has a negative attitude he will try to avoid it which will result in such overt behaviour.

Attitudes are complex structures underlying the behaviour that result in behaviour related to the approach or avoidance of particular classes of objects of situations.

2. Attitude and Teaching Effectiveness:

If a person possess positive attitude towards teaching and school work, he will enjoy teaching, able to maintain harmonious relationship with pupils, show mutual affection and extend sympathetic understanding. Effective teaching

successful execution of educational programmes and maximum degree of job satisfaction and other pupil influencing characteristics of a teacher can be considered as outcomes of positive attitude towards teaching. With all this background the investigator aim to assess the attitude of the teacher trainees towards the teaching profession and see how far it is related to the teaching aptitude of the teacher trainees.

3. Assessment of Attitude:

Attitude which is defined as implicit responses to objects, persons, ideas, values or situations in the social surroundings should be drawn out to be expressed in the form of overt behaviours. This can be done directly or indirectly. Here the investigator employs the direct method which measures the verbal report of the candidates of their attitude towards teaching.

4. Attitude Scale Construction:

Attitude scales provide us with a means of attaining an assessment of the degree of affect that individuals may associate with the psychological object (Teaching).

Out of the two most popular attitude scales namely Thurstone's and Likert's the investigator opted for

Thurstone's attitude scales because of its objective method of construction inspite of the laborious task of finding the scale value.

5. Procedure:

The items making up the attitude scale are called statements. A statement may be defined as anything that is said about the object.

6. Collection of Attitude Eliciting Statements:

The first step was to obtain item statement, that will represent in particular the universe of interest, the teaching profession. Statements related to the teaching profession were collected by the investigator from books, magazines, newspapers and articles dealing with teaching. Statements were also obtained by asking individuals in the field, to write short description of their feelings about teaching and its related aspects. 150 statements with which individuals most agree, agree, most disagree, disagree, neutral or undecided were collected.

7. Assumptions involved in the construction of an Attitude Scale:

1) There will be difference in the belief and disbelief system of those with favourable attitude towards teaching and those with unfavourable attitudes.

2) It was assumed that this will not be true for each and every statement in the Universe relating to the Psychological object, namely teaching but only with certain classes of statements.

3) It was also assumed that if a statement was equally accepted by those with favourable and by those with unfavourable attitudes that statement would not be useful in differentiating between favourable and unfavourable attitudes.

8. Criteria for Selecting the Statements:

After collecting the statement, statements which referred to the past, statements which could be interpreted in more than one way, which were likely to be endorsed by none or endorsed by all, which were ambiguous and with double negatives or with universals like always, none, never etc., were discarded. Out of the 150 statements collected, only 100 statements were retained.

9. Placing the Statements on a Scale of Equivalent Units:

The statements were typed on separate small strips. These sets of 100 statements were given separately to a panel of 20 judges covering experienced school teachers, school headmasters, Principals and Professors of Colleges of Education. These strips were given to them personally

by the investigator and were asked to sort them into 11 piles, the left most Pile No.1 containing items considered least favourable and the right most Pile No.11, the most favourable. The other piles were intermediate and were approximately equally spaced in degree of favourableness in each judge's opinion. The judges were asked to sort them based on the favourableness or unfavourable of the statements and basing on their own attitude.

10. Tabulation of Results:

Separate tables were prepared for each statement and their cumulative frequencies were computed by accumulating the frequencies from left to right. The following Table 15 shows the cumulative frequency for the statement number 1 in the pilot study.

Table No.15
THE DATA CONCERNING STATEMENT No.1

	Pile Number										
	1	2	3	4	5	6	7	8	9	10	11
Number of time the item was placed in the pile	3	1	0	5	1	0	0	1	1	1	1
Cumulative frequency	3	4	10	15	16	16	16	17	18	19	20

A cumulative frequency graph was plotted, taking the pile numbers in the X-axis and the cumulative frequencies on the Y-axis assuming that the pile number and the scale values are the same. The same procedure was followed for all the statements.

11. Scale Value:

The scale value for the items or statement is the value which corresponds to a cumulative frequency of 50. From the graph referred above the scale value for statement 1 was found to be 3. In the same way the scale values for all the 100 statements were found.

12. 'Q' Value:

The 'Q' value was obtained from the graph by marking of the scale values which corresponded to the 25 per cent (Q1) and 75 per cent (Q3) cumulative frequencies. In the above graph these values were 4 and 2 respectively. The difference between Q3 and Q1 represents the Q value. In the above, Q value is $4 - 2 = 2$. 'Q' value is a measure of the agreement between the judges. Q value also indicates the extent to which the statement with high 'Q' values will be ambiguous or have other defects. Q values were also found for all the statements.

When most of the judges assign a statement to pile 11. the graph was extrapolated to find the point, corresponding to a cumulative frequency of 50 per cent.

The scale values and Q-values for all the 100 items were calculated and tabulated as given in Appendix - 9.

13. Selection of Items:

A high 'Q' value always indicates the disagreement among the judges. So only the items with Q value below 2.5 were selected, keeping in mind Allan's (1957) remarks that "on a 9 point scale the Q-value should seldom exceed 2.0 and an average of less than 1.5 should be aimed at". 30 items were selected in such a way that

they had scale values covering the entire scale as evenly as possible and Q values below 2.4. The above details are given in Table 16.

14. Description of the Tool:

The tool meant for testing the attitude towards teaching has a list of 30 statements. Illustration is given regarding the mode of answering the items. Separate answer sheets were provided with boxes named as "Accepted" or "rejected". A copy of the attitude scale is included in Appendix-8.

Table No. 16
THE SCALE VALUE AND Q-VALUE OF THE ATTITUDE SCALE

Item No. assigned in pilot study	Scale Value	Q-Value	Item No. assigned in final study
1	3	2	1
2	2	2	2
5	9	1.7	3
9	0.5	0.6	4
10	0.8	1.2	5
12	9.6	0.6	6
13	9.3	1.1	7
15	0.3	0.7	8
19	8.8	1.9	9
20	6.4	2.4	10
25	1.6	2.1	11
26	8.5	1.9	12
27	1.3	1.7	13
28	10	1.7	14
29	2.7	1.5	15
32	10.5	0.5	16
40	1.2	1.5	17
52	10.2	1.9	18
58	3.5	1.9	19
63	7.5	2.4	20
67	4.4	2.4	21
70	9.7	1.5	22
71	10	1.7	23
77	8.2	1.8	24
84	3.3	2	25
85	2.3	1.7	26
91	5.5	2.4	27
95	7.8	1.8	28
97	0.8	1.2	29
100	1.2	1.5	30

CHAPTER - VI

ANALYSIS AND INTERPRETATION OF THE DATA

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Chapter VI
ANALYSIS AND INTERPRETATION OF THE DATA

Introduction:

This chapter deals with the statistical treatment of the data collected and the results of the study. The scores collected through the various tools administered were analysed and the relevant scores were subjected to the following statistical analysis and the results of the study are presented in the form of tables and graphs.

1. Descriptive Analysis:

i) Aptitude Scores (Global):

The total scores of all the subtests in the battery obtained by the total sample of thousand trainees were subjected to frequency distribution and various statistical measures were calculated. The following table 17 gives the measures of central tendency and variability.

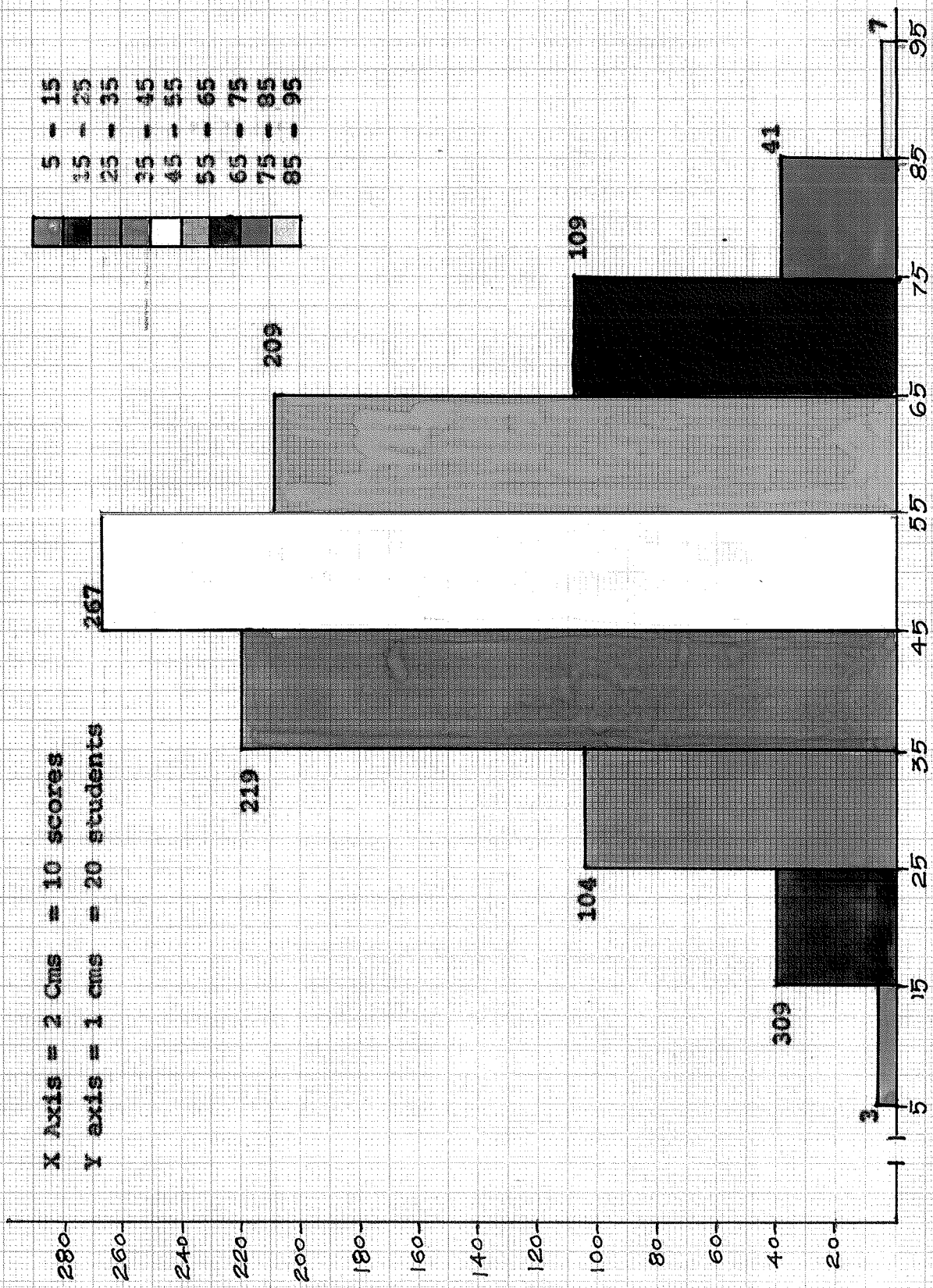
Table No. 17
MEASURES OF CENTRAL TENDENCY AND VARIABILITY
OF THE APTITUDE SCORES (GLOBAL)

Type of N	Mean	Median	Mode	SD	Skewness	Kur-tosis	Percentiles	QD
Total	50.14	49.98	48.66	14.80	0.0322*	0.2623	P ₁₀ =30.8846	
Sample 1000					0.3256**		P ₉₀ =70.7294	
							P ₂₅ =40.1575	10.4464
							P ₇₅ =61.0502	

* Skewness by Formula = $SK = \frac{3(\text{Mean}-\text{Median})}{\sigma}$ --A

** Skewness by Formula = $SK = \frac{(P_{90} + P_{10})}{2} - P_{50}$ --B

From the above table it is seen that both the mean and the median fall within the class interval of 45-55 and the difference between the mean and median is only 0.1587. The range is equal to 90 which is roughly 6 times that of the S.D. The quartile deviation is 10.4464 and it lies just half way between the two quartiles namely P₇₅ = 61.0502 and P₂₅ = 40.1575 and the distribution is symmetrical around the mean with the greatest frequency at the centre and with trailing ends. The regularity that has appeared in the distribution



- 5 - 15
- 15 - 25
- 25 - 35
- 35 - 45
- 45 - 55
- 55 - 65
- 65 - 75
- 75 - 85
- 85 - 95

Figure 8. Histogram Showing the Distribution of Total Scores (Aptitude Test) the Whole Sample (N = 1000)

shows that chance events follow a definite law. The histogram of the distribution of the scores (total) is given in Figure - 3.

The mean, median and the mode namely 50.1400, 49.9813 and 48.6638 show very slight differences and so the skewness is almost equal to 0.

The kurtosis is exactly 0.263 and so it is neither platykurtic nor Lepokurtic.

The following table gives the standard error, critical ratio and the significance of skewness and kurtosis.

Table No. 18
SIGNIFICANCE OF SKEWNESS AND KURTOSIS

Type of the Score	S.E.	C.R.	Significance
Skewness	0.6533	0.4985	Not Significant
Kurtosis	0.00885	-0.090	Not Significant

As the C.R. value in both the cases are lesser than 2.56 they are not significant and so we ascertain the normal distribution of the scores.

ii. Whole Test, Category Wise:

Measures of central tendency and variability of the whole test, category wise were calculated.

The following table gives the measures of central tendency and variability of the whole, test category.

Table No.19

MEASURES OF CENTRAL TENDENCY AND VARIABILITY
OF THE WHOLE TEST,
CATEGORY WISE

Measures	Sex		Locality		Qualification	
	Male	Female	Urban	Rural	Graduate	Post Graduate
Mean	50.14	50.14	50.1	50.17	50.08	50.30
Median	50.39	50.53	50.32	50.60	50.42	50.64
S.D.	14.98	14.71	14.88	14.75	14.84	14.71
Skewness	-0.050	-0.07961	-0.0459	-0.0865	-0.0691	-0.0896
	-0.0974	-0.1236	-0.1143	-0.0978	-0.1534	-0.0821
Kurtosis	0.2644	0.2545	0.2546	0.2661	0.2617	0.2639

From the above values it is clear that the mean of all the categories are almost alike. In the total sample for the whole test, the mean ranged from 50.08 among graduates to 50.30 among post graduates. The mean and the S.D. values

also reveal that the total scores of the different categories are equally distributed among the whole sample. The range of mean is largest in post graduate category (from 47.98 to 52.62) while it is the smallest in graduate category (from 48.67 to 51.49). The range of the median as well as S.D. are also more in post graduates while the above ranges are smallest in graduates. In all three measures the whole sample registered a closer range.

iii. Subtest Scores, Category Wise:

The following six tables list out the measures of central tendency and variability of the subtest scores category wise.

Table No. 21

MEASURES OF CENTRAL TENDENCY AND VARIABILITY OF SUBTEST. 1B .
REASONING ABILITY, CATEGORYWISE

	Male	Female	Urban	Rural	Graduates	Post Gradu- ates
Mean	6.00	6.00	6.03	5.98	5.99	6.03
MEDIAN	6.00	6.00	6.00	6.00	6.00	6.00
SED	1.46	1.53	1.53	1.50	1.50	1.52
SK (A)	0.0059	-0.0029	0.0610	-0.0449	-0.0218	0.0591
SK (B)	0.0011	-0.0014	0.0213	-0.0097	-0.0101	0.0096
Ku	0.2597	0.2632	0.2641	0.2559	0.2601	0.2605

Table No. 22

MEASURES OF CENTRAL TENDENCY AND VARIABILITY OF THE CREATI-
VITY TEST, CATEGORYWISE

	Male	Female	Urban	Rural	Graduates	Post Gradua- tes
Mean	9.98	9.97	9.96	9.98	9.97	9.98
Median	10.45	10.44	10.44	10.45	10.93	10.43
SED	2.86	2.94	2.98	2.86	2.90	2.96
SK (A)	0.4965	-0.4856	-0.4774	-0.4986	-0.4959	-0.4587
SK (B)	-0.2954	-0.3247	-0.1927	-0.3047	-0.2947	-0.3967
Ku	0.2574	0.2611	0.2493	0.2612	0.2569	0.2521

Figure 4: Frequency Polygon Showing the Distribution of the Aptitude Scores of the various sub-tests

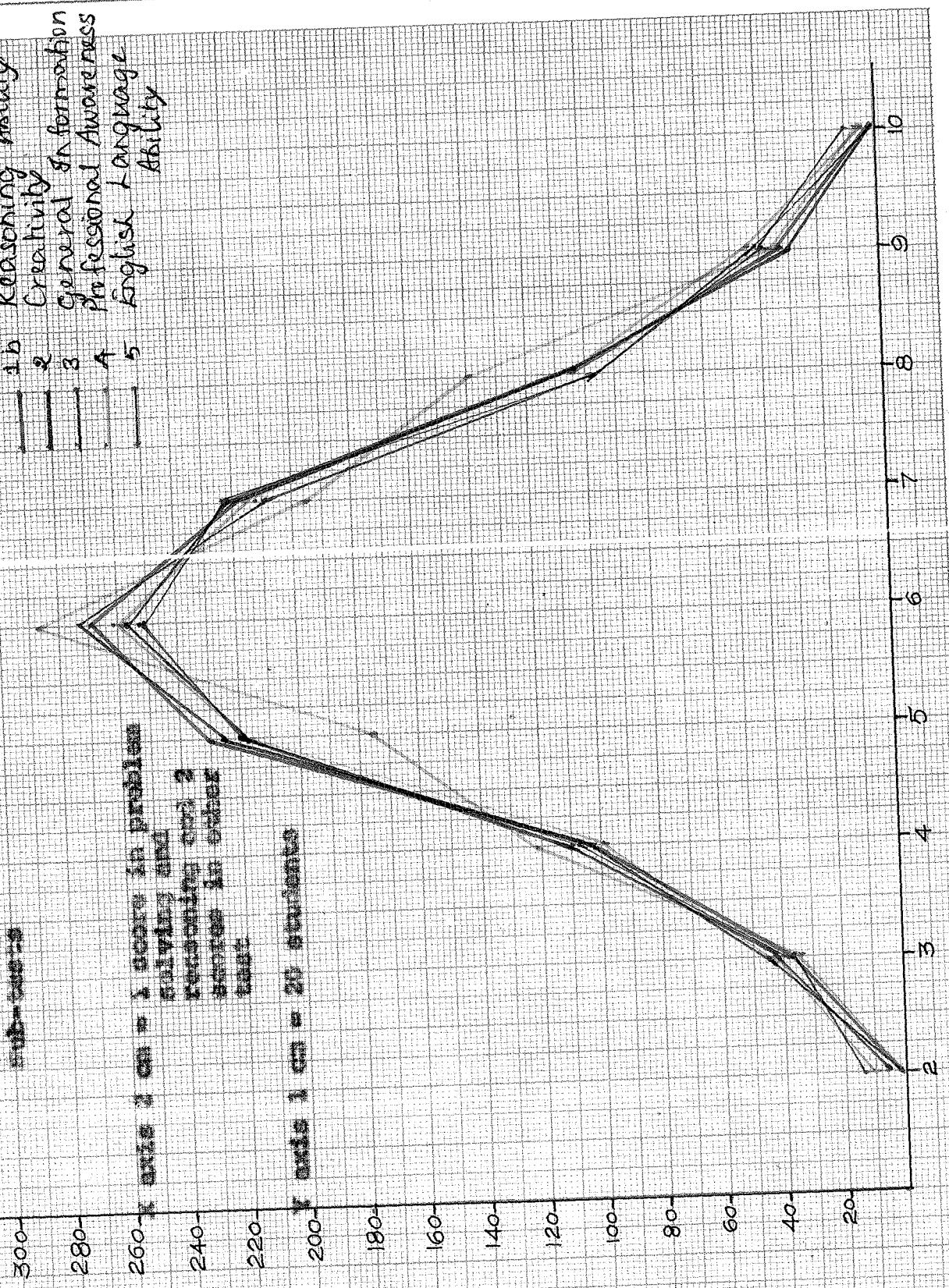


Table No. 25
 MEASURES OF CENTRAL TENDENCY AND VARIABILITY OF SUBTEST
 ENGLISH LANGUAGE ABILITY, CATEGORYWISE

	Male	Femal	Urban	Rural	Graduates	Post Gradu- ates
Mean	10.27	10.10	10.26	10.10	10.04	10.52
Median	10.79	10.61	10.71	10.63	10.57	10.93
SED	3.05	2.93	2.95	2.96	2.94	2.98
SK (A)	-0.5069	-0.5179	-0.4532	-0.5377	-0.5390	-0.1402
SK (B)	-0.4247	-0.4321	-0.5072	-0.4736	-0.6075	-0.3396
Ku	0.2627	0.2604	0.2537	0.2649	0.2627	0.2609

The above tables reveal that all the distributions are normal as seen by their skewness and kurtosis values. The distribution of scores obtained in problem solving (Subtest 1A), general information (Subtest 3) and English language ability test (Subtest 5) are negatively skewed. But this dispersion from normality is not significant as seen from the meagre CR values. Except the distribution of scores in problem solving all other distributions are leptokurtic. Here also, the deviation from normality is statistically equal to zero in all tests, as seen by the smaller CR values. The frequency polygons of all the sub-test scores are represented in Figure 4.

As the above results hold good to all the subtests as well as for the whole test, it can be concluded that the distribution of all categories are alike statistically in all subtest and whole test.

iv. Chi Square Test of the Hypothesis of Normal Distribution

One of the most important uses of Chi Square is in testing some hypothesis. The Chi square values for the whole test and subtest score distributions are shown in the following two tables 26 & 27.

Table No. 26

CHI-SQUARE VALUE FOR THE APTITUDE SCORES (GLOBAL)

Scores	fo	x-m	$\frac{x-m}{\sigma}$	Area P(x)	Δ P(x)	fe	fo-fe	$(fo-fe)^2/fe$
85-95	7	34.86	2.36	0.9909	0.0091	9	2	0.444
75-85	41	24.86	1.68	0.9535	0.0374	37	4	0.432
65-75	109	14.86	1.00	0.8413	0.1122	112	3	0.080
55-65	209	4.86	0.33	0.6293	0.2120	212	3	0.042
45-55	267	- 5.14	-0.35	0.3632	0.2661	266	1	0.004
35-45	219	- 5.15	-1.02	0.1539	0.2093	209	10	0.478
25-35	104	-25.14	-1.70	0.0446	0.1093	109	5	0.229
15-25	39	-35.14	-2.37	0.0089	0.0357	36	1	0.022
5-15	5	-45.14	-3.05	-	0.0089	9	-	-

N = 1000

 $\chi^2 = 1.733$

Mean = 50.14

SD = 14.8017

Table No.27
CHI - SQUARE VALUES FOR THE SUBTEST SCORES

S.No.	Sub-test	X^2 test of the Hypothesis	Remarks
1	Total Test (Max.Marks 100)	1.733 NS	Distribution is normal
2	Problem Solving (Max.Marks 10)	3.553 NS	-do-
3	Reasoning (Max. Marks 10)	7.194 NS	-do-
4	Creativity (Max.Marks 20)	6.009 NS	-do-
5	General information test (Max. Marks 20)	5.149 NS	-do-
6	Professional awareness test (Max. Marks 20)	1.955	-do-
7	English Language ability test (Max. Marks 20)	18.978**	Significant at 0.01 per cent level

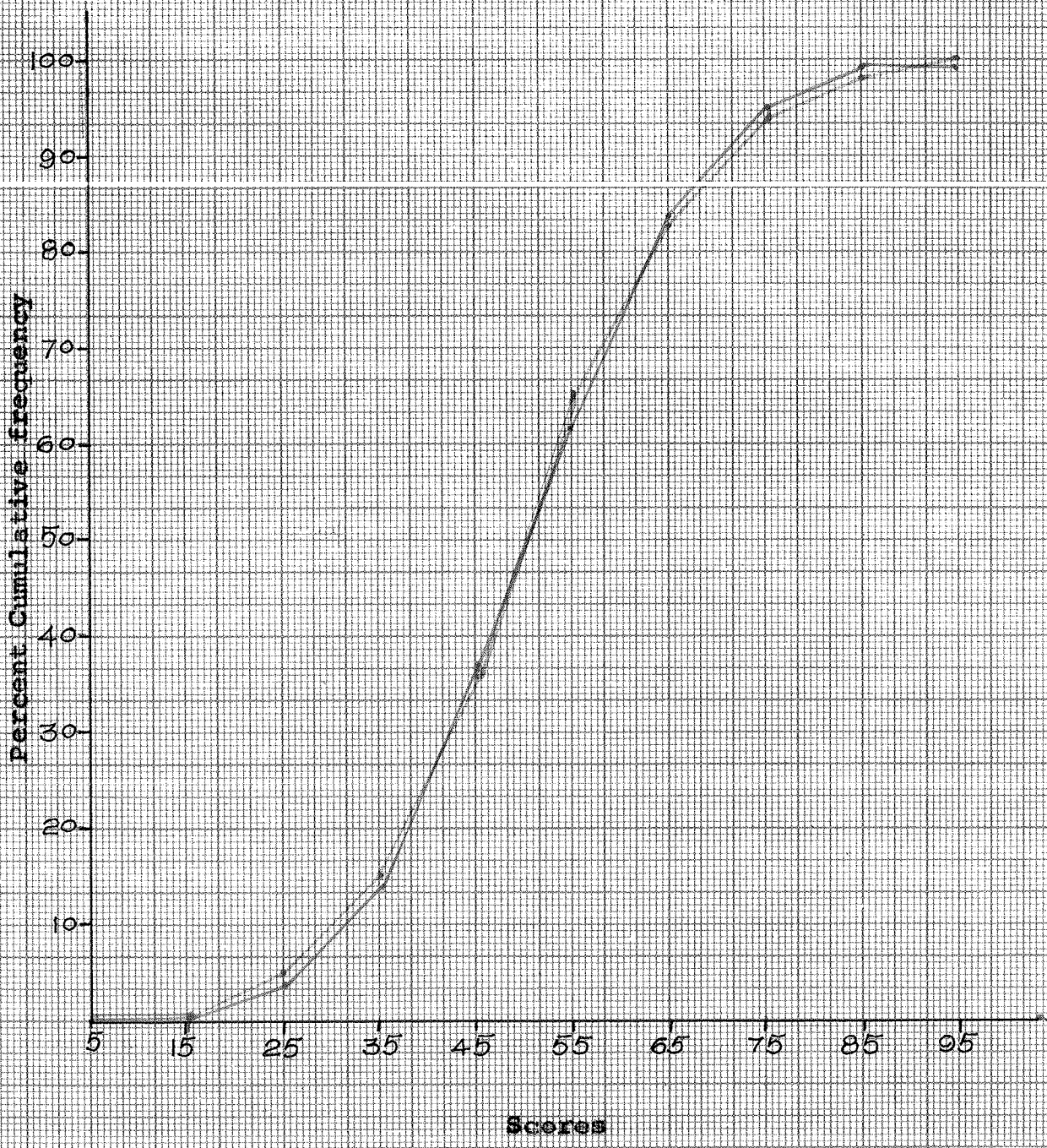
From the above tables it is seen that the Chi-square test of the hypothesis of normal distribution also reveal that the distribution of the scores of the whole test as well as the subtests are normal.

Figure 5

Ogives Showing the Performance of Men and Women Teacher Trainees regarding their aptitude test scores (Total test scores)

Scale X axis = 1.5 cm = 10 score
Y axis = 1.5 cm = 10 student

— MALE
— FEMALE



According to Garrett (1953) "Normality of distribution will arise when some of the hypothetical factors determining the strength of a test are dominant or prepotent over the others and hence are present more often than chance will allow".

If the test material is influenced by some erroneous factors then the result will not follow the normal distribution. Hence our results of normally distributed scores indicate that test material is perfect and no part is prepotent or dominant over the others.

2. Differential Analysis:

The different categories of a sample are tested for their differences in mean scores obtained in the teaching aptitude test. The test of significance is applied for the whole test as well as for the sub-tests, to test the difference between the means of the following categories.

1. Sex - Men Vs Women
2. Locality - Urban Vs. Rural
3. Qualification - Graduate Vs. Post graduate
4. Management - Government Vs. Private

The mean S.D. and 't' values for the different categories in the whole test as well as subtests were calculated and given in the following table 28 Figure 5 represents the ogive of the frequencies of the scores of the men and women trainees in the aptitude test.

Table No. 25
 THE MEAN STANDARD DEVIATION AND 'T' VALUES FOR DIFFERENT CATEGORIES IN THE VARIOUS
 SUBTESTS AND THE WHOLE TEST

Categories	Measures		Subtest							Subtest	Whole
	Mean	SD	1A	Subtest	Subtest	Subtest	Subtest	Subtest	Subtest	Test	
SEX											
Men	5.9571	1.5642	6.0029	9.9771	9.8971	10.2036	10.2743	50.1429			
N= 350			1.4609	2.8605	2.9905	2.9884	3.0452	14.9755			
Women	6.0108	1.5002	5.9985	9.9662	9.8523	10.9077	10.1015	50.1585			
N= 650			1.5334	2.9381	2.8828	2.7430	2.9261	14.7120			
	0.525NS		0.045NS	0.087NS	0.028NS	1.5621NS	0.868NS	0.004NS			
AREA											
Urban	6.0095	1.5633	6.0310	9.9618	10.1432	10.1098	10.2635	50.0955			
N= 419			1.5251	2.9826	2.7215	2.8144	2.9471	14.8819			
Rural	5.9793	1.4934	5.9776	9.9759	9.6695	9.9243	10.0964	50.1721			
N= 581			1.4962	2.8486	3.0466	2.837	2.9624	14.7488			
	0.307NS		0.051NS	0.075NS	2.582**	1.021NS	0.877	0.081NS			
MANAGEMENT											
Government	5.9835	1.5136	5.9369	9.8390	9.8685	9.9876	10.0273	50.8764			
N= 317			1.5069	2.7349	2.8976	2.9313	2.8416	15.9213			
Private	8.0124	1.5204	1.0073	9.984	10.2143	10.1233	10.3743	51.2354			
N= 683			1.528	2.8471	3.0016	2.9456	2.9314	14.3489			
	0.281NS		0.705NS	0.770NS	1.736NS	0.681NS	1.779NS	0.358NS			
QUALIFICATION											
Graduate	5.9850	1.5569	5.9891	9.9673	9.8038	10.0300	10.0382	50.819			
N= 733			1.5030	2.8950	2.8864	2.7845	2.9398	14.8386			
Post Graduate	6.0124	1.4260	6.0300	9.9775	9.9700	9.9251	10.5169	50.2996			
N= 267			1.5235	2.9553	3.0229	3.022	2.9760	14.7102			
	0.251NS		0.377NS	0.049NS	0.052NS	0.498NS	2.288*	0.207NS			

* - Significant at 5 per cent level NS - Not Significant
 ** - Significant at 1 per cent level

To test the significance of the difference among the means of the different occupational and educational groups of their parents, the analysis of variance technique was used and the mean square values are given in the following tables 29 and 30.

Table No. 29
ANALYSIS OF VARIANCE FOR TESTING THE DIFFERENCE AMONG THE
MEANS OF OCCUPATIONAL STATUS GROUPS
MEAN SQUARE VALUES

Source of variation	Degrees of Freedom	Sub test 1A	Sub test 1B	Sub test 2	Sub test 3	Sub test 4	Sub test 5	Whole test
Due to occupational status	4	0.5571 NS	0.0051 NS	0.1456 NS	1.1485 NS	3.0937 NS	5.6848 NS	99.8513 NS
Error	888	2.2737	2.3616	7.7074	8.9556	9.4977	8.6589	215.7209
Total	892							

Table No. 30

ANALYSIS OF VARIANCE FOR TESTING THE DIFFERENCE AMONG
THE MEANS OF EDUCATIONAL STATUS
GROUPS
MEAN SQUARE VALUES

Source of variation	Degrees of Freedom	Sub test 1A	Sub test 1B	Sub test 2	Sub test 3	Sub test 4	Sub test 5	Whole test
Due to Educational status	3	0.7494	0.7578	0.1428	1.1122	0.7670	1.0786	74.912
Error	833	2.2992	2.2834	7.6408	8.2899	8.4324	8.4796	211.044
Total	836							

From the above tables it is clear, that all categories are alike in their scores and their mean scores indicate that the test material is not in favour of any one particular category.

The non-significant 't' values and 'f' values indicate, that the performance of the different categories in the whole test and in all subtests are alike as indicated by their mean scores. This shows that the test items in all the subtests are statistically uniform in extracting responses from the different categories. The differences are seen only in General information test areawise split up, the teacher trainees from urban

areas scored significantly higher marks than their counterparts from rural areas. This may be due to the reason that urban people are more exposed to general information than the rural people. So also in English language ability test, difference in means was significant between graduates and post-graduates. It may again be due to the fact that the PG holders have studied for two more years in English medium than the graduates. Since these factors are extraneous ones, they do not affect the validity of the test and the items need no alteration and may be taken as such and the test is an unbiased one.

3. Estimation of the Reliability of the Test:

The reliability of the present test is estimated by following the split-half method. The test was divided into two equivalent halves by the 'odd-even' method. A random sample of 200 trainees out of the total sample of 1000 teacher trainees was selected for the purpose of applying the split half method to estimate the reliability of the whole test and sub-tests. The testees selected for the reliability sample were in the order of 1, 6, 11, 16, . . . etc., The sample should be a similar one to the parent sample. The mean, median and SD of the reliability sample were calculated and the results are presented in the following table 31.

Table No. 31
 MEAN, MEDIAN, SD, SK AND Ku. VALUES CALCULATED FOR
 PARENT SAMPLE AND RELIABILITY
 SAMPLE

	Parent Sample	Reliability Sample
N	1000	200
Mean	50.14	50.00
Median	49.98	49.63
SD	14.805	15.166
Sk	0.3256(NS)	0.6204(NS) by formula B
Ku	0.2622(NS)	0.2584(NS)

The measures of the above table reveal that the reliability sample can be said to be a satisfactory representative of the total sample.

The total scores of all the 200 testees on both halves were taken and the Pearson's product moment coefficient of correlation between them was calculated. This gave the half test reliability. The self correlation of the whole test was, then, calculated by applying the Spearman Brown Prophecy formula.

Thus the reliability coefficient of the present aptitude test for the whole test total scores is 0.7666. This shows that the aptitude test now constructed is highly reliable. The reliability coefficients of the subtests were also calculated and are given in the following table 32.

Table No. 32
THE RELIABILITY COEFFICIENT OF EACH SUBTEST AND WHOLE TEST
ALONG WITH THE INDEX OF RELIABILITY

Sub Test	Reliability Coefficient	Level of Significance (Coef. 198)	Index reliability
1A Problem Solving	0.8251	P = 0.01	0.9084
1B Reasoning	0.7962	"	0.8923
2 Creativity	0.8043	"	0.8968
3 General Information	0.7051	"	0.8397
4 Professional Awareness	0.6956	"	0.8340
5 English Language ability	0.7374	"	0.8587
Whole Test	0.7666	"	0.8756

The index of reliability gives the maximum correlation which the tests are capable of yielding in their present form.

4. Estimation of the Validity of the Test:

The validity of the present test is estimated in a number of ways. The face validity, the content validity and the concurrent validity were explained by the pilot study on page 105. The construct validity of the test is established by the factor analysis of the test scores on page 160. Predicting future behaviour is a most common purpose of aptitude testing. The predictive validity of the present test is estimated by the following two procedures.

a) The Predictive Validity of the Present Test by a Coefficient of Correlation:

The validity of a test is the closeness of agreement between the test scores and some other objective measure of that which the test is designed to measure. This other measure is called the "criterion". The coefficient of validity of a test is the coefficient of correlation between the test scores and the criterion scores.

The criterion against which the present test is validated is the semester examination marks obtained by the

trainees in the university examination. The two sets of scores i.e. the aptitude scores and the semester examination marks were taken and the product moment coefficient of correlation was calculated. It was found to be 0.7433.

A number of correlation coefficients between the criterion scores and the subtest scores for the different subtests were also calculated and are presented in the following table 33.

Table No. 33

COEFFICIENT OF CORRELATION BETWEEN CRITERION SCORES AND TEST SCORES

S. No.	Tests	G R O U P S					
		Sexwise Male (N=350) Female (N=650)	Urban (N=419) Rural (N=581)	Areawise Urban (N=419) Rural (N=581)	Qualificationwise Graduate (N=733) Post Graduate (N=267)		
1.	The whole test	0.725	0.746	0.844	0.762	0.705	0.872
2.	Subtest 1A Problem Solving	0.596	0.671	0.703	0.629	0.801	0.743
3.	Subtest 1B Reasoning	0.749	0.753	0.834	0.654	0.735	0.633
4.	Subtest 2 Creativity Test	0.847	0.598	0.741	0.703	0.621	0.726
5.	Subtest 3 General Informa- tion test	0.825	0.824	0.677	0.609	0.826	0.696
6.	Subtest 4 Professional awareness test	0.729	0.901	0.716	0.727	0.714	0.847
7.	Subtest 5 English language ability test	0.668	0.625	0.839	0.854	0.672	0.735

The above result shows that the validity coefficients obtained from different groups agree to a great extent with the validity coefficient obtained for the whole test as well as for the subtests and they are fairly stable and of equal size. Therefore, it can be concluded that the test as a whole is a satisfactory predictor of aptitude for teaching.

b. The predictive validity through the expectancy table:

Ahmann (1965) says, "the degree to which a test possesses predictive validity is not always represented by a coefficient correlation but through involving the expectancy tables". An expectancy table, in the form of a scatter diagram, based upon teaching aptitude scores and teaching practice marks of the teacher trainees admitted in the succeeding year, is prepared. The teaching practice marks is classified into 3 subgroups as above average, average and below average and the same is done for aptitude scores as in Table 34.

Table No. 34

EXPECTANCY TABLE FOR TEACHING APTITUDE AND
ACHIEVEMENT IN TEACHING

Teaching Aptitude Scores	Achievement in Teaching			Total
	Below Average	Average	Above Average	
Above Average	1	4	10	15
Average	8	30	7	45
Below Average	14	6	0	20
Total	23	40	17	80

The number of students in each category are tabulated. The high degree of predictive validity of the test is proved by the fact that the students with below average teaching aptitude have, below average achievement in teaching. Correspondingly students who have average teaching aptitude have average achievement and those who have above average teaching aptitude have above average teaching achievement.

5. Functional Analysis:- Regression Analysis:

The present test consists of five subtests, each subtest is designed to measure a factor indicative of an aptitude for teaching. All the subtests were administered

to the same group of individuals to measure their aptitude for teaching, a single measurement objective. The introduction of the multiple measure of the same individual or set of individuals, makes it necessary to combine the scores from a number of tests in order to get the best prediction of job success. The criterion score to be predicted is proportional to some weighted sum of the scores on the test which are combined. The multiple linear regression method of combining the test is applied in the present study.

The general format of the regression equation is :-

$$y = by_1.234.. n X_1 + by_2.134... nX_2 + ...by_n.123.. \\ (n-1) X_{n+K}$$

The regression coefficients $by_1.234...n$, $by_2.134..n$ etc., give the weights to be attached to the scores in each of the independent variables when y is to be estimated from all these in combination.

Different methods are used to derive the multiple regression equation. In this study the Doolittle solution method was followed to obtain the coefficients in multiple regression equation, their importance as seen by beta (β) values, significance of weights, R^2 etc.,

The inter correlation coefficients of all the five subtests scores and the criterion scores were found out using product moment correlation method as suggested by Karl Pearson. The results are presented in Table 35.

Table No. 35
INTER CORRELATIONS OF THE SUBTESTS AND CRITERION FOR WHOLE
SAMPLE (N=1000) WITH THEIR MEAN AND S.D. VALUES

Criteria	C	X1A	X1B	X2	X3	X4	X5
C	1	0.687	0.786	0.748	0.684	0.741	0.627
X1A		1	0.235	0.312	0.197	0.424	0.189
X1B			1	0.207	0.314	0.245	0.217
X2				1	0.475	0.261	0.239
X3					1	0.286	0.307
X4						1	0.315
X5							1
Mean	30.324	5.992	6.000	9.970	9.868	10.002	10.166
S.D.	5.9065	1.5231	1.5086	2.9112	2.9241	2.8446	2.9571

Where C = Criterion marks X1A = Problem Solving
 X1B = Reasoning Ability X2 = Creativity
 X3 = General Information X4 = Professional
 X5 = English Language Ability Test Awareness

The above table shows that each of the subtest scores is highly correlated with the criterion scores. Among the subtests the correlation coefficients are smaller in magnitude although they are all significant. Because of the large number of students (i.e. $N = 1000$) even the smaller ' γ ' values become significant.

The variables used to measure a common criterion, should not be highly correlated among themselves whereas they should be highly correlated with the criterion which is measured by them. This condition is satisfactorily met in this study as seen by the correlation coefficients given in the above table.

Using the Dollittle solution process, the multiple regression analysis is worked out and the results are given in Table 36.

Table No.36
THE WEIGHTS, THEIR SE, SIGNIFICANCE AND THE BETA VALUES OF
DIFFERENT SUBTESTS SCORES ON CRITERION MARKS

Subtest	Weights (b_i)	SE(b_i)	T & Sig.	Beta	Order of importance
I (X1)	0.6325	0.3287	2.076*	0.176	V
II (X2)	0.7752	0.3054	2.538**	0.198	IV
III (X3)	0.4240	0.1562	2.714**	0.209	III
IV (X4)	0.4989	0.1671	2.986**	0.247	II
V (X5)	0.5274	0.1623	3.254**	0.254	I
VI (X6)	0.3475	0.1751	1.985*	0.174	VI

a = 5.1061

* Significant at P = 0.05 level
** Significant at P = 0.01 level

The table shows that all the weights are significant. This shows that the criterion can be best measured using these variables.

The b_i values are giving the weights to be assigned to each of the subtest scores. These values are also known as partial regression coefficients. These weights are tested for their significance using their standard error

Values (SE). The b_i values are then converted into Beta values (which are otherwise known as standardised partial regression coefficient), by the following formula.

$$\beta = b_i \times \frac{SDX_i}{SDY}$$

These beta values are comparable as such to find out the importance of each variables in predicting the criterion value. As seen from the values in the above table the sub-test 5 is contributing the least, eventhough its contribution is statistically significant. It can be concluded that all the 5 sub tests are important in predicting the criterion scores and hence all these subtests can be retained as such.

The individual contribution of each subtest scores arranged according to their importance and the additional R^2 by way of introduction of each variable are calculated and presented in the Table 37.

Table No. 37
INDIVIDUAL CONTRIBUTION OF EACH SUBTEST TOWARDS CRITERION
SCORES ALONG WITH THE SHRUNKEN 'R' VALUES

Sub- test No.	Order of impor- tance	R^2	Addi- tion in R^2	R	\overline{R}^2	\overline{R}
X5	I	0.1882	0.1882	0.4338	0.1882	0.4338
X4	II	0.3571	0.1689	0.5976	0.3565	0.5970
X3	III	0.5134	0.1563	0.7165	0.5124	0.7158
X2	IV	0.6690	0.1556	0.8179	0.6680	0.8173
X1	V	0.7899	0.1209	0.8888	0.7891	0.8883
X6	VI	0.8991	0.1092	0.9382	0.8986	0.9479

The addition of each variable increases the R^2 value significantly. All the six variables, put together, predict the criterion value to an accuracy of 89.91 per cent as seen by the total R^2 value. As seen in the table the fifth subtest (English language ability test) contributes the least to predict the criterion value but even this small contribution (10.92%) becomes statistically significant.

The 'Shrunken' R^{-2} value was also found out for each variable and presented in the above table. R^{-2} value is the R^2 value adjusted for chance errors.

The R^2 , multiple coefficient of determination shows that the present criterion marks are predicted by these six subtest scores to accuracy level of 89.91 per cent.

The final weight substituted in the equation, will form the following functional relationship.

$$y = 5.11 + 0.68 X_1 + 0.78 X_2 + 0.42 X_3 + 0.50 X_4 \\ + 0.53 X_5 + 0.35 X_6$$

Where y = predicted criterion score

X_1	=	raw score in subtest	I	(Problem Solving)
X_2	=	raw score in subtest	II	(Reasoning)
X_3	=	raw score in subtest	III	(Creativity)
X_4	=	raw score in subtest	IV	(General Information)
X_5	=	raw score in subtest	V	(Professional Awareness)
X_6	=	raw score in subtest	VI	(English Language ability)

The validity coefficient, obtained by the Table is 0.7433 and the multiple R obtained here is 0.9482. Thus there is an increase in validity of the test by 0.2049 (0.9482 - 0.7433) i.e. about 27.6 per cent when the separate tests are properly weighted and combined in a battery.

6. Structural Analysis:

Factor Analysis:

Teaching aptitude test is one among the varied mental tests which has a complexity greater than one, that is, it measures more than one common factor. So it becomes important to search for the unitary traits of the teaching aptitude.

The factor analysis as a statistical tool provides a method to prove the validity of the test.

It is used to find out whether the teaching aptitude battery measures a single component or more.

Of the different methods of factor analysis, Thurstone's (1947) centroid method is applied to find out the factor loading in the present test. The procedure outlined by Guilford (1978) is followed in toto and the results are discussed in this section.

The sample of 1000 teacher trainees was used for factor analysis also.

The inter correlation of tests were found out following product moment method. The correlation matrix thus obtained is given in the previous section.

In applying Thurstones centroid method it is necessary to decide how many centroid factors are present in the present test. Fruchter (1954) formula to find out the maximum number of factors which can be uniquely determined by 'n' variables. i.e.:

$$\gamma = \frac{2n + 1 - \sqrt{8n - 1}}{2} \quad \text{Where}$$

γ = number of factors and

n = number of variables or tests involved

In our study, there are five subtests, but the subtest 1 has 2 parts (A & B) and hence n = 6. By substituting this in the above equation we get,

$$\begin{aligned} \gamma &= \frac{2 \times 6 + 1 - \sqrt{8 \times 6 - 1}}{2} \\ &= \frac{13 - 7}{2} = 3. \end{aligned}$$

The number of factors that can be expected was 3 & this suggests the possibility of the presence of other two factors i.e. 2nd and 3rd centroid factors. The procedure to find out these factors are described here.

One simple method of estimating the commonality of a test is to guess it to be equal to the highest correlation of that with any other variable in the correlation table.

The highest correlation in each column has been inserted in the principal diagonal cell of table 38 in parentheses.

Table No.38
EXTRACTION OF RIST CENTROID FACTOR FROM
CORRELATION MATRIX

Test	I	II	III	IV	V	VI	Check sum
I	(0.424)	0.235	0.312	0.197	0.424	0.189	1.781
II	0.235	(0.314)	0.207	0.314	0.245	0.217	1.532
III	0.312	0.207	(0.475)	0.261	0.239	1.969	
IV	0.197	0.314	0.475	(0.475)	0.286	0.307	2.054
V	0.424	0.245	0.261	0.286	(0.424)	0.315	1.955
VI	0.189	0.217	0.239	0.307	0.315	(0.315)	1.582
E =	1.781	1.532	1.969	2.054	1.955	1.582	T=10.873 /γ=3.2974
mE_{a1}	0.5401	0.4646	0.571	0.5929	0.6229	0.4798	$\frac{1}{t} = 0.3033$ = m

The first factor residual and extraction of the second centroid factor are presented in the table 39.

Table No. 39
FIRST FACTOR RESIDUAL AND EXTRACTION OF THE SECOND CENTROID FACTOR

=====									
K ₁									
=====									
Test	I	II	III	IV	V	VI	Check	Sum	
0.5401	-0.016	-0.016	-0.011	-0.139	0.104	-0.070	-0.070	-0.132	
0.4646	-0.011	-0.070	-0.070	0.030	-0.006	-0.006	-0.006	-0.097	
0.5971	-0.139	0.025	0.103	0.103	-0.093	-0.047	-0.047	-0.118	
0.6229	0.104	-0.030	-0.093	-0.083	-0.083	0.008	0.008	-0.086	
0.5929	-0.070	-0.006	-0.047	0.008	0.031	-0.031	-0.031	-0.071	
0.4798								-0.084	
3.2974 = V ₁								-0.588	
=====									
S ₁	1.357	1.218	1.494	1.579	1.531	1.267	8.446	(V ₁ X - V ₁) =	
k ₁ V ₁	-01.781	-1.532	-1.969	-2.054	-1.955	-1.582	-10.8729	10.8728)	
k ₁ ²	0.292	0.215	0.357	0.388	0.352	0.230	1.835	(Σ a ₁ ² = 1.834)	
=====									
s ₁ + k ₁ v ₁ + k ₁ ²	-0.132	-0.098	-0.118	-0.087	-0.072	-0.085	-0.592		
A = s ₂ /2	0.066	0.0485	0.059	0.043	0.0355	0.042	0.2940		
+1	(0.066)	0.0325	0.048	-0.096	0.1395	0.028	0.162	(Largest value is 0.066 for I test)	
+5	(0.170)	0.0025	-0.045	-0.179	(0.1395)	0.003	0.091		
B = +6	(0.100)	-0.0035	-0.092	-0.171	(0.1705)	(0.003)	0.007		
-2B = C	-0.200	0.007	0.184	0.342	-0.341	-0.006	-0.014	Σ C/ = 1.080	
D	-0.139	0.070	0.103	0.139	-0.104	-0.070		Σ D/ = 0.625	
C + D = E	-0.339	0.077	0.287	0.481	-0.445	-0.076	1.705	T = 1.705	
mE = (a ₂)	-0.2596	0.059	0.2198	0.3684	-0.3408	-0.0582	1.3058	√T = 1.3058	
								1/T = 0.7658	
								mT = 1.3058	

It should be tested whether the second centroid factor obtained is significant. There are no exact criteria for testing the significance of the factor obtained. In the present study, however, Humphrey's Rule is applied. The criterion takes into account N , the size of the sample and is dependent on the loading of only two variables (which should be sufficient to establish a factor) rather than on the entire matrix. If the product of the two highest factor loadings is higher than the twice of standard error of a correlation coefficient of zero, then the factor is said to be present. Here, the product of two highest factor loadings, ignoring the sign is $= 0.3684 \times 0.0406 = 0.1256$. The standard error of a correlation coefficient of zero (the N being 1000), is:

$$\frac{1}{\sqrt{N}} = \frac{1}{\sqrt{1000}} = 0.0316 \text{ and twice of this}$$

SE is 0.0316×2 or 0.0632

Since the product of (0.1256) is higher than the twice of SE (0.0632) it can be concluded that the second factor exists/is present.

The computation of subsequent residuals and the extraction of factors are presented in Table 40.

Table No. 40
SECOND FACTOR RESIDUAL AND EXTRACTION OF THIRD CENTROID FACTOR

Test	I	II	III	IV	V	VI
K ₂	0.2596	-0.059	-0.2198	-0.3684	0.3408	-0.0582
I	-0.0007	-0.0007	0.0461	-0.0434	0.0155	0.0851
II	0.0461	-0.0830	-0.0830	0.0033	-0.0099	-0.0026
III	-0.0434	0.0033	0.0220	0.0220	-0.0181	-0.0342
IV	0.0155	-0.0099	-0.081	0.0426	0.0294	0.0539
V	-0.0851	-0.0026	-0.0342	0.0294	0.0112	0.0413
VI	-0.132	-0.097	-0.118	-0.086	-0.071	-0.084
S ₂	-0.0030	0.0007	0.0025	0.0042	-0.0039	-0.0007
K ₂ V ₂	0.0674	0.0035	0.0483	0.1357	0.1161	0.0034
K ₂ ²	-0.0676	-0.0928	-0.0672	0.0539	0.0412	-0.0813
S ₂ +K ₂ V ₂ +k ₂ ²	-0.0676	-0.0929	-0.0672	0.0539	0.0413	-0.0813
s ₃	+0.0338	+0.04645	+0.0336	-0.02695	-0.02065	+0.04065
-s ₃ /2 = A	0.0331	(0.04645)	-0.0494	-0.02365	-0.03055	0.03805
+2	-0.052	(0.04385)	-0.0836	0.00575	-0.01935	(0.03805)
+6	-0.0954	(0.0475)	-0.0616	(0.00575)	0.02325	(0.06749)
B +4	0.1908	-0.0943	0.1232	0.0115	-0.0465	-0.1349
-2B = C	0.0851	-0.0830	0.0830	-0.0434	-0.0426	-0.0851
D	0.2759	-0.1773	0.2062	-0.0549	-0.0891	-0.2200
C + D = E	0.2727	-0.1753	0.2038	-0.0543	-0.0881	-0.2175
ME = A						

$\sum/C/ = 0.6012$
 $\sum/D/ = 0.4222$
 $\frac{\sum}{T} = 1.0234$
 $\frac{\sum}{T} = 1.0116$
 $mT = 1.0116$

The product of 2 higher loading 0.2727x0.2175=0.0593 which is lesser than the twice of SE ie. 0.0632 & hence the further rotation becomes unnecessary.

The product of two higher loadings, $0.2727 \times 0.2175 = 0.0593$ which is lesser than the twice of SE i.e. 0.0632 and hence the further rotation becomes unnecessary.

The centroid factor loadings and their square are presented in the following table. 41.

Table No. 41
CENTROID FACTOR MATRIX WITH PROPORTIONS OF VARIANCES
CONTRIBUTED BY THE CENTROID FACTORS

Test	a_1	a_2	a_3	a_1^2	a_2^2	a_3^2
I	0.5401	0.2596	0.2727	0.2917	0.0674	0.0744
II	0.4646	+0.0590	-0.1753	0.2159	0.0035	0.0307
III	0.5971	0.2198	0.2038	0.3565	0.0483	0.0415
IV	0.6229	0.3684	-0.0543	0.3880	0.1357	0.0029
V	0.5929	-0.3408	-0.0881	0.3515	0.116	0.0078
VI	0.4798	-0.0582	-0.2175	0.2302	0.0034	0.0473

$$\sum a_k^2 = 1.8338 \quad 0.3744 \quad 0.2046 \quad 2.4128$$

$$(\%) = 76.00\% \quad 15.52\% \quad 8.48\% \quad 100\%$$

The first centroid factor accounts for 76 per cent of the total variability where as the remaining two factors, put together, are responsible for 24 per cent only.

This shows that, our test measures more than one common factor, to wit 3 factors, to a substantial degree. However, the first centroid factor which accounts for the maximum variability (76%) indicates that this test measures only one common measure to a substantial degree.

The other two common factors which are measured by this test are not affecting the validity of our test in the measurement of one common factor, which in our present test is the teaching aptitude of the teachers.

7. Establishment of Norms for the Test:

For the present test scores the following norms are worked out.

1. Standard - Score Norms
2. T - Score Norms
3. Percentile Norms

1. Standard Score Norms & T-Score Norms:

The raw scores obtained in the test were converted into the standard scores with the help of the formula suggested by Garrett (1953). And the raw scores on the present aptitude test are expressed as standard scores in a distribution of $M = 100$ and $\sigma = 20$ as well as in another distribution of $M = 50$ and $\sigma = 10$. A standard score is

expressed as a deviation of score from the arithmetic average of the normative group in which the standard deviation of the normative group is used as the unit of measurement. Such scores simplify interpretation and increase comparability. The standard scores obtained are presented in Table (42) with their corresponding raw scores.

Instead of σ scores, the obtained scores of a frequency distribution may be converted into a system of 'normalised' σ scores by transforming them directly into equivalent points in a normal distribution. Normalised standard scores are called 't' scores. T scores are normalised standard scores converted into a distribution with a mean of 50 and σ of 10.

The following table is formed to calculate the 't' scores and the results are presented in the appropriate columns.

Table No.42

T SCORES FOR TOTAL APTITUDE TEST RAW SCORES OBTAINED BY THE
WHOLE SAMPLE (N=1000)

Test Scores	f	cum f.	Cum %	Cum f below scores + 1/2 on given score	%	T Scores
90 - 95	2	1000	100	999	99.90	81
85 - 90	5	998	99.8	995.5	99.55	76
80 - 85	16	993	99.3	985	98.50	72
75 - 80	25	977	97.7	964.5	98.45	68
70 - 75	40	952	95.2	932	93.20	65
65 - 70	69	912	91.2	877.5	87.75	62
60 - 65	85	843	84.3	800.5	80.65	59
55 - 60	124	758	75.8	696	69.60	55
50 - 55	137	634	63.4	565.5	56.55	52
45 - 50	130	497	49.7	432	43.20	48
40 - 45	112	367	36.7	311	31.10	45
35 - 40	107	255	25.5	201.5	20.15	42
30 - 35	64	148	14.8	116	11.60	38
25 - 30	40	84	8.4	64	6.4	35
20 - 25	27	44	4.4	30.5	3.05	31
15 - 20	12	17	1.7	11.0	1.10	27
10 - 15	3	5	0.5	3.5	0.35	23
5 - 10	2	2	0.2	1.0	0.10	19

The T-Scores are given in the following table 43 along with their corresponding raw scores and standard scores.

Table No. 43

RAW SCORES AND THEIR CORRESPONDING STANDARD SCORES AND T SCORES

Raw Score	M=100 = 20	M=50 =10	T Score	Raw Score	M=100 = 50	M=50 =10	T Scores
1	33.80	16.90	16	51	101.35	50.68	50
2	35.16	17.58	17	52	102.70	51.35	51
3	36.51	18.26	18	53	104.05	52.03	52
4	37.86	18.93	19	54	105.40	52.70	52
5	39.21	19.61	19	55	106.75	53.38	53
6	40.56	20.28	20	56	108.10	54.05	53
7	41.91	20.96	21	57	109.46	54.73	54
8	43.26	21.63	22	58	110.81	55.40	55
9	44.61	22.31	22	59	112.16	56.08	56
10	45.96	22.98	23	60	113.51	56.76	56
11	47.31	23.66	24	61	114.86	57.43	57
12	48.66	24.33	24	62	116.21	58.11	58
13	50.02	25.01	25	63	117.56	58.78	58
14	51.37	25.67	26	64	118.91	59.46	59
15	52.22	26.36	26	65	120.26	60.13	60
16	54.07	27.04	27	66	121.61	60.81	61
17	55.42	27.72	28	67	122.96	61.48	61
18	56.77	28.39	28	68	124.32	62.16	62
19	58.12	29.06	29	69	125.67	62.84	63
20	59.47	29.74	30	70	127.02	63.51	63
21	60.82	30.41	30	71	128.37	64.19	64
22	62.17	31.09	31	72	129.72	64.86	65
23	63.52	31.76	32	73	131.07	65.54	65
24	64.88	32.44	32	74	132.42	66.21	66
25	66.23	33.12	33	75	133.77	66.89	66
26	67.58	33.79	34	76	135.12	67.56	67
27	68.93	34.47	35	77	136.47	68.23	68
28	70.28	35.14	35	78	137.82	68.91	69
29	71.63	35.82	36	79	139.18	69.59	69
30	72.98	36.49	36	80	140.53	70.27	70
31	74.33	37.17	37	81	141.88	70.94	71
32	75.68	37.84	38	82	143.00	71.50	71
33	77.04	38.52	38	83	144.58	72.29	72
34	78.38	39.19	39	84	145.93	72.97	73
35	79.74	39.87	39	85	147.28	73.64	73
36	81.09	40.55	40	86	148.63	74.32	74
37	82.44	41.22	41	87	149.98	74.99	75
38	83.79	41.90	42	88	151.33	75.67	76
39	85.14	42.57	42	89	152.68	76.34	76
40	86.49	43.25	43	90	154.03	77.01	77
41	87.84	43.92	44	91	155.39	77.70	78
42	89.19	44.59	44	92	156.74	78.37	79
43	90.54	45.27	45	93	158.09	79.05	79
44	91.89	45.95	46	94	159.44	79.72	80
45	93.24	46.62	46	95	160.79	80.40	80
46	94.60	47.30	47	96	162.14	81.07	81
47	95.95	47.98	48	97	163.49	81.75	82
48	97.30	48.65	49	98	164.84	82.42	82
49	98.65	49.33	49	99	166.19	83.10	83
50	100.00	50.00	50	100	167.54	83.77	83

II. Percentile Norms

A percentile norms is defined as a point on a scale of measurement determined by the percentage of individuals in given population that lies below this point.

The percentiles are calculated following formulas suggested by Garrett. The percentile norms, thus calculated, are presented in the following table 44.

Table No.44
PERCENTILE NORMS

Percentile	Score	Percentile	Score	Percentile	Score
1	16.28	41	46.61	81	63.42
2	18.85	42	46.99	82	63.90
3	21.41	43	47.36	83	64.38
4	23.97	44	47.73	84	64.86
5	25.58	45	48.11	85	65.64
6	26.54	46	48.48	86	66.56
7	27.50	47	48.86	87	67.48
8	28.46	48	49.23	88	68.39
9	29.42	49	49.61	89	69.31
10	30.38	50	49.98	90	70.23
11	31.35	51	50.36	91	71.15
12	32.31	52	50.73	92	72.06
13	33.27	53	51.10	93	72.98
14	34.23	54	51.48	94	73.90
15	35.09	55	51.85	95	74.82
16	35.55	56	52.23	96	76.95
17	36.00	57	52.60	97	79.39
18	36.46	58	52.98	98	81.83
19	36.92	59	53.35	99	84.27
20	37.37	60	53.73		
21	37.83	61	54.10		
22	38.29	62	54.48		
23	38.74	63	54.85		
24	39.20	64	55.29		
25	39.66	65	55.77		
26	40.11	66	56.24		
27	40.57	67	56.72		
28	41.03	68	57.20		
29	41.48	69	57.68		
30	41.94	70	58.16		
31	42.40	71	58.64		
32	42.85	72	59.11		
33	43.31	73	59.59		
34	43.77	74	60.07		
35	44.22	75	60.07		
36	44.68	76	60.55		
37	45.11	77	61.03		
38	45.49	78	61.51		
39	45.86	79	61.99		
40	46.24	80	62.46		

Percentile Ranks:

The percentile ranks corresponding to the raw-scores obtained were also calculated. The percentile rank (PR) of an individual indicates his position on a scale of 100 to which the subjects' score entitles him. The procedure to find out ones PR is to find out his score and determine the percentage of scores which lies below it. If this percentage is say 59, the score has a PR of 59 on a scale of 100. Calculation illustrated by Garrett in his book statistics in Psychology and Education are followed to calculate the percentile ranks corresponding to the raw scores obtained by the sample. The PR corresponding to each raw score are presented in the following Table 45.

Table No. 45
PERCENTILE RANKS (PR)

Raw Score	P.R.	Raw Score	P.R.
1		51	52.72
2		52	55.39
3		53	58.06
4		54	60.73
5	0	55	63.40
6	0.05	56	65.49
7	0.10	57	67.58
8	0.15	58	69.67
9	0.20	59	71.76
10	0.25	60	73.85
11	0.30	61	75.94
12	0.35	62	78.03
13	0.40	63	80.12
14	0.45	64	82.21
15	0.50	65	84.30
16	0.89	66	85.39
17	1.28	67	86.48
18	1.67	68	87.57
19	2.06	69	88.66
20	2.45	70	89.75
21	2.84	71	90.84
22	3.23	72	91.93
23	3.62	73	93.02
24	4.01	74	94.11
25	4.40	75	95.20
26	5.44	76	96.02
27	6.48	77	96.43
28	7.52	78	96.84
29	8.56	79	97.25
30	9.60	80	97.66
31	10.64	81	98.07
32	11.68	82	98.48
33	12.72	83	98.89
34	13.76	84	99.30
35	14.80	85	99.37
36	16.99	86	99.44
37	19.18	87	99.51
38	21.37	88	99.58
39	23.56	89	99.65
40	25.75	90	99.72
41	27.94	91	99.79
42	30.13	92	99.86
43	32.32	93	99.93
44	34.51	94	100.00
45	36.70	95	
46	39.37		
47	42.04		
48	44.71		
49	47.38		
50	50.05		

Letter Grades:

The testees can be assigned letter grades in accordance with the raw scores, they obtain on the test. It was shown earlier that the distribution of the test scores is almost normal. The testees are grouped into seven different grades, i.e. A, B, C + C, C - D and E. For doing this, the base line of the normal curves is divided into seven equal parts ($6\sigma \div 7 = 0.86\sigma$) each part being equal to 0.86σ unit. Then the limits of the raw scores and also of the standard scores for different letter grades are worked out. These limits are presented in the following table 46. The graphical representation of the same is given in Figure No. 6

Table No. 46
ASSIGNING LETTER GRADES

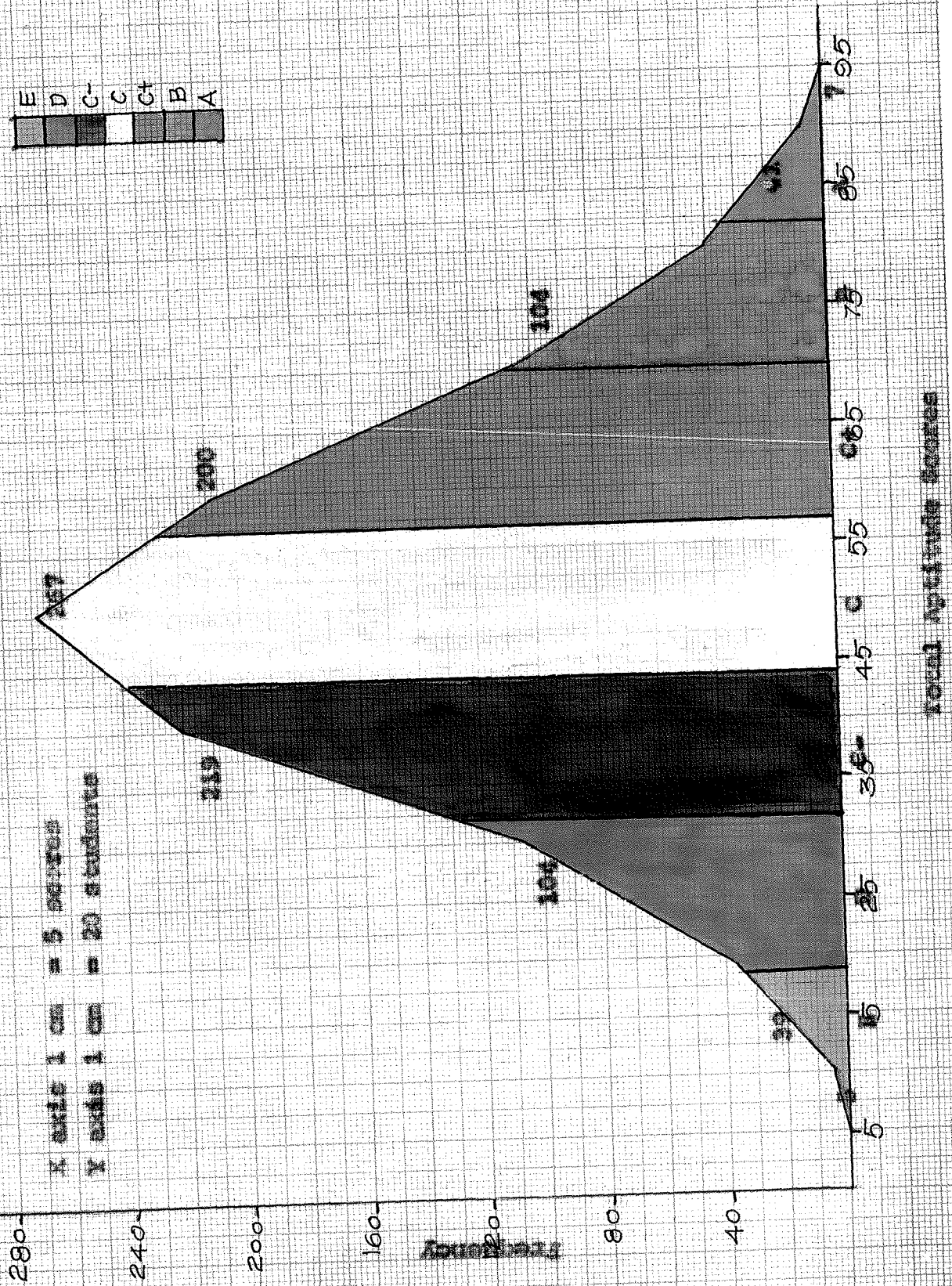
Letter Grade	Limits in Terms of Unit	Limits in Terms of Raw Scores	Limits in terms of Standard Scores M = 50 = 10.
A	M + 2.15 and above	82 and above	Between 63 & 70
B	Between M+1.29 and M+2.156	Between 70 and 81	Between 63 and 62
C+	Between M+0.43 and M+1.296	Between 57 and 69	Between 55 and 62
C	Between M-0.43 and M + 0-43	Between 44 and 56	Between 46 and 54
C-	Between M-1.29 and M-0.436	Between 32 and 43	Between 38 and 45
D	Between M-2.15 and M-1.29	Between 19 and 31	Between 29 and 37
E	M-2.15 and below	18 and below	28 and below

The following chart illustrates the analysis done of the final teaching aptitude test scores.

Figure 6. Schematic Representation of the Grade Assignment

X axis 1 cm = 5 scores

Y axis 1 cm = 20 students



Usage of Test Norms:

The norms established through the present study may be applied in comparing the performance of any other testee selected from the population described earlier on the present aptitude test. He can easily be placed in a particular grade and from this it is can be judged howfar he will be successful in the profession. The multiple regression equation derived earlier will help the user of the test in predicting the testees criterion score. This gives some idea as to the testees aptitude for teaching. The norms established here together with the predicting formular established in this study will help to a reasonable extent in selecting the teachers who really possess aptitude for teaching.

8. Descriptive and Correlational Analysis of the Attitude Scores:

The attitude towards the teaching profession' scale constructed was administered to the teacher trainees along with the aptitude test. The scale consisted of Thirty S statements in it. The maximum score that one can obtain is 10.5. The scores were subjected to statistical treatment. The various measures of central tendency and variability for the whole test is given in the following table 47.

Table No. 47
 MEASURES OF CENTRAL TENDENCY AND VARIABILITY OF
 THE ATTITUDE SCORES

Type of N	Mean	Median	SD	Skew- ness	Kur- tosis	Percentage	Q.D.
Total	6.02±	6.00±	1.5898±	0.0377		P ₁₀ - 4.3394	1.0774
Sample 1000	0.1298	0.1625	0.0921	0.059	0.2486	P ₉₀ - 8.6724	
						P ₂₅ - 5.4561	
						P ₇₅ - 7.6108	

The table 48 gives the significance of the Sk and Ku values for the attitude score distribution of the whole sample N = 1000

Table No. 48
 THE Sk, Ku AND Chi - SQUARE VALUES FOR THE ATTITUDE SCORES
 DISTRIBUTION OF THE WHOLE SAMPLE (N=1000)

S.No.	Particular	Value
1	Skewness (Sk) by formula B	0.0059
2	Type of Skewness	Positive
3	S.E. of Skewness	0.0710
4	CR Value	0.083 (NS)
5	Kurtosis (Ku)	0.2486
6	Type of Kurtosis	Platykurtic
7	SE of Ku	0.00885
8	CR Value	1.621 (NS)

N.S. = Not significant.

The attitude scores were analysed categorywise and the measures of central tendency and variability are given in the following table 49.

Table No. 49

MEASURES OF CENTRAL TENDENCY AND VARIABILITY OF THE ATTITUDE SCORES CATEGORYWISE

Measure	Sex		Locality		Qualification	
	Male	Female	Urban	Rural	Graduates	P.Graduates
Mean	6.02	6.02	6.0119	6.0258	6.0095	6.0487
Median	6.00	6.00	6.00	6.00	6.00	6.00
S.D.	1.5828	1.5936	1.5777	1.5985	1.5787	1.6196
Sk(A)	0.03779	0.0377	0.0226	0.0484	0.0181	0.0902
Sk(B)	0.0142	0.0096	0.0074	0.0124	0.0072	0.0335
Ku	0.2542	0.2459	0.2437	0.2496	0.2641	0.2420

The Chi-square value for the attitude scores was calculated and is shown in the following table 50.

Table No.50
CHI-SQUARE VALUE FOR THE ATTITUDE SCORES

Scores	fo	x-M	$\frac{X-M}{\sigma}$	Area P(x)	$\Delta P(X)$	fe	fo-fe	$\frac{(fo-fe)^2}{fe}$
10 (9.5)	8	3.48	2.19	0.9857	0.0163	6	2	0.667
9 (8.5)	54	2.48	1.56	0.9406	0.0521	52	2	0.007
8 (7.5)	116	1.48	0.93	0.8238	0.1168	117	1	0.0085
7 (6.5)	185	0.48	0.30	0.6179	0.1889	181	4	0.0847
6 (5.5)	294	-0.52	-0.33	0.3707	0.2912	291	3	0.0309
5 (4.5)	171	-1.52	-0.96	0.1685	0.1692	170	1	0.0059
4 (3.5)	109	-2.52	-1.69	0.0559	0.1126	113	4	0.1416
3 (2.5)	50	-3.52	-2.21	0.0136	0.0483	48	1	0.0161
2 (1.5)	13	-4.52	-2.84	-	0.0136	14		

N = 1000 Mean = 6.02 SD = 1.5898 $f^2 = 1.0313$

χ^2 table value for df = 5 at 5 per cent level is 11.07 and so the present value is not significant.

The value of the chi-square test proves the normal distribution of the scores.

The correlation coefficients between the attitude scores and the aptitude scores for all types of samples are worked out and presented in the following table 51.

Table No. 51
 CORRELATION COEFFICIENTS BETWEEN ATTITUDE SCORES AND APTITUDE TESTING SCORES WITH THEIR
 SE VALUES

S. No.	Group	Sexwise			Area-wise		Qualification		Total Sample (N=1000)
		(N=350)	(N=650)	(N=419)	(N=581)	Graduates (N=733)	P. Graduate (N=267)		
1.	Total Aptitude Test Scores	0.675	0.576	0.724	0.635	0.649	0.679	0.642	
2.	Problem Solving	0.734	0.600	0.737	0.659	0.668	0.784	0.721	
3.	Reasoning	0.703	0.597	0.782	0.629	0.629	0.546	0.689	
4.	Creativity Test	0.619	0.624	0.687	0.649	0.475	0.751	0.620	
5.	General Information Test	0.623	0.592	0.619	0.706	0.605	0.579	0.614	
6.	Professional Awareness Test	0.757	0.614	0.738	0.616	0.573	0.699	0.678	
7.	English Language Ability Test	0.630	0.609	0.729	0.559	0.515	0.647	0.619	

All ' γ ' values are highly significant at $P = 0.01$ level. This shows that the students attitude and aptitude are highly related with each other. The positive correlation coefficients indicate that those who have high attitude are also having aptitude, (or vice versa).

9. Analysis of the Aptitude Scores of a New Sample:

The coefficient of stability of the test was measured by the retest method. The final questionnaire was given to the 220 female students who attended the interview to seek admission into teacher training programmes during the academic year 1985 in Sri Avinashilingam College of Education. The scores so obtained were analysed statistically and the mean, SD and Sk and Kurtosis along with Chi-test were found and are tabulated here in Table 52.

Table No.52
 MEAN, MEDIAN, Sk, Ku AND THEIR SE VALUES FOR THE APTITUDE SCORES OBTAINED
 BY THE NEW SAMPLE

Test Parameters	Subtest I	Subtest II	Subtest III	Subtest IV	Subtest V	Subtest VI	Total Test
1. Mean	6.02 (0.1045)	5.99 (0.0997)	9.95 (0.1952)	9.91 (0.1982)	10.02 (0.1994)	10.15 (0.2002)	50.00 (0.991)
2. Median	6.00 (0.1310)	6.00 (0.1244)	9.92 (0.2445)	9.97 (0.2484)	9.99 (0.2373)	10.14 (0.2508)	49.92 (0.991)
3. SD	1.53 (0.0742)	1.48 (0.0708)	2.89 (0.0386)	2.94 (0.1408)	2.81 (0.1345)	2.97 (0.1421)	14.71 (0.7041)
4. SK (by formula B)	0.0347NS (0.1406)	-0.0015NS (0.1398)	0.0583NS (0.2750)	-0.058NS (0.2773)	0.0615NS (0.2643)	0.0244NS (0.2853)	0.1934 (0.3907)
5. Ku	0.2385NS (0.0189)	0.250NS (0.0189)	0.2593NS (0.0198)	0.2650NS (0.0189)	0.2686NS (0.0189)	0.2620NS (0.0189)	0.2621NS (0.018)
6. F2 Test	3.240 NS	2.194 NS	1.330 NS	0.273 NS	0.340 NS	3.674 NS	0.7092 NS

(Figures in () are the corresponding SE Values)

NS = Not significant

From the table it is evident that the scores are normally distributed. The results are identical with the previous results of original 1000 students samples considered for this study.

This confirms the results already derived, that the aptitude test, formed in this study, is more stable, reliable and valid. Since this sample is considered only as a confirmation of the stability of the aptitude test, the whole sample (N=220) is considered as such. Further subdivision of the sample into different categories like area, qualification, family background etc., are not considered.

The study of the stability coefficient also shows that the aptitude test now formed is a stable one fulfilling all the needs of aptitude testing.

CHAPTER - VII

SUMMARY AND CONCLUSIONS

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Chapter VII SUMMARY AND CONCLUSIONS

1. Introduction:

This chapter aims at summarising the procedure adopted in constructing the "Teaching Aptitude Test" and arriving at conclusions by consolidating the various findings from the analysis of the data presented in the previous chapter.

2. Summary of the Procedure:

A list of teacher traits was drawn out after a thorough study of related literature in the form of published books, manuals, bulletins, research reports as well as discussion with experts in the field of education. An opinionnaire with twenty traits in the form of a rating scale was circulated to experts in the field of education and psychology and eleven traits were selected based on the score given by them. Out of the eleven traits selected the second one was about the attitude of a person towards the teaching profession and the investigator constructed an attitude scale on Thrustone's technique with 30 statements for and against teaching profession to assess that trait. The remaining ten traits were taken to form the content of the teaching aptitude test. Key concepts, objectives and behaviour specifications were framed for the traits selected and in the light of these, 222

tentative test items were constructed and grouped under five subtests with adequate instructions to candidates. These tests were administered to a criterion group of 50 teacher trainees for a preliminary validation and 138 valid test items were selected for the pilot study. The pilot study was conducted on 100 teacher trainees in colleges of education and the test items were improved through item analysis and distractor analysis. The reliability and validity of the sub tests and the whole test were estimated. The maximum marks and the time limits were established for each of the test and the final tests had the subtests as follows:

- Subtest 1 : Mental Ability Test
 - A. Problem solving ability test
 - B. Reasoning ability test
- Subtest 2 : Creativity Test
- Subtest 3 : General Information Test
- Subtest 4 : Professional Awareness Test
- Subtest 5 : English Language Ability Test

Answer books with information sheet were designed and made ready. The information called for were for the purpose of validation and correlation.

3. The Population and the Sample:

The population included the newly admitted teacher trainees in different colleges of education in Tamilnadu.

A random sample of thousand teacher trainees was drawn from this population for the construction of the teaching aptitude test. Among them 350 were men and 650 were women. 733 were graduates and 267 were post graduates and 683 were from private colleges of education. Areawise it was found that there were 419 from urban areas and 581 from rural areas. They were also from families of different socio economic, educational and occupational groups. Thus the sample was large and representative. It was also a purposive and incidental one.

4. Administration and Scoring of the Test:

The teaching aptitude test and the attitude towards the teaching profession scale along with the information sheet were administered to the sample with thorough instructions. The testees were given as much time as required for giving responses to all the items in all the subtests. Scoring was done objectively with prepared scoring key and the maximum obtainable score in the aptitude test was 100, and in the attitude scale was 10.5 and the scores were subjected to statistical analysis.

5 Summary of the Results:

1) The difficulty values and the discrimination indices of all the test items included in the final test are given in Appendix VI.

2) The mean, the median, the mode and standard deviation are:

Mean	: 50.14
Median	: 49.98
Mode	: 48.66
SD	: 14.80

The values of central tendencies show very slight difference and so the skewness is almost equal to zero. The kurtosis is exactly 0.2623 and so it is neither platykurtic nor leptokurtic. The CR values of skewness and kurtosis are less than 2.56 and they are not significant and so the normal distribution of the scores is ascertained.

3) When the aptitude scores were analysed sex, area and qualification wise and subtest wise for normality, it was found that the means of the different categories and subtest were almost alike. The median and the SD values also reveal that the scores of the different categories in different subtests and whole test are equally distributed.

4) The measures of dispersion like the skewness and kurtosis in problem solving, general information and English language ability test are negatively skewed. But this dispersion from normality is not significant as seen

from the meagre CR value. Regarding kurtosis, except the distribution of scores of problem solving, all other distributions are leptokurtic here also the deviation from normality is statistically equal to zero in all tests as seen by the smaller CR values.

5) Chi square test

$$\chi^2 = 1.733$$

χ^2 tests of hypothesis of normal distribution reveal that the distribution of scores of all subtests as well as whole test were normal. From the above results it is concluded that the present test form is statistically sound.

6) Differential analysis:

The mean value of the scores were compared to find out the differences within the different categories such as sex, locality qualification, management of the college of education, and educational and occupational statuses of parents in all the subtests using the 't' test of significance and the analysis of variance. The non significant 't' values and 'f' values indicate that the categories are all alike in their mean scores in all the subtests except in the general information test, where, in the case of

areawise split up, the students from urban areas score significantly higher marks than their counterparts from rural areas. This may be due to the fact that the urban people are more exposed to general information than the rural people. So also in English language ability test difference is observed between graduates and post graduates. It may be due to the fact that postgraduates have studied for two more years than the graduates.

7. The reliability coefficient of the test was estimated by the split half method and is given below:

IA	-	Problem Solving	= 0.8251
IB	-	Reasoning	= 0.7962
II	-	Creativity	= 0.8043
III	-	General Information	= 0.7051
IV	-	Professional Ethical Awareness	= 0.6956
V	-	English Language Ability	= 0.7374
VI	-	Whole Test	= 0.7666

8. The validity coefficient of the whole teaching aptitude test was calculated by correlating the test scores with the criterion scores.

9) The results obtained from the application of the "wherry-Doolittle" Test-selection Method" suggested that all the 5 subtests put together predict the criterion value to an accuracy of 89.91 per cent as seen by the total R^2 value. The fifth subtest, English language ability test contributes the least to predict the criterion value. But even this small contribution (10.92%) becomes statistically significant. The multiple R of the final test-battery is 0.9482.

The multiple - regression equation joining the criterion and the tests selected in the final battery reads as follows:

$$Y = 5.11 + 0.68X_1 + 0.78X_2 + 0.42X_3 + 0.50X_4 + 0.53X_5 + 0.35X_6$$

The validity coefficient of the test obtained in the table No. is 7433 and the multiple R obtained here is 0.9482. Thus there is an increase in the validity of the test by 0.2049 about 27.6 per cent when the separate tests are properly weighted and combined in a battery. If the scores on the subtest are known the criterion scores can be computed with the help of this equation. The equation may be termed as the prediction equation. It helps in forecasting success in teaching of a prospective teacher.

10. Thurstone's Centroid Method of factor analysis was applied to the test scores. The factor analysis revealed

that the first centroid factor accounted for 76 per cent of the total variability whereas the remaining two factors put together are responsible for 24 per cent only. This shows that the test measures only one common factor to a substantial degree and that is the aptitude of the teachers.

11. The following types of norms are established for the present test:

- a. Standard - Score Norms
- b. T-Score Norms
- c. Percentile Norms
- d. Letter grades.

The classification of testees according to the letter grades is shown in Table 53.

Table No.
**CLASSIFICATION OF TRAINEES ACCORDING TO LETTER
 GRADES**

Letter Grade	Limits of Raw Scores	Frequency
A	82 and above	13
B	Between 70 and 81	35
C+	Between 57 and 69	318
C	Between 44 and 56	267
C-	Between 32 and 43	219
D	Between 19 and 31	131
E	18 and below	17

Grade A suggests that trainees who are assigned this grade possess very high aptitude for teaching and that they would make excellent teachers. Such trainees can be admitted to teacher training courses and such teachers can be taken for vacancies in schools. Grade E suggests that trainees who are assigned this grade possess extremely low aptitude for teaching and that they would make very poor teachers. Grade B, C+, C, C- and D indicate decreasing magnitude of aptitude for teaching possessed by the trainees. In selecting teachers care should be taken to eliminate trainees with poor teaching aptitude from the

beginning. It will be advisable therefore to reject a prospective teacher who scores on this aptitude that 18 or below as he should be considered unacceptable to the profession.

12. The Forecasting Ability of the Test:

The ultimate purpose of using the test is to estimate the forecasting ability of the test, so that it can predict the aptitude from the test scores, when the multiple correlation 'r' is known, the forecasting ability of a test is given by the following formula:

$$E = 1 - \sqrt{1 - R^2}$$

where E = Forecasting efficiency

R = Multiple correlation

in the present test, R = .9462

$$\begin{aligned} \therefore E &= 1 - \sqrt{1 - (0.9462)^2} \\ &= 1 - 0.318 = 0.682 \end{aligned}$$

The forecasting ability of the present test is 68.2 per cent and it is quite high and satisfactory.

The following chart illustrates the analysis done, of the final aptitude test scores.

13. Attitude Scale:

The distribution of the scores of the testees on the attitude towards the teaching profession scale follows a normal distribution. The skewness and kurtosis values also confirm the normality of the distribution of the attitude scores. χ^2 test of the hypotheses also proves the normal distribution of the attitude scores.

14) The correlation coefficients between the attitude scores and the aptitude scores for the different types of samples were worked out. All 'r' values are highly significant at $P = 0.01$ level. This shows that the attitude and aptitude of the testees are highly related with each other and the positive correlation coefficients indicate that those who have high aptitude are also having high positive attitude.

15) Coefficient of Stability Test:

The Mean, S.D. Skewness, Kurtosis and the Chi test values of the aptitude scores of 220 female students who attended the interview to seek admission into teacher training programme during the next academic year are identical with the previous results of the original

sample, . . . considered for the final study. This confirms the result already arrived that the aptitude test formed in this study is more stable reliable and valid.

6. CONCLUSIONS:

1. The fact that the distribution of the aptitude test scores was normal showed that the aptitude for teaching as a whole has a normal distribution.

2. The eleven traits selected for the five subtests are really contributing to the success in teaching and that the aptitude test measures the aptitude for teaching.

3. The reliability and validity of the test are satisfactory and the test serves a useful purpose of measuring aptitude for teaching of prospective teachers.

4. The Final test battery should include all the five subtests. The forecasting ability of the test battery is 68.2 per cent and is satisfactory.

5. In selecting teachers care should be taken to eliminate testees with score 18 or below.

7. Suggestions

In the light of the above findings the following suggestions are given for those who are interested in teacher education.

- 1) The purpose of using the test should be clear and it is for selecting prospective teachers for the teaching profession.
- 2) The test should be read and understood thoroughly
- 3) Instructions for the tests should be properly adhered to, with regard to the procedure of administration and scoring.
- 4) The whole test battery should be administered at a time.
- 5) Only those who have a high aptitude for teaching should be given admission for the teacher training course.
- 6) The teaching aptitude scores should be supplemented by information about their health, sincerity and industry before the final decision is taken as to his real aptitude for teaching.

8 Recommendations:

1. It is recommended that the teaching aptitude tests constructed may be used by the Principals of Colleges of Education for selecting suitable teacher trainees.
2. This battery of test with necessary modifications can be used in schools for the recruitment of teachers.

3. Standardisation of this battery with parallel forms will be a project worth attempting.

4. If similar battery of tests could be developed to measure the observable traits such as classroom control, command of oral expression, voice, physical fitness etc., it would be a great help to the heads of colleges of education for selecting teacher trainees at the time of admission.

9. C O N C L U S I O N

It has been a well known fact that the aptitude and attitude with which the students enter the teaching profession is a vital factor. As such it is considered essential to find out the aptitude and attitude of the teacher candidates towards the teaching profession. The investigator has tried through this study, to construct a teaching aptitude test and an attitude scale towards the teaching profession, on a small scale, to measure the quantum of aptitude possessed by the teacher trainees and hopes that this tool would be a satisfactory one for the same.

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Appendix I
OPINIONNAIRE
Constructing a Teaching Aptitude Test

Dear Sir/Madam,

Sub: A survey of the various traits and skills
indicative of teaching aptitude.

-oOo-

I am constructing a teaching aptitude test, that can be used for the selection of graduate teacher trainees in colleges of education. A list of traits and skills that seem to contribute to teaching success is given in the following page in the form of a rating scale. You are requested to kindly indicate your rating of the traits, on the scale provided to help me in selecting the most effective traits for constructing a good test to measure the teaching aptitude.

If you find any important trait or skill which according to you is highly contributive to success in teaching and if it is missing in the list given, kindly add the same to the list with relevant ratings.

Thanking you,

Yours faithfully,

(G.THILAKAM)

APPENDICES

Opinionnaire
Constructing a Teaching Aptitude Test

Name:

Designation:

A list of Teacher Traits are given below in the form of a rating scale. Kindly indicate your rating for each of the traits.

S. No.	Traits and skills	Most Suitable	Fairly Suitable	Least Suitable
1.	Mental ability			
2.	Language ability			
3.	Creative ability			
4.	Emotional stability			
5.	Knowledge of the subjects matter			
6.	General knowledge			
7.	Interest in the profession			
8.	Professional information			
9.	Adaptability			
10.	Positive attitude towards the profession			
11.	Co-operation			
12.	Sincerity			
13.	Dedication			
14.	Tolerance			
15.	Rapport with pupils			
16.	Character			
17.	Attitude towards the community			
18.	Resourcefulness			
19.	Attitude towards life			
20.	Leadership			

Appendix II

Key concepts, objectives and behaviour specifications for
the traits selected

Sub Test 1: Mental AbilityKey Concepts:

1. Teachers face many situations and problems which require them to have certain mental abilities to face successfully such situations and solve the problems.
2. The teacher is required to analyse the various factors in a problem situation, discover their relationship, formulate rules and derive the answer. This may require a numerical and inferential reasoning.
3. Teachers face many problems involving an ability to deal with numbers and the four fundamental operations with numbers.
4. Very often teachers come across situations when the capacity for checking accuracy of computation is demanded.
5. The teacher should be able to associate her previous knowledge and experiences quickly with the given concepts.
6. This may require the teacher to have verbal comprehension and word fluency.

Objectives:

1. To test the capacity for reasoning, analysing and drawing conclusions in a variety of abstract, numerical and problematic situations.
2. To test the ability to deal with numbers and the capacity to check quickly and accurately the four simple, fundamental operations of addition, subtraction, multiplication and division with whole numbers and fractions.
3. To test the teacher candidates' capacity to recall and associate past experiences and knowledge in new and other situations.
4. To test the ability to understand the abstract concepts expressed through words.

Behaviours:

1. Infers the logical basis of relationship existing among the numbers of a series.
2. Calculates the correct number in a series.
3. Points out the final number in a chain of logically arranged numbers.
4. Identifies the relationship among the numbers when arranged in a specific order.
5. Work out the four simple fundamental operations correctly and quickly.
6. Checks the solution of a problem.
7. Differentiates one concept from another closely related concept.
8. Identifies the correct parallelism existing between two pairs of words given.
9. Discovers the relationship between the words given, formulates a rule and finds out the answer.
10. Utilises instructions and works out the problems.

Sub Test 2: CreativityKey Concepts:

1. Creative persons are sensitive to problems and are fluent with new and original ideas.
2. Creative persons are flexible and adjust quickly to new development and changed situations.
3. Creative persons have unusual ability to re-arrange ideas, concepts, people and things and to shift the function of objects and use them in new ways.
4. Such persons have proficiency in analysing projects, components and comprehend the relationship between components.

5. Creative people have the ability to combine several components to arrive at a creative 'whole'.
6. They are able to organise a project, express an idea or create a design in such a way that it is superfluous.

Objectives:

1. To evaluate the ability to solve problems with original ideas.
2. To test the flexibility in adjusting to new situations.
3. To find out the number of ideas and original ideas for solving usual and unusual problems.
4. To test the power of creating new designs and patterns.
5. To test their ability to abstract and combine several components to arrive at a number of designs.

Behaviour specifications:

1. Writes new and unusual instances and ideas.
2. Finds new solutions to problems.
3. Tries to achieve new relationships.
4. Gives a variety of ideas.
5. Writes a number of answers to a question.

Sub-test 3: General Information

Key Concepts:

1. The teacher should be well informed and stay a scholar all the time by remaining constantly in touch with the current events, inventions, discoveries and any new knowledge.

2. The present era demands more and more of inter-dependence and integration in all walk of life. The teacher should also know a basic knowledge of all the subjects for correlated and integrated teaching.
3. In classroom teaching the teacher frequently has to refer to current events and to knowledge of any subject matter according to the queries and interests of the pupils.

Objectives:

1. To test the candidates knowledge of the current events, sports, inventions, important days and such other new knowledge.
2. To test the basic knowledge in subjects like History, Science, Geography and Mathematics.

Behaviour Specifications:

1. Remembers what one had read in newspapers, magazines, books etc.,
2. Recollects past events, sports, days, authors etc.,
3. Recalls what one had studied in the past and analyses them.

Subtest 4: Professional Awareness

=====

Key Concepts:

1. The teacher should have a basic knowledge about the aims and objectives of secondary education and ways and means of promoting effective learning.
2. The teacher should have a liking for becoming a teacher.
3. He should have care and concern for the pupils
4. The teacher should be tolerant and must possess endurance of the highest order.
5. The teacher candidate must be able to adapt himself and his programmes depending upon the readiness of the pupils.

Objectives:

1. To test the knowledge of the pupils regarding the educational activities.
2. To find out whether they are interested in the teaching profession.
3. To judge their love for children. To test their endurance towards normal and exceptional children.
4. To evaluate the level of adoptability in the teacher.

Behaviours:

1. Selects appropriate goals of education.
2. Selects appropriate methods keeping the goals and content in mind.
3. Chooses positive reactions and claims to use negative reactions under controlled situations.
4. Selects statements that predicts interests in the profession.
5. Shows tolerance towards pupils, colleagues and superiors.
6. Shows willingness to adapt according to situations and requirements.

Sub-test 5: English Language Ability
 =====

Key Concepts:

1. A good teacher is one who has not only an excellent command of language, but also is able to detect bad grammar, incorrect spelling and wrong usage.
2. Has a reasonable command over vocabulary in English
3. Has reading comprehension and expression.

Objectives:

1. To test the controlled and uncontrolled vocabulary of the teacher candidates.
2. To test the correct usage of structure and grammar
3. To test the ability to put correct spellings.
4. To test the power of comprehension.
5. To test the expression of the candidates.

Behaviour specifications:

1. Frames new words out of given words.
2. Writes names of words asked for.
3. Uses grammar correctly
4. Shows knowledge of grammar by correct identification
5. Corrects incorrect spellings.
6. Comprehends the passage given and frames and expresses questions correctly.

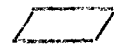
APPENDIX III - PRELIMINARY TEST ITEMS**Sub-test 1
MENTAL ABILITY****A. PROBLEM SOLVING ABILITY TEST****Directions to follow:**

A set of problems is given below. Try to solve all of them. After each problem five answers are given. One of them is the correct answer. Solve each problem mentally and put an 'X' mark inside the box against the letter indicating the correct answer in the answer sheet provided.

Example:

How much is 75 per cent of 80?

A. 48, B. 60, C. 52 D. 54 E. None of these



Now proceed in the same manner.

1. By what number should 6 be multiplied so that the product is equal to the sum of $14+16$?
A) 8 B) 6 C) 5 D) 4 E) 7
2. A man walks 2 kms North, then $1\frac{1}{2}$ Kms West and then 2 kms North and finally $1\frac{1}{2}$ kms. east. How far is he from the starting point?
A) 7 Kms. B) $5\frac{1}{2}$ Kms. C) $1\frac{1}{2}$ Km. D) 4 Kms. E) $2\frac{1}{2}$ Kms.
3. Calculate the next number.
2, 5, 7, 12, 19, _____
A) 31 B) 24 C) 28 D) 27 E) 41
4. In a box of 48 mangoes, 8 out of each dozen are good. How many in the box are bad?
A) 16 B) 24 C) 32 D) 40 E) 8
5. Find out the next number.
2, 4, 3, 9, 4, 16, 5 _____
A) 20 B) 25 C) 17 D) 18 E) 36

6. In this series, what is the next number?
98, 87, 76, 65, _____
A) 58 B) 44 C) 60 D) 54 E) 56
7. Calculate the next number.
12, 34, 56, 78, _____
A) 72 B) 910 C) 78 D) 89 E) 101
8. A 12 ft. X 5 ft. rug is how many times as large as 6 ft. X 9 ft. rug?
A) 2 B) $2\frac{1}{2}$ C) $3\frac{1}{2}$ D) $1\frac{2}{3}$ E) None of these
9. The age of the father is thrice that of his son before 18 years. Now his age is twice that of his son's age. Find out the age of the father and the son now.
A) 48 & 24 B) 56 & 28 C) 72 & 36 D) 80 & 40
E) 64 & 32.
10. In this series what is the next number?
1, 1, 2, 6, _____
A) 24 B) 20 C) 28 D) 8 E) 30
11. The sum of 'A' and 'B' equals 116. If 'A' is 3 less than 'C' but 4 more than 'B' what number does 'C' equal?
A) 59 B) 63 C) 64 D) 49 E) 72
12. Seven numbers 1, 2, 4, 5, 6, 7 and 8 are put in a column. 1 is at the top and 2 is at the bottom. 4 is between 7 and 5, 8 is between 6 and 7, 5 is below 2. How many numbers are below 8?
A) 1 B) 2 C) 3 D) 4 E) 5

13. A boy caught hold of some spiders and a few moths and put them in a box. The total number was 8. He was able to count 54 legs in total. Find out the number of spiders and moths (Spiders have 4 pairs of legs and moths have 3 pairs of legs.
- A) 3 moths and 5 spiders B) 5 moths and 3 spiders
C) 4 moths and 4 spiders D) 6 moths and 2 spiders
E) 2 moths and 6 spiders.
14. Your watch gains 4 mts. in 24 hours a day. It reads $7.30\frac{1}{2}$ at 7.30 A.M. How fast will it be at actual noon of the same day?
- A) 2 mts. B) 1.30 mt. C) 1.15 mt. D) 2.15 mts.
E) 3 mts.
15. The total salary earned by a man was found to be Rs.50 per week. His basic salary was found to be Rs.40/- more than the overtime wages. What was his basic salary?
- A) 40 B) 60 C) 45 D) 75 E) 55
16. Mohan was supposed to meet his friend at noon every Sunday. The first time he met at 12.30, the next at 1.20, then at 2.30, then at 4.00. When did he turn up the time after that?
- A) 5.10 B) 5.50 C) 6.10 D) 7.10 E) 5.40
17. If a grocer has enough eggs to last for 300 customers, 2 weeks, how long will the eggs last for 400 customers?
- A) 1 week B) 10 days C) $1\frac{1}{2}$ week D) 8 days
E) 9 days.
18. A car goes 50 miles an hour. How many kilometers will it go in 60 mts.
- A) 50 Kms. B) 40 Kms. C) 80 Kms. D) 300 Kms.
E) 3000 Kms.

19. Radha is twice the age of sudha. Meena is 3 year elder to Radha and Geetha is 5 years elder to Meera. If Geetha's age is 16, findout Sudha's age.
- A) 8 Years B) 4 Years C) 6 years D) 2 years
E) 10 years.
20. City A is bigger than City B. City B is smaller than City C. City A is not as big as city D, but City E is bigger than City D. Which is the biggest city among these?
- A) City A, B) City B, C) City C, D) City D
E) City E

B. REASONING ABILITY TEST

Directions to follow:

In each of the following questions, a pair of words expressing a relationship between them is given. By its side, a single word is given. Below these words five different words are also given. You are to find out the correct word from among the five words given below to form a pair with the single word, so that the pair express a relationship similar to that of the pair already given.

Represent the correct choice by putting an 'X' mark inside the box against the letter denoting the correct answer in the answer sheet provided.

Example:

Night : Day = Moon : _____

A) Star B) Sky C) Sun D) Night E) Bright

Answer:

A	B	C	D	E
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Now proceed in the same manner:

1. Narrow: Broad = Lane : _____

- A) Foot path B) Field C) Pavement D) Road
E) Curved.

2. Flour : Bread = Sugar : _____
A) Sweetness B) Cake C) Fruits D) Cook E) Eat.
3. Intelligence: Clever = dull : _____
A) Slow B) Foolish C) Cunning D) Idiot E) Lazy
4. Early : Begin = Late : _____
A) Start B) End C) Awake D) Enter E) Prompt
5. Metre : Calorie = Length : _____
A) Liquid B) Heat C) Cloth D) Temperature
E) Weight
6. Army : Navy = Major : _____
A) Admiral B) Wingcommander C) Pilot
D) Colonel E) Soldier
7. Difficult : Easy = Hard : _____
A) Quick B) Smooth C) Loose D) Trouble E) Tight
8. Hitler : Germany = Mussolini : _____
A) Japan B) Italy C) USSR D) Egypt E) India
9. Heavy : Light = Autocrat : _____
A) Easy B) Diplomat C) Hard D) Democrat E) King
10. Prosperity : Adversity = Education : _____
A) Illiteracy B) Poverty C) Unhappiness
D) Hardship E) Richness
11. Effect : Cause = success : _____
A) Luck B) Praise C) Effort D) Neatness
E) Happiness
12. Rhythm : Rhyme = Dance : _____
A) Music B) Poetry C) Children
D) Beats E) Cinema

13. Thiagaraja : Ravivarma = Music : _____
A) Sculpture B) Painting C) Drama D) Dance E) Art
14. Flower : Bud = Fruit : _____
A) Twig B) Flower C) Seed D) Taste E) Bush
15. Delhi : Washington D.C. = India
A) USSR B) USA C) Tajmahal D) Rajyasabha E) Madras
16. Light : Darkness = Knowledge : _____
A) Day B) Night C) Ignorance D) Sun E) Moon
17. Thermography : Infra red = Radiography : _____
A) X-Ray B) γ -rays C) Ultrasound D) Magnetism
E) Ultra-red.
18. Cow : Grass = Man : _____
A) Cannibal B) Rice C) Milk D) Goat E) Meat
19. Arrow : Bullet = Bow : _____
A) Missile B) Rifle C) Gunpowder D) Rama
E) Spear.
20. Sin : Hell = Theft : _____
A) Honesty B) Virtue C) Prison D) Police
E) Money

Sub-test 2
CREATIVITY TEST

Directions:

1. You can write this test in English or in Tamil
2. This is a test to explore your creative ability.
3. There are no definite right or wrong answers.
4. There is no time limit for the test.
5. Novel answers, unique answers, original answers and the correct answers will be taken into consideration , while scoring.
6. Do not write anything in the question paper
7. Give many and varied answers for the questions given.

Now read the questions and write your answers in the answer Sheet provided:

1. What will happen, if our shadows gain life? Give as many of your ideas as possible.
2. What are the several teaching aids you can make using clay, sand, wooden planks, water, sticks, pieces of cloth, paint box and such other things, to teach the lesson on "Gandhi" effectively and meaningfully.
3. Write down the names of objects which are spherical and hard to touch; but are smaller than the tennis ball.
4. Write down the uses of chalk piece, other than for writing on the black-board.
5. Represent the teachers community with the help of an emblem or a flag.

6. Write as many proverbs of your own, as possible.
7. Imagine yourself as the only human left in this world. What are the several things would you do?
8. Write down the words which start with letter 'c' and end with letter 'e'.
9. Depict a scene of the state of the future world.
10. What will be the consequences if it rains continuously without stopping?

Subtest 3

GENERAL INFORMATION TEST

Directions: In each of the following items, a question or an incomplete statement is followed by a number of answers or a number alternatives to complete the statement. Choose the best answer or alternative and write your answer in the answer book provided to you, by putting a cross 'X' on the corresponding box against the letter denoting the correct answer.

Illustration:

1. Our Constitution came into force on:

- A. 26th November 1949
- B. 15th August, 1945
- C. 26th January, 1950
- D. 1st January, 1952
- E. 15th August, 1957.

Answer:

1. A B C D E

Current Events

1. Michael Ferriera is a popular player in:

- A. Cricket
- B. Football
- C. Badminton
- D. Billiards
- E. Basket Ball

2. Who was the latest Indian to win Noble Prize?

- A. Sir C.V.Raman
- B. Mother Theresa
- C. Dr.Chandrasekar Subramaniam
- D. Dr. Visweswarayya
- E. Dr. Rabindranath Tagore

3. 'Yen' is the currency of:

- A. Italy
- B. Japan
- C. Jordon
- D. Panama
- E. China

4. The first Asian country to launch an Earth Satellite was:
 - A. China
 - B. Japan
 - C. India
 - D. Singapore
 - E. Thailand

5. The international court of justice is in:
 - A. India
 - B. Switzerland
 - C. Netherlands
 - D. Paris
 - E. Washington D.C.

6. Who was the first recipient of Nehru Award?
 - A. U Thant
 - B. Vinoba Bhave
 - C. Indira Gandhi
 - D. Vikram Sharabhai
 - E. John Kennedy

7. Teachers day is celebrated every year on:
 - A. 20th October
 - B. 5th September
 - C. 5th November
 - D. 16th July
 - E. 20th March

8. Who wrote Pilgrim's Progress?
 - A. Jane Austin
 - B. John Bunyan
 - C. Bankim Chandra Chatterjee
 - D. Fevdor Michailovick Destoevsky
 - E. Carl Marx

9. Expert advice to the Government of India on Legal matters is given by:
 - A. Advocate General of India
 - B. Chief Justice of India
 - C. Attorney General of India
 - D. Government Pleader
 - E. None of the above.

10. Who is the head of Reserve Bank of India?
 - A. The President
 - B. The Chairman
 - C. The Director
 - D. The Governor
 - E. None of the above

11. The director of the film "Gandhi" is:
- A. Shyam Benegal
 - B. Satyajit Ray
 - C. Benkingsley
 - D. Richard Attenborough
 - E. None of the above
12. In which country does the widest railway exist?
- A. Britain
 - B. U.S.A.
 - C. China
 - D. Japan
 - E. India
13. The duration of one term for the Indian President's Office is:
- A. 1 year
 - B. 3 years
 - C. 6 years
 - D. 5 years
 - E. 7 years
14. Name of the official News agency of Russia is:
- A. Reuter
 - B. UNI
 - C. Tass
 - D. API
 - E. None of the above
15. The emblem of U.N. includes
- A. Dove
 - B. Red
 - C. Olive Branch
 - D. Liberty Statue
 - E. Star

History

16. Who was the first Indian to be elected as a member of the British Parliament?
- A. Subash Chandra Bose
 - B. Dr. Dadabhai Naovroji
 - C. Bala Gangadhara Thilakar
 - D. Rajaram Mohan Roy
 - E. Bankim Chandra Chatterjee

17. The Moghul Empire reached its zenith of expansion under:
- A. Babur
 - B. Akbar
 - C. Shajahan
 - D. Aurangazeeb
18. Kancheepuram was the capital city of:
- A. Pallavas
 - B. Cheras
 - C. Sakyas
 - D. Cholas
 - E. Chalukyas
19. The new religion founded by Akbar was called:
- A. Akbar Namah
 - B. Din-Illahi
 - C. Aini Akbari
 - D. Fathepur Sikri
 - E. Islam
20. Aurangazeb called Shivaji with contempt as:
- A. Mountain Bull
 - B. Mountain Rat
 - C. Mountain snake
 - D. Mountain Guerilla
21. The Muslim Minister of Ranjit Singh was called:
- A. Alauddin
 - B. Fazal
 - C. Aziz-uddin
 - D. Mohamad Gori
 - E. Gajini
22. Krishnadevaraya's court was adorned by:
- A. Ten famous scholars
 - B. Seven famous scholars
 - C. Eight famous scholars
 - D. Navarathnas
 - E. Birbal and Tansen
23. The age of Hindu renaissance was:
- A. Chola's period
 - B. Mughal's period
 - C. Gupta's age
 - D. Kanishaka's period
 - E. Kilji's period

24. Dharma Chakra symbol found in the national flag is found at:
- A. The Pillars of Saranath
 - B. Stupa at Sanchi
 - C. In the Peacock throne
 - D. The tower found at red fort
 - E. Rajagopuram at Tanjore.
25. Porus and Alexander fought on the banks of
- A. Rani
 - B. Jeelum
 - C. Sutlej
 - D. Yamuna
 - E. Nile
26. The original home of the Aryans was:
- A. Indus valley
 - B. Central Asia
 - C. Egypt
 - D. Sumaria
 - E. Ganges plain
27. Nalanda University was founded by:
- A. Kanishka
 - B. Harsha
 - C. Asoka
 - D. Chandragupta
 - E. Hieun Tsang
28. The Public Works Department in India was introduced by:
- A. Akbar
 - B. Cornwallis
 - C. Dalhousie
 - D. Wellesley
 - E. Warren Hastings
29. The first Indian to be elected as the President of the U.N. General Assembly was:
- A. V.K.Krishna Menon
 - B. B.N. Rao
 - C. Mrs. Vijayalakshmi Pandit
 - D. S.Radhakrishnan
 - E. Mrs. Indira Gandhi
30. Who founded the Brahma Samaj?
- A. Rajaram Mohan Roy
 - B. Balagangathara Thilak
 - C. Shankarar
 - D. Guru Nanak
 - E. Swami Dayananda Saraswathy

Science

31. The animal that can make electricity in its body is:
- A. eel
 - B. squid
 - C. octopus
 - D. toad
 - E. Rhinoceros
32. The plant that grows in thick masses on wet surfaces is:
- A. Grass
 - B. Moss
 - C. Cycas
 - D. Onion
 - E. Weeds
33. A rolling ball is said to be in a state of
- A. Neutral equilibrium
 - B. Unstable equilibrium
 - C. Random motion
 - D. Slow motion
 - E. Stable equilibrium
34. Plasma state is a:
- A. Liquid state
 - B. gaseous state
 - C. Ionised State
 - D. solidified phase
 - E. crystalline phase
35. Urology deals with:
- A. nerves
 - B. injury of bones
 - C. kidney
 - D. urine
 - E. None of the above
36. Angular velocity is concerned with
- A. Oscillating bodies
 - B. Rotating bodies
 - C. Bodies moving in a straight line
 - D. Freely falling bodies
 - E. Static bodies

37. Thallophytes are:

- A. Fruit bearing plants
- B. Water living plants
- C. Undifferentiated plants
- D. Flowering plants
- E. Open seeded plants

38. Pasteurisation is:

- A. Process of preserving fruits
- B. Sterilization of glass
- C. Process of stopping liquid food being spoiled
- D. A new method of vaccination
- E. Vaccination

39. An ice cube is floating in a beaker in water.

When the ice melts, the water level will:

- A. Rise
- B. Go down
- C. Remain the same
- D. Rise or fall, depending upon the size of the cube
- E. Rise first and go down later.

40. Orion is a

- A. constellation
- B. Planet
- C. Pole star
- D. Satellite
- E. Comet

41. A stick partially immersed in water looks bent, because of:

- A. Reflection
- B. Parallel error
- C. Refraction
- D. Wrong vision
- E. None of the above.

42. A small gap is left between the joints of rails to:

- A. Produce sound
- B. Save the cost
- C. Allow passage for rain water to flow
- D. Accommodate expansion in summer
- E. Produce resistance

43. Bleeding of gums is caused due to the lack of:

- A. Vitamin A
- B. Vitamin B
- C. Vitamin C
- D. Vitamin D
- E. Vitamin E

44. It takes more time to cook potatoes on mountain tops because:

- A. the atmospheric pressure is low
- B. the atmospheric pressure is high
- C. the place is very cool
- D. the temperature is very low
- E. None of the above.

45. Ornithology deals with:

- A. education
- B. study of birds
- C. origin of species
- D. study of reptiles
- E. study of ancient people

Geography

46. Tides are caused by:

- A. Sun's heat
- B. Moon's Pull
- C. Water Currents
- D. Movement of ships
- E. Wind

47. Rhinoceros is found in the forests of

- A. Assam
- B. Kashmir
- C. Kerala
- D. Madhya Pradesh
- E. Chambal Valley

48. Garba is a popular:

- A. Dance
- B. Festival
- C. Song
- D. Language
- E. Textile Variety

49. The fertility of the soil can be improved by using

- A. Natural manure
- B. Chemical fertilising
- C. Saw dust
- D. Bone ash
- E. Decayed leaves

50. Bauxite is a:

- A. Principal one of Aluminium
- B. Ore of potassium
- C. Chemical name of silver nitrate
- D. Iron ore
- E. Amalgum

51. Coal is a variety of:

- A. Igneous rocks
- B. Sedimentary rocks
- C. Metamorphic rocks
- D. Sand stone
- E. Granite

52. The ganges and Yamuna meet at:

- A. Kanpur
- B. Allahabad
- C. Haridwar
- D. Calcutta
- E. Agra

53. The name 'Himalayas' means:

- A. Abode of Gods
- B. Abode of Prince
- C. Abode of snow
- D. Abode shiva
- E. Abode of Badrinath

54. The plain from Bombay to Goa is known as:

- A. Konkan coast
- B. Malabar coast
- C. Western coast
- D. Goan coast
- E. Coromondal coast

55. The national Highways link:

- A. Delhi and Goa
- B. The capitals of states
- C. Delhi and Bombay
- D. Delhi and Madras
- E. Kashmir to Kanyakumari






56. Aeroplanes are built in our country at:

- A. Ambala and Agra
- B. Ghorakpur and Varanasi
- C. Kanpur and Bangalore
- D. Delhi and Madras
- E. Visakhapatnam

57. The longest river in India is:
- A. Ganges
 - B. Sindu
 - C. Brahmaputra
 - D. Krishna
 - E. Godavari
58. Which is the highest peak in South India?
- A. Thodda Pettah
 - B. Anamalai Hills
 - C. Suicide point
 - D. Mudis
 - E. None of the above
59. Sericulture deals with:
- A. rearing of flowering plants
 - B. rearing of bacteria
 - C. textile technology
 - D. rearing of silkworms
 - E. growth of plants
60. Savana is:
- A. Tropical grass lands
 - B. Fracks full of trees
 - C. Vast plains
 - D. Mountains
 - E. Coniferous forests

Mathematics

61. A line segment connecting 2 points on the circumference is:
- A. chord
 - B. Arc
 - C. Center
 - D. Curvature
 - E. Bridge
62. Lines that pass through the same point are called:
- A. Concurrent lines
 - B. Converging lines
 - C. Equal diverging lines
 - D. Co-planar lines
 - E. Collinear lines

63. An angle less than a right angle is:
- obtuse angle
 - Reflex
 - Straight angle
 - Acute Angle
 - Oblong
64. Lines which do not meet are known as:
- Parallel lines
 - Straight lines
 - Track
 - Linear lines
 - none of the above.
65. Every member of a hostel drinks tea or coffee. In that 35 drink coffee, 23 drink tea and 10 drink coffee and tea. Which one of the following correctly represents the same.?
- 
 - 
 - 
 - 
 - 
66. The diagonal of which one of the following bisects each other at 90 degrees
- Rhombus
 - Parallelograms
 - Rectangle
 - Cyclic quadrilateral
 - None of the above
67. If the sum of the measures of two angles are equal to 180 degree they are:
- Supplementary
 - Complementary
 - Coterminal
 - Vertical, opposites
 - None of the above.
68. In each case below, there are 3 sets, say which one is the Universal set in respect of the other two.
- Vowels of English alphabet
 - The letters of the word mathematics
 - The English alphabet
- _____ (A & C)
 - _____ (B & C)
 - _____ (B & A)
 - _____ (A B C)
 - None of the above

69. Write down a number of 3 digits that are divisible by 3 but not by 9.

- a) 169
- b) 264
- c) 643
- d) 109
- e) 99

70. Simplify:-

- 1 Plus ab plus abc plus 5 - 2 ab - abc plus
10--ab--abc
- A. $16 - 2ab - abc$
 - B. $5 - 2ab - abc$
 - C. $16 - (2ab - abc)$
 - D. 16 plus 2 ab plus abc
 - E. $16 - 2ab - abc$

71. What does the symbol \triangle represent in Maths?

- A. heat
- B. equilateral triangle
- C. isoscles
- D. Angle
- E. parallelogram

72. What does the L.C.M. stand for?

- A. Least common multiple
- B. Linear coordinate
- C. Linearly curved measure
- D. Alternate composite angle
- E. Lograthamic cosine

73. The graphical representation in a circle is known as

- A. Bar diagram
- B. Pie diagram
- C. Histogram
- D. Line graph
- E. Disc.

74. Zero value was founded by:

- A. Indians
- B. Arabians
- C. Chinese
- D. Europeans
- E. Japanese.

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Subtest - 4
PROFESSIONAL AWARENESS TEST

Directions:- In each of the following items, a question or an incomplete statement is followed by a number of answers or a number of alternatives to complete the statement.

Choose the best answer or alternative and write your answer in the answer book provided to you, by putting an 'X' mark on the corresponding box against the letter denoting the correct response.

Example:

If a pupil comes late very often to your class, you will:

- a) not allow the pupil to come in and attend the class
- b) report this to the head of the institution
- c) report this to the pupil's parents
- d) try to find out the causes of this problem and help the pupil to come early.
- e) scold the pupil severely, so that the pupil will not repeat it.

Answer:

A
B
C
D
E

Now proceed in the same manner.

I. PROFESSIONAL AWARENESS:

1) A teacher should think of his work in terms of:

- A. systematic drill
- B. the mastery of subject matter
- C. reciting lessons
- D. disciplining the pupils
- E. children's growth and development.

2) Which one of the following will you suggest as a productive leisure time work?

- A. Reading books
- B. Learning cycling
- C. Doing exercises
- D. Learning typewriting
- E. Playing games.

- 3) Which of the following is more effective?
- A. Immediate reward
 - B. Group reward
 - C. Individual reward
 - D. Valuable reward
 - E. Attractive reward
- 4) Which one of the following will serve as a more effective punishment?
- A. Corporal punishment
 - B. Fine
 - C. Extra-work
 - D. All the above
 - E. None of the above.
- 5) Which one of the following activities given below, will you select for your school C.S.S. work?
- A. Visiting a hospital and consoling the suffering patients.
 - B. Visiting the slums and rendering your help
 - C. Visiting a rural school and guiding the backward
 - D. Visiting a health centre
 - E. Visiting an asylum and helping the destitutes.
- 6) Staff meetings are helpful to:
- A. Create a 'We' feeling among the teachers
 - B. Share the workload of others
 - C. Take important decisions about the pupils
 - D. Wipe off differences of opinion among the teachers
 - E. Express the grievances
- 7) When the concept explained by you is not followed by the pupils, you will:
- A. Write the entire thing on the blackboard
 - B. try to relate the concept with their past experience
 - C. try to repeat the explanation twice
 - D. make the pupils write the concept once
 - E. make the pupils read and understand from books.

- 8) The question asked by you was not followed by your pupils. You will:
- A. Tell the answer yourself
 - B. repeat it twice or thrice
 - C. try to simplify your question by re-working it
 - D. switch on to some other easier question
 - E. comment on their inattentiveness
- 9) Which one out of the following helps most in effective teaching learning process?
- A. the use of dictionary
 - B. school museum
 - C. group work
 - D. text book
 - E. question bank
- 10) Newspaper reading (in the class-room):
- A. deviates the attention of the pupils
 - B. drags them into the political scene
 - C. motivates learning
 - D. broadens their vision
 - E. reduces their concentration in studies
- 11) As a student in the class room, which one of the following activities, you have enjoyed most?
- A. listening to the teacher attentively
 - B. taking notes of every thing the teacher teaches in the class
 - C. participation in the class-room discussion
 - D. trying to findout the answer to the teacher's questions
 - E. criticising the teacher
- 12) Which one of the following is not an educational aim?
- A. imparting knowledge
 - B. Preparation for democracy
 - C. all round development of the child
 - D. economic upliftment
 - E. promotion of dogmatic religious faiths.
- 13) Selection of conent and method of instruction should be based on:
- A. Age and intelligence of the pupils
 - B. The cultural heritage
 - C. The environment of the pupils
 - D. All the above
 - E. None of the above.

14. The best gauge to measure the pupils learning is:
- A. periodical tests
 - B. participation in discussion
 - C. experiments conducted by the pupil
 - D. All the three
 - E. None of the above
15. When you introduce a new lesson, which one of the following techniques, do you think, will be most suitable as the first step?
- A. Telling the gist of the lesson
 - B. Starting with the beginning of the lesson
 - C. Asking one of the pupils who may know the information to tell the others
 - D. Asking a few questions to arouse their interest
 - E. Reading out the information in the text book
16. You are asked to select a suitable place for an educational tour, you will select:
- A. the nearest place
 - B. a place with natural set up
 - C. an industrial town
 - D. a place of some interest
 - E. a far off place
17. The co-curricular activities in schools serve as:
- A. an excellent project work
 - B. a means for all round development of the pupils
 - C. as a means to engage the energetic children
 - D. building leadership qualities
 - E. a recreation
18. Club activities in Schools:
- A. serve as leisure time activities
 - B. try to avoid the boredom caused by the routine work
 - C. develop creative abilities in pupils
 - D. help the pupils to learn more
 - E. raise the status of the school

II. Rapport with pupil:

19. A successful teacher is the one who:
- A. extracts maximum work from the pupil
 - B. adjusts himself with the colleagues
 - C. maintains harmonious relationship with the pupils
 - D. masters the subject matter
 - E. does no work.

20. Which one of the following is the most important for effective teaching?
- A. suitable A.V. aids
 - B. reciprocity between teacher and pupils
 - C. obedient students
 - D. spacious class-room
 - E. suitable text book
21. Which one of the following is true?
- A. the first lesson a child needs to learn is to obey the teacher without hesitation.
 - B. children are too carefree
 - C. it is not practicable to pace school work upon children's interest
 - D. no child should rebel against authority
 - E. one should be able to get along with almost any child.
22. An ideal teacher is one who
- A. is thorough with the subject matter
 - B. is punctual to the class
 - C. leads a pure and simple life
 - D. maintain pleasant relationship with the pupil
 - E. is always thoughtful about his work.
23. You find a pupil frequently visiting your house, you will:
- A. consider the pupil as a nuisance
 - B. Welcome the pupil happily inspite of your work
 - C. show signs of dislike
 - D. advise the pupil not to visit again.
 - E. try to avoid the pupil
24. The close relationship between a teacher and the pupils:
- A. provides freedom for the pupils
 - B. creates self confidence in pupils
 - C. will lead to unpopularity
 - D. restricts the teacher from exercising control
 - E. spoils the discipline of the class
25. Any decision taken by the teachers should:
- A. not be against the rules and regulations laid down by the school authorities
 - B. not spoil the reputation of the school
 - C. be in accordance with the circumstances
 - D. depend upon the pupils progress
 - E. be based on personal benefit.

26. The teachers' effectiveness can be best judged by:
- A. their colleagues
 - B. the parents
 - C. the head of the institution
 - D. an external observer
 - E. their pupils
27. You happen to move closely with a pupil during an educational tour. You find him misusing that in the class. You will:
- A. give him severe punishment
 - B. tolerate it
 - C. advise the pupil
 - D. simply ignore it
 - E. report it to the head of the institution
28. If you get a pupil, who wants to have a life long contact, you will:
- A. diplomatically avoid the pupil
 - B. try to cut the relationship with the pupil
 - C. try to strengthen it wholeheartedly
 - D. maintain it with the view of not hurting the pupil
 - E. continue after analysing the gain and loss
29. Children usually cheat because:
- A. the goals are beyond their reach
 - B. their parents are having that habit
 - C. they want to gain a good name
 - D. they are always dishonest
 - E. opportunities permit them to do so
30. Which one of the following statements is true?
- A. A teacher should be a good commander
 - B. By criticising and ordering, all pupils can be made to learn
 - C. Discipline of the class can be secured by praising
 - D. Criticising and ordering will bring about more indiscipline
 - E. Only criticisms help in better learning
31. Which one of the following statements is most true?
- A. Praising the pupils, brings more effective learning in them
 - B. Praising creates superiority complex in the pupils
 - C. Praising pupils induces jealousy in others
 - D. Praising creates slackness in pupils
 - E. By praising and scolding learning can be improved.

32. You want to move with your pupils:
- A. in a friendly manner
 - B. with a parental affection
 - C. just as a teacher
 - D. only as a guide
 - E. as a third person
33. Which one of the following topics will you choose for writing an essay?
- A. Educational upliftment
 - B. Equalisation of educational opportunities
 - C. Children should be seen and not heard
 - D. Vocational education
 - E. Basic education

III. Professional Interest:

34. The reason for liking teaching by you is that,
- A. it gives a sense of satisfaction and pleasure
 - B. it is a well paid job
 - C. it is an easy job
 - D. it gives opportunity to widen one's knowledge
 - E. it gives opportunity to mingle with children
35. A good teacher should have knowledge about
- A. First aid
 - B. Child psychology
 - C. Rules of the road
 - D. Sanitation and hygiene
 - E. Counselling
36. A teacher today is least expected to serve as:
- A. director of many class activities
 - B. an able publicist of the school
 - C. an encyclopedia of knowledge
 - D. committee member of the school
 - E. a skilled observer and manager
37. The most critical factor needed to make teaching a true profession is:
- A. longer periods of training
 - B. an improved salary scale
 - C. improved school buildings
 - D. discipline of its members
 - E. better spirit among teachers

38. You want to become a teacher because:
- A. you get extensive vacation
 - B. your parents are teachers
 - C. you are always fond of children
 - D. you like teaching very much
 - E. it is a good paying job.
39. The happiest teachers are usually those who:
- A. devote their working hours to the profession
 - B. do their job with minimum effort
 - C. like to teach, but have other interests and hobbies
 - D. fight continuously to improve their working conditions
 - E. never take the school work home
40. You want to spend your leisure time in:
- A. telling stories to children
 - B. reading journals
 - C. doing some social work
 - D. writing poems
 - E. making models
41. A teacher's first duty is to his:
- A. head of the institution
 - B. community
 - C. pupils
 - D. Co-workers
 - E. management
42. The best evidence of the professional status of teaching is:
- A. publication of articles
 - B. fixing a salary schedules
 - C. enforcement of high standard
 - D. establishment of retirement system
 - E. extensive vacations
43. Which one of the following books will you select for your leisure time study?
- A. fictions with exciting events
 - B. life-history of a leader
 - C. short stories with morals
 - D. religious books
 - E. books on growing plants

44. One should select a career in terms of:
- A. values which are important to him
 - B. the amount of salary one can earn
 - C. the qualifications needed for the course
 - D. the ease with which he can get it
 - E. the social prestige which it commands
45. You are asked to write an article for a magazine, which one of the following topics will you select?
- A. Evils caused by filmshows
 - B. Education of the mentally retarded
 - C. Education and its objectives
 - D. Teacher education
 - E. Women's education
46. For helping the poor which one of the following will you do?
- A. give cloths and food to the poor
 - B. canvas for contributions to the poor
 - C. plan a programme for helping the poor
 - D. findout the number of programmes available for such causes
 - E. forgo your comforts to help the poor.
47. Education can be improved by:
- A. building more schools
 - B. increasing the standard of education
 - C. providing more efficient teachers
 - D. providing education to more number of pupils
 - E. increasing the number of colleges of education
48. Check any one of the following activities in which you are more interested.
- A. gardening
 - B. reading books
 - C. painting, sculpture, hand work etc.
 - D. seeing films, exhibition, concerts etc.
 - E. playing cards, chess, carum etc.,
49. Which one of the following proverbs appeals to you more than the others?
- A. spare the rod and spoil the child
 - B. the early bird catches the worm
 - C. Better late than never
 - D. One should not cry over the spilt milk
 - E. one man's meat is another man's poison.

50. Which one of the following is most true?
- What sculpture is to a piece of marble, education is to the soil
 - Education has for its object, the formation of character
 - The things taught in schools and colleges are not the end of education, but the means of education
 - Better build the school room for the "boy" than cells and gibblets for the "man"
 - Education is synonymous with knowledge.
51. You find a boy in your class, giving you trouble in a gang, you will :
- punish the boy
 - Punish the entire group
 - try to dismiss the trouble maker alone silently
 - try to engage them in some other activity
 - ignore the entire group.
52. After attending a programme on "Skill based method of teaching", you will:
- try to implement it in your class
 - try to give the pupils a lecture about the new method
 - prepare an article on it and submit it to the head of the institution
 - try to inform your colleagues also about it for practice in the class
 - speak about the hardships you met.
53. You are invited to deliver a speech in a gathering of people, you will:
- accept it willingly
 - express about your over-work in school
 - suggest some other person's name
 - tell about your unwillingness plainly to them
 - take it as a chance to speak about yourself
54. Your name is suggested for attending an inservice programme in a hill station. You will attend it, because you would like to:
- gain a good name from the head of the institution
 - improve your knowledge
 - enjoy the opportunity well
 - meet eminent persons
 - visit one of your relatives there.

IV. Adaptability:

55. You find that there is no A.V. aid readily available to teach a difficult concept, you will
- A. Immediately inform about it to the principal
 - B. Buy one from the shop
 - C. pass on to the next topic
 - D. Get it done with the help of the pupils
 - E. Make arrangement to borrow from some other source
56. You are trying to explain a concept which is not followed by two out of 35 students, you will:
- A. proceed to the next topic
 - B. try to explain them separately
 - C. make them write imposition
 - D. ask them to go out,
 - E. explain the concept again to the whole class
57. One of your co-worker is asking you to cover with less speed, the lessons you have to cover up, you will:
- A. accept that keeping in view of the pupils
 - B. you will not listen to the advice
 - C. you will simply nod your head but proceed with the same speed
 - D. You will try to slow down
 - E. you will show implicit obedience
58. When you are successfully adopting a method of extracting maximum work from the most disobedient set of pupils, by giving mild corporal punishments the principal asks you to drop that method:
- A. You will obey him without any second thought
 - B. You will flare up at the Principal
 - C. You will continue your method
 - D. You will try to modify that method
 - E. You will give still more severe punishment to the pupil
59. When you are asked to take care of your co-worker's class teaching due to her continued absence, you will:
- A. ask the principal to appoint another teacher
 - B. do the extra work with murmuring
 - C. try to skip away the work
 - D. try your best to manage the show
 - E. try to do the work to win the favour of the Principal.

60. If you don't agree with the other teachers, you will:
- A. openly criticise their activities
 - B. diplomatically avoid the situation
 - C. try to agree with the majority of the members
 - D. pretend to agree with the majority of the teachers
 - E. cling on to your opinion strongly.
61. You happen to witness the healthy personal attachment between your class pupil and a subject teacher, you will:
- A. advise the pupil that it is not good
 - B. welcome it
 - C. ignore it
 - D. try to attract the pupil towards you
 - E. pass comments on them
62. When the head of the institution is accusing you that you are incapable of controlling the class, you will:
- A. tell him that the pupils were unruly
 - B. accept the fact that you are incapable
 - C. tell him that you are going to resign
 - D. tell him that you will take proper steps to control the class
 - E. give severe punishment to the pupils.
63. You find one of your colleagues highly favoured by the management, you will:
- A. not mind it
 - B. show your dissatisfaction openly
 - C. criticise it
 - D. try to get good impression of the ruling authority
 - E. try to create bad impression about the colleague
64. When you find one of your colleagues criticising your class, you will:
- A. bear it with a smile
 - B. give a harsh reply
 - C. you will ignore it
 - D. you will apologise for it
 - E. try to correct yourself

65. You find your pupils arranging for a picnic, you will:
- A. happily join with them
 - B. try to dissuade them
 - C. take up the whole responsibility
 - D. remain unaffected
 - E. help them to organise the programme
66. Pupils desire to conduct a quiz programme for teachers. How will you like the idea?
- A. I shall welcome the idea
 - B. I shall help the pupils to organise the same
 - C. I will advise them not to conduct one like that.
 - D. I will tell them that it will spoil the relationship of the teachers
 - E. I will avoid participating in that.
67. Ravi wanted to be elected as school pupil leader. During the month before election he did the following things. Which one do you think was undemocratic?
- A. presented his plan concerning what he would do if elected
 - B. Appealed to the city boys to "stick together" and not allow a rural boy to win.
 - C. Gave a talk for assembly asking the students to vote for him
 - D. Promised that he would try to have more excursions
 - E. Appealed to talk from a common platform with his rivals.
68. You are suffering from a bad sore throat, you will:
- A. sit silently and make the pupils individually do their work
 - B. apply for leave
 - C. give the charge to the class pupil leader
 - D. ask one of your colleagues to look after the class
 - E. send them to the library
69. You have not prepared your lesson for a particular class, you will:
- A. give some work to the pupils
 - B. Will manage the class, with the previous knowledge of the lesson
 - C. Revise the previous lesson
 - D. Arrange for a quiz programme
 - E. Make the pupils read the lesson from the book.

V. Tolerance:

70. When you find the head of the institution supporting a pupil of your class due to some reason:
- A. you will immediately point out the mistake
 - B. You will punish the pupil after the headmaster leaves your class
 - C. You will wait for another chance to catch the pupil
 - D. You will simply ignore the matter
 - E. You will take up the matter to the correspondent.
71. During lunch time you find Raja trying to throw a big stone at Ramu, in the play ground, you will:
- A. not take any action as it is lunch time.
 - B. send word to the class-teacher of the boy's class
 - C. immediately report to the head of the institution
 - D. give severe punishment to Raja
 - E. try to prevent Raja from throwing the stone.
72. A pupil bullying and cheating children:
- A. should be put in a hostel
 - B. should be depromoted
 - C. should be given scope for self-expression
 - D. should be appreciated
 - E. should be left unnoticed
73. You find few of your pupils passing comments on the way of your dressing, you will:
- A. frown at them
 - B. report to the head of the institution immediately
 - C. take it easy
 - D. laugh cheerfully joining with them
 - E. try to change the way of your dressing
74. Which one of the bad habits you cannot tolerate in your pupil?
- A. untidy work
 - B. tearing papers from the note books
 - C. submitting uncovered note books
 - D. late submission of assignments
 - E. biting the nails

75. When you came to know that you are called by a nickname ridiculously by the pupils, you will:
- A. try to find out the pupil who is the root cause for it and punish the pupil
 - B. ignore it
 - C. feel like running away from the profession
 - D. feel very much depressed
 - E. take it easy
76. A pupil unwilling to learn should be:
- A. sent out immediately
 - B. depromoted
 - C. tried with other methods
 - D. found out the cause of disinterestedness
 - E. tried with a tuition master
77. A boy is focussing the light rays on your eyes with the help of a plane mirror, you will:
- A. send the boy out immediately
 - B. report to the head of the institution
 - C. continue the class
 - D. call the boy out and talk to him softly to help him
 - E. tolerate it without any reaction.
78. The pupils in your class are posing a challenge by not opening their mouth as pre-determined, you will:
- A. walk-out from the class
 - B. continue the class by doing a problem on the black-board
 - C. punish the class pupil leader severely
 - D. make the whole class stand up on bench
 - E. try to find out the root cause of the problem
79. You happen to find a pupil given to stealing, you will:
- A. punish him
 - B. improve the ethical and moral standard of the pupil
 - C. take immediate possession of the stolen article
 - D. approach the pupil sympathetically
 - E. sympathise with the looser.

80. You have a pupil with wandering mania and avoids coming to class, you will:
- A. try to create in him interest in studies
 - B. try to find out the causes for the problem
 - C. try to meet the parents
 - D. leave him as such as long as he does not disturb the other pupils
 - E. try to get him some friends
81. You consider:
- A. Aggressive pupils more troublesome
 - B. Obstinate pupils more troublesome
 - C. Mischeivous pupils more troublesome
 - D. Withdrawn pupils more troublesome
 - E. None of them are troublesome
82. A pupil suffering from the defect of lying needs:
- A. Special counselling
 - B. mild punishment
 - C. cited examples of truthfulness
 - D. no care
 - E. to be exposed of his bad habit.
83. Misbehaviour in the class-room can be managed by:
- A. giving just and appropriate punishment
 - B. ignoring its occurrence, whenever it is possible to do so
 - C. finding out its cause and providing corrective measures
 - D. making the class pupil leader responsible for the conduct
 - E. sending the offender to the school management for action.
84. Which one of the following sayings is liked by you?
- A. Let us do or die
 - B. It is easier to give advice than to bear the sufferings manfully
 - C. The greatest hope of society is individual character
 - D. circumstances alter cases
 - E. What is to be will be.

Subtest 5
ENGLISH LANGUAGE ABILITY TEST

I. When we change the word 'owl' around we get another word low. This is an anagram - Write suitable anagrams for the following words.

- | | |
|-----------|----------|
| 1) Silent | 1. _____ |
| 2) Softer | 2. _____ |
| 3) Asleep | 3. _____ |
| 4) Left | 4. _____ |
| 5) Bleat | 5. _____ |

II. Fill _____ the blanks choosing relevant collective nouns from the list given below:

- | | |
|------------|------------|
| 1) a _____ | of workman |
| 2) a _____ | of fish |
| 3) a _____ | of chicks |
| 4) a _____ | of puppies |
| 5) a _____ | of moneys |

Ans: 1) Gang 2) Shoal 3) Breed 4) Litter 5) Troup

III. Fill _____ the blanks with suitable words.

1. A young plant is know as _____
2. A young tree is called _____
3. A tiny river is called _____
4. A little book-let is called _____
5. A little hill is known _____

IV. Write down 5 words containing the root 'scribe' which means 'to write'.

eg. : describe:

1. _____
2. _____
3. _____
4. _____
5. _____

V. Write down 5 words containing the prefix 'ad' which means "to".

1. _____
2. _____
3. _____
4. _____
5. _____

VI. Give the equivalent words with the prefix 'super'.

- 1. Supreme _____
- 2. Characterised by a speed greater than that of sound _____
- 3. To pay or play on something else _____
- 4. Scornfully superior _____
- 5. To follow closely upon something _____

VII. Select the correct form of verb.

- 1. We should let him _____ (do, to do) this work.
- 2. The people of India _____ (is, are) brave.
- 3. He made me _____ wait, _____ to wait, for an hour.
- 4. This _____ done, _____ being done, he went away quickly.
- 5. _____ (suppose, supposing) this _____ to be true he is certainly innocent.

VIII. Which of the underlined words are adjective, pronoun, & conjunction?

- | | |
|---------------------------------------|-------------|
| | Answer here |
| 1. I know <u>that</u> boy | 1. _____ |
| 2. Don't do <u>that</u> | 2. _____ |
| 3. I was told <u>that</u> he was dead | 3. _____ |

IX. Which of the underlined words are prepositions and which are conjunctions?

- | | |
|-------------------------------------|----------|
| 1. He went <u>after</u> I came | 1. _____ |
| 2. The dog ran <u>after</u> the cat | 2. _____ |
| 3. Look <u>before</u> you leap | 3. _____ |
| 4. He stood <u>before</u> the door | 4. _____ |

X. Select the correct word from the alternatives.

- 1. Our teacher does not believe in (corporal, corporcal) punishment.
- 2. He is disliked for his (childish, childlike) habits.
- 3. He is honest (beside, besides) being hard-working.
- 4. In the absence of his senior he is the (official, officious, officiating) superintendent.
- 5. He is so (credulous, credible, creditable) that he readily believes everything that others tell him.

XI. Correct the spelling of the following words:

- a) Priviledge _____
- b) Suspence _____
- c) Litrature _____
- d) Deciet _____

XII. Frame five questions to bring out the main points in the given paragraph.

"Of all living creatures on the earth, insects are the most plentiful. Some varieties are very useful to man, for example the bees, from which we get honey and wax and silk worms which supply us with silk. Other varieties are extremely harmful and do a great amount of damage especially to crops. Locusts are perhaps the most dangerous of all, for they will eat almost any green plant, and when millions of them settle on cultivated land they soon leave it bare. In some countries they are the farmer's greatest enemies. Another nuisance is the common fly not only because it worries us indoors and out of doors but ^{also} because it spreads diseases.

Appendix IV

Table Showing the values of Rh., Rl., Rt., Chi., etc.,

High Group No.25
 Low Group No.25
 Nt = 50

$$\text{Chi} = \frac{\text{Rh} + \text{Rl} - 1}{\text{Rt}(1 - \text{Rt}/\text{Nt})}$$

Sub- test No.	Item No.	Rh.	Rl.	(Rh-Rl-1)	Rt= Rh+Rl	Chi	Whether signifi- cant or not	Whether the item is retained or rejected	Item No. in the pilot study	
1	2	3	4	5	6	7	8	9	10	
I A	1	20	10	9	30	0.4	2.598	S	Ret.	1
	2	14	3	10	17	0.66	2.985	S	Ret.	2
	3	15	2	12	17	0.66	3.583	S	Ret.	3
	4	8	7	0	15	0.7	0	NS	Rej.	
	5	21	12	8	33	0.34	2.388	S		4
	6	20	11	8	31	0.38	2.331	S		5
	7	16	13	2	29	0.42	0.573	NS	Rej.	
	8	16	5	10	21	0.58	2.865	S		6
	9	15	1	13	16	0.68	3.941	S		7
	10	12	2	9	14	0.72	2.835	S		8
	11	18	4	13	22	0.56	3.704	S		9
	12	15	4	10	19	0.62	2.914	S		10
	13	12	2	9	14	0.72	2.835	S		11
	14	6	2	3	8	0.84	1.157	NS	Rej.	
	15	19	6	12	25	0.5	3.394	S		12
	16	10	2	7	12	0.76	2.318	S		13
	17	12	2	9	14	0.72	2.835	S		14
	18	9	2	6	11	0.78	2.048	S		15
	19	11	9	1	20	0.60	0.289	NS	Rej.	
	20	14	11	2	25	0.5	0.566	NS	Rej.	
I B	1	19	3	15	22	0.56	4.274	S		1
	2	17	4	12	21	0.58	3.438	S		2
	3	15	11	3	26	0.48	0.849	NS	Rej.	
	4	23	8	14	31	0.38	4.079	S		3
	5	19	4	14	23	0.54	3.973	S		4
	6	23	7	15	30	0.4	4.330	S		5
	7	16	12	3	28	0.44	0.855	NS	Rej.	
	8	18	6	11	24	0.52	3.114	S		6
	9	22	4	17	26	0.48	4.812	S		7
	10	23	3	19	26	0.48	5.378	S		8

1	2	3	4	5	6	7	8	9	10
	11	18	3	14	21	0.58	4.011	S	9
	12	14	12	1	26	0.48	0.283	NS	Rej
	13	19	1	17	20	0.6	4.907	S	10
	14	22	4	17	26	0.48	4.812	S	11
	15	11	2	8	13	0.74	2.579	S	12
	16	23	5	17	28	0.44	4.843	S	13
	17	11	7	3	18	0.44	0.855	NS	Rej.
	18	15	8	6	23	0.54	1.703	NS	Rej.
	19	19	4	14	23	0.54	3.973	S	14
	20	21	2	18	23	0.54	5.108	S	15
II	1	22	5	16	27	0.46	4.540	S	1
Crea-	2	20	3	16	23	0.54	4.540	S	2
tivity	3	18	4	13	22	0.56	3.704	S	3
	4	16	2	13	18	0.64	3.830	S	4
	5	20	4	15	24	0.52	4.246	S	5
	6	19	4	14	23	0.54	3.973	S	6
	7	21	2	18	23	0.54	5.108	S	7
	8	18	3	14	21	0.58	4.011	S	8
	9	11	9	1	20	0.60	0.289	NS	Rej.
	10	15	8	6	23	0.54	1.703	NS	Rej.
III	1	17	2	14	19	0.62	4.079	S	1
Lang-	2	20	4	15	24	0.52	4.246	S	2
uage	3	21	2	18	23	0.54	5.108	S	3
abi-	4	22	3	18	25	0.50	5.091	S	4
lity	5	16	1	14	17	0.66	4.180	S	5
test	6	19	4	14	23	0.54	3.973	S	6
	7	18	3	14	21	0.58	4.011	S	7
	8	22	3	18	25	0.50	5.091	S	8
	9	20	4	15	24	0.52	4.246	S	9
	10	17	3	13	20	0.60	3.753	S	10
	11	16	1	14	17	0.66	4.180	S	11
	12	14	2	11	16	0.68	3.335	S	12
IV									
General	1	21	7	13	28	0.44	3.704	S	1
Infor-	2	16	4	11	20	0.60	3.175	S	2
mation	3	22	7	14	29	0.42	4.011	S	3
Test	4	8	6	1	14	0.72	0.315	NS	Rej.
	5	1	2	-2	3	0.94	-1.191	NS	Rej.

1	2	3	4	5	6	7	8	9	10	
	6	2	1	0	3	0.94	0	NS	Rej.	
	7	20	4	15	24	0.52	4.246	S		4
	8	16	4	11	20	0.60	3.175	S		5
	9	5	2	2	7	0.86	0.815	NS	Rej.	
	10	11	1	9	12	0.76	2.980	S		6
	11	19	3	15	22	0.56	4.274	S		7
	12	2	1	0	3	0.94	0	NS	Rej.	
	13	18	18	-1	36	0.28	-0.315	NS	Rej.	
	14	8	5	2	13	0.74	0.645	NS	Rej.	
	15	19	6	12	25	0.50	3.394	S		8
	16	7	5	1	12	0.76	0.331	NS	Rej.	
	17	9	6	2	15	0.70	0.617	NS	Rej.	
	18	22	4	17	26	0.48	4.812	S		9
	19	20	3	16	23	0.54	4.540	S		10
	20	5	9	-5	14	0.72	-1.575	NS	Rej.	
	21	5	2	2	7	0.86	0.815	NS	Rej.	
	22	19	5	13	24	0.52	3.680	S		11
	23	17	1	15	18	0.64	4.419	S		12
	24	13	9	3	22	0.56	0.855	NS	Rej.	
	25	10	8	1	18	0.64	0.295	NS	Rej.	
	26	20	3	16	23	0.54	4.540	S		13
	27	11	2	8	13	0.74	2.579	S		14
	28	11	2	8	13	0.74	2.579	S		15
	29	19	6	12	25	0.50	3.394	S		16
	30	14	4	9	18	0.64	2.652	S		17
	31	17	2	14	19	0.62	4.079	S		18
	32	18	5	12	23	0.54	3.405	S		19
	33	5	3	1	8	0.84	0.386	NS	Rej.	
	34	18	2	15	20	0.60	4.330	S		20
	35	9	4	4	13	0.74	1.290	NS	Rej.	
	36	17	4	12	21	0.58	3.438	S		21
	37	18	3	14	21	0.58	4.011	S		22
	38	18	5	12	23	0.54	3.405	S		23
	39	17	2	14	19	0.62	4.079	S		24
	40	6	2	3	8	0.84	1.157	NS	Rej.	
	41	17	11	5	28	0.44	1.425	NS	Rej.	
	42	20	7	12	27	0.46	3.405	S		25
	43	19	3	15	22	0.56	4.274	S		26
	44	14	2	11	16	0.68	3.335	S		27
	45	15	3	11	18	0.64	3.241	S		28
	46	18	2	15	20	0.60	4.330	S		29
	47	19	3	15	22	0.56	4.274	S		30
	48	4	3	0	7	0.86	0	NS	Rej.	

	1	2	3	4	5	6	7	8	9	10	
		49	4	5	-2	9	0.82	-0.736	NS	Rej.	
		50	13	2	10	15	0.70	3.086	S		31
		51	5	5	-1	10	0.80	-0.354	NS	Rej.	
		52	11	2	8	13	0.74	2.579	S		32
		53	16	2	13	18	0.64	3.830	S		33
		54	15	3	11	18	0.64	3.241	S		34
		55	19	3	15	22	0.56	4.274	S		35
		56	16	10	5	26	0.48	1.415	NS	Rej.	
		57	16	5	10	21	0.58	2.865	S		36
		58	6	1	4	7	0.86	1.630	NS	Rej.	
		59	20	4	15	24	0.52	4.246	S		37
		60	18	2	15	20	0.60	4.330	S		38
		61	19	4	14	23	0.54	3.973	S		39
		62	18	4	13	22	0.56	3.704	S		40
		63	20	3	16	23	0.54	4.540	S		41
		64	22	5	16	27	0.46	4.540	S		42
		65	13	6	6	19	0.62	1.748	NS	Rej.	
		66	2	1	0	3	0.94	0	NS	Rej.	
		67	7	3	3	10	0.80	1.061	NS	rej.	
		68	11	6	4	17	0.66	1.194	NS	Rej.	
		69	20	5	14	25	0.50	3.960	S		43
		70	7	4	2	11	0.78	0.683	NS	Rej.	
		71	20	3	16	23	0.54	4.540	S		44
		72	20	4	15	24	0.52	4.246	S		45
		73	10	6	3	16	0.68	0.910	NS	Rej.	
		74	11	8	2	19	0.62	0.583	NS	Rej.	
V	1	23	8	14	31	31	0.38	4.079	S		1
Pro-	2	9	7	1	16	16	0.68	0.303	NS	Rej.	
fes-	3	17	5	11	22	22	0.56	3.134	S		2
sional	4	10	8	1	18	18	0.64	0.295	NS	Rej.	
aware-	5	7	3	3	10	10	0.80	1.061	NS	Rej.	
ness	6	19	7	11	26	26	0.48	3.114	S		3
	7	19	3	15	22	22	0.56	4.274	S		4
	8	17	4	12	21	21	0.58	3.438	S		5
	9	16	4	11	20	20	0.60	3.175	S		6
	10	14	5	8	19	19	0.62	2.331	S		7
	11	7	5	1	12	12	0.76	0.331	NS	Rej.	
	12	8	6	1	14	14	0.72	0.315	NS	Rej.	
	13	19	2	16	21	21	0.58	4.585	S		8
	14	6	7	-2	13	13	0.74	-0.645	NS	Rej.	
	15	19	5	13	24	24	0.52	3.680	S		9
	16	16	4	11	20	20	0.60	3.175	S		10
	17	17	6	10	23	23	0.54	2.837	S		11

1	2	3	4	5	6	7	8	9	10
	18	16	3	12	19	0.62	3.496	S	12
	19	14	4	9	18	0.64	2.652	S	13
	20	9	5	3	14	0.72	0.945	NS	Rej.
	21	8	4	3	12	0.76	0.993	NS	Rej.
	22	2	3	-2	5	0.90	-0.943	NS	Rej.
	23	19	2	17	21	0.58	4.871	S	14
	24	2	3	-2	5	0.90	-0.943	NS	Rej.
	25	19	5	13	24	0.52	3.680	S	15
	26	17	3	13	20	0.60	3.753	S	16
	27	19	3	15	22	0.56	4.274	S	17
	28	10	8	1	18	0.64	0.295	NS	Rej.
	29	4	2	1	6	0.88	0.435	NS	Rej.
	30	9	8	0	17	0.66	0	NS	Rej.
	31	8	6	1	14	0.72	0.315	NS	Rej.
	32	15	13	1	28	0.44	0.285	NS	Rej.
	33	4	2	1	6	0.88	0.435	NS	Rej.
	34	7	5	1	12	0.76	0.331	NS	Rej.
	35	20	7	12	27	0.46	3.405	S	18
	36	6	7	-2	13	0.74	-0.645	NS	Rej.
	37	4	5	-2	9	0.82	-0.736	NS	Rej.
	38	4	4	-1	8	0.84	-0.386	NS	Rej.
	39	14	4	9	18	0.64	2.652	S	19
	40	2	2	-1	4	0.92	-0.521	NS	Rej.
	41	17	2	14	19	0.62	4.079	S	20
	42	15	4	10	19	0.62	2.914	S	21
	43	12	11	0	23	0.54	0	NS	Rej.
	44	13	3	9	16	0.68	2.729	S	22
	45	7	2	4	9	0.82	1.472	NS	Rej.
	46	9	8	0	17	0.66	0	NS	Rej.
	47	6	2	3	8	0.84	1.157	NS	Rej.
	48	10	1	8	11	0.78	2.731	S	23
	49	5	5	-1	10	0.80	-0.354	NS	Rej.
	50	7	6	0	13	0.74	0	NS	Rej.
	51	11	2	8	13	0.74	2.579	S	24
	52	15	5	9	20	0.60	2.598	S	25
	53	11	11	-1	22	0.56	-0.285	NS	Rej.
	54	12	1	10	13	0.74	3.224	S	26
	55	8	4	3	12	0.76	0.993	NS	Rej.
	56	13	3	9	16	0.68	2.729	S	27
	57	11	12	-2	23	0.54	-0.568	NS	Rej.
	58	18	4	13	22	0.56	3.704	S	28
	59	16	5	10	21	0.58	2.865	S	29
	60	16	4	11	20	0.60	3.175	S	30
	61	8	10	-3	18	0.64	-0.884	NS	Rej.
	62	20	8	11	28	0.44	3.134	S	31
	63	12	2	9	14	0.72	2.835	S	32

1	2	3	4	5	6	7	8	9	10	
	64	9	3	5	13	0.76	1.656	NS	Rej.	
	65	15	3	11	18	0.64	3.241	S		33
	66	8	8	-1	16	0.68	-0.303	NS	Rej.	
	67	10	7	2	17	0.66	0.597	NS	Rej.	
	68	16	3	12	19	0.62	3.496	S		34
	69	8	7	0	15	0.70	0	NS	Rej.	
	70	17	5	11	22	0.56	3.134	S		35
	71	20	3	16	23	0.54	4.540	S		36
	72	18	4	13	22	0.56	3.704	S		37
	73	7	4	2	11	0.78	0.683	NS	Rej.	
	74	17	14	2	31	0.38	0.583	NS	Rej.	
	75	15	12	2	27	0.46	0.568	NS	Rej.	
	76	15	4	10	19	0.62	2.914	S		38
	77	20	7	12	27	0.46	3.405	S		39
	78	20	4	15	24	0.52	4.246	S		40
	79	17	5	11	22	0.56	3.134	S		41
	80	15	4	10	19	0.62	2.914	S		42
	81	12	2	9	14	0.72	2.835	S		43
	82	4	4	-1	8	0.84	-0.386	NS	Rej.	
	83	16	6	9	22	0.56	2.564	S		44
	84	15	5	9	20	0.60	2.598	S		45

S = Significant at P = 0.05 level
 NS = Not significant at P= 0.05 level

APPENDIX V

Pilot Study Test Items

Subtest 1
Mental Ability

A. Problem Solving Ability Test

Directions to follow:

A set of problems is given below. Try to solve all of them. After each problem five answers are given. One of them is the correct answer. Solve each problem mentally and put an 'X' mark inside the box against the letter denoting the correct answer in the answer sheet provided.

Example:

How much is 75 per cent of 80?

A. 48 B. 60 C. 52 D. 54 E. None of these

Answer:

$\begin{array}{c} A \\ \square \end{array}$
 $\begin{array}{c} B \\ \square \\ X \end{array}$
 $\begin{array}{c} C \\ \square \end{array}$
 $\begin{array}{c} D \\ \square \end{array}$
 $\begin{array}{c} E \\ \square \end{array}$

Now proceed in the same manner.

1. By what number should 6 be multiplied so that the product is equal to the sum of 14+16.
A) 8 B) 6 C) 5 D) 4 E) 7
2. A man walks 2 Kms. North, then $1\frac{1}{2}$ Km. west, and then 2 Kms. North and finally $1\frac{1}{2}$ Km. East. How far is he from the starting point?
A) 7Kms. B) $5\frac{1}{2}$ Kms. C) $1\frac{1}{2}$ Km. D) 4Kms. E) $2\frac{1}{2}$ Kms.
3. Calculate the next number.
2, 5, 7, 12, 19 _____
A) 31 B) 24 C) 28 D) 27 E) 41.

4. In a box of 48 mangoes 8 out of each dozen are good. How many in the box are bad?
A) 16 B) 24 C) 32 D) 40 E) 8
5. In this series, what is the next number?
98, 87, 76, 65 _____
A) 58 B) 44 C) 60 D) 54 E) 56
6. A 12ft. X 5ft. rug is how many times as large as 6ft X 9ft. rug?
A) 2 B) $2\frac{1}{2}$ C) $3\frac{1}{2}$ D) $1\frac{2}{3}$ E) None of these
7. The age of the father is thrice that of his son before 18 years. Now his age is twice that of his son's age. find out the age of the father and the son now.
A) 48 & 24 B) 56 & 28 C) 72 & 36
D) 80 & 40 E) 64 & 32.
8. In this series what is the next number?
1, 1, 2, 6, _____
A) 24, B) 20 C) 28 D) 8 E) 30
9. The sum of 'A' and 'B' equals 116. If 'A' is 3 less than 'C' but 4 more than 'B', what number does 'C' equal?
A) 59 B) 63 C) 64 D) 49 E) 72.
10. Seven numbers 1, 2, 4, 5, 6, 7 and 8 are put in a column. 1 is at the top and 2 is at the bottom. 4 is between 7 and 5, 8 is between 6 and 7; 5 is below 2. How many numbers are below 8?
A) 1 B) 2 C) 3 D) 4 E) 5
11. A boy caught hold of some spiders and a few moths and put them in a box. The total number was 8. He was able to count 54 legs in total. Find out the number of spider and moths (Spiders have 4 pairs of legs and moths have 3 pairs of legs).

- A) 3 moths and 5 spiders; B) 5 moths and 3 spiders
C) 4 moths and 4 spiders; D) 6 moths and 2 spiders
E) 2 moths and 6 spiders.
12. The total salary earned by a man was found to be Rs.50/- per week. His basic salary was found to be Rs.40/- more than the overtime wages. What was his basic salary?
A) 40 B) 60 C) 45 D) 75 E) 55
13. Mohan was supposed to meet his friend at noon every Sunday. The first time he met him at 12.30; the next at 1.20; then at 2.30; then at 4.00. When did he turn up the time after that?
A) 5.10 B) 5.50 C) 6.10 D) 7.10 E) 5.40
14. If a grocer has enough eggs to last for 300 customers 2 weeks, how long will the eggs last for 400 customers?
A) 1 week, B) 10 days, C) $1\frac{1}{2}$ week
D) 8 days E) 9 days
15. A car goes 50 miles an hour. How many kilometers will it go in 60 mts.
A) 50 kms. B) 40 kms. C) 80 kms. D) 300 kms.
E) 3000 kms.

B. Reasoning Ability Test

Directions to follow:

In each of the following questions, a pair of words, expressing a relationship between them is given. By its side, a single word is given. Below these words five different words are also given. You are to find out the correct word from among the five words given below to form a pair with the single word, so that the pair express a relationship similar to that of the pair already given.

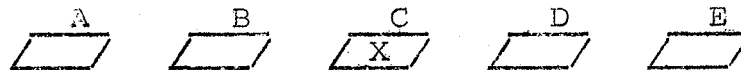
Represent the correct choice by putting an 'X' mark inside the box against the letter denoting the correct answer in the answer sheet provided.

Example:

Night : Day = Moon : _____

A) Star B) Sky C) Sun D) Light E) Bright

Answer:



Now proceed in the same manner.

-oOo-

1. Narrow : Broad = Lane : _____
A) Foot path B) Field; C) Pavement
D) Road E) Curved
2. Flour : Breed = Sugar : _____
A) Sweetness; B) Cake C) Fruit D) Cook E) Eat
3. Early : Begin = Late : _____
A) Start B) End C) Awake D) Enter E) Prompt
4. Metre : Calorie = Length : _____
A) Liquid; B) Heat; C) Cloth
D) Temperature E) Weight
5. Difficult : Easy = Hard : _____
A) Quick B) Smooth C) Loose D) Trouble E) Tight

6. Hitler : Germany 1 Mussolini : _____
A) Japan B) Italy C) U.S.S.R. D) Egypt E) India
7. Heavy : Light = Autocrat : _____
A) Easy B) Diplomat C) Hard D) Democrat E) King.
8. Prosperity : Adversity = Education : _____
A) Illiteracy B) Poverty C) Unhappiness
D) Hardship E) Richness
9. Effect : Cause = Success : _____
A) Luck B) Praise C) Effort D) Greatness
E) Happiness.
10. Thiagaraja : Ravivarma = Music : _____
A) Sculpture B) Painting C) Drama
D) Dance E) Art
11. Flower : Bud = Fruit : _____
A) Twig B) Flower C) Seed D) Taste E) Bush
12. Delhi : Washington D.C. = India : _____
A) USSR B) USA C) Tajmahal D) Rajyasabha
E) Madras
13. Light : Darkness = Knowledge : _____
A) Day B) Night C) Ignorance D) Sun E) Moon
14. Arrow : Bullet = Bow : _____
A) Missile B) Rifle C) Gunpowder D) Rama E) Spear
15. Sin : Hell = Theft : _____
A) Honesty B) Virtue C) Prison D) Police
E) Money.

Subtest 2
CREATIVITY TEST

Directions:

1. You can write this test in English or in Tamil.
2. This is a test to explore your creative ability.
3. There are no definite right or wrong answers.
4. There is no time limit for the test
5. Novel answers, unique answers, original answers and the correct answers will be taken into consideration, while scoring.
6. Do not write anything in the question paper.
7. Give many and varied answers for the questions given

Now read the questions and write your answers in the answer sheet provided.

1. What will happen, if our shadows gain life? Give as many of your ideas as possible.
2. What are the several teaching aids you can make, using clay, wooden planks, water, sticks, pieces of cloth, paintbox and such other things, to teach the lesson on 'Gandhi' effectively and meaningfully.
3. Write down the names of objects which are spherical and hard to touch; but are smaller than the tennis ball.
4. Write down the uses of chalk piece, other than for writing on the black-board.
5. Represent the teachers community with the help of an emblem or a flag.
6. Write as many proverbs of your own, as possible.
7. Imagine yourself as the only human left in this world. what are the several things would you do?
8. Write down the words which start with letter 'C' and end with letter 'e'.

Subtest 3
GENERAL INFORMATION TEST

Directions:

In each of the following items, a question or an incomplete statement is followed by a number of answers or a number alternatives to complete the statement. Choose the best answer or alternative and write your answer in the answer book provided to you, by putting a cross (X) on the corresponding box against the letter denoting the correct answer.

Illustration:

1. Our Constitution came into force on _____
- A. 26th November, 1949
 - B. 15th August, 1945
 - C. 26th January, 1950
 - D. 1st January, 1952
 - E. 15th August, 1957

Answer:

1. A B C D E
-

Current Events

1. Michael Ferriera is a popular player in
- A. Cricket
 - B. Football
 - C. Badminton
 - D. Billiards
 - E. Basket ball
2. Who was the latest Indian to win Noble Prize?
- A. Sir C.V.Raman
 - B. Mother Theresa
 - C. Dr. Chandrasekar Subramaniam
 - D. Dr. Visweswarayya
 - E. Dr. Rabindranath Tagore
3. 'Yen' is the currency of
- A. Italy C. Jordon E. China
 - B. Japan D. Panama

4. Teachers day is celebrated every year on _____

- A. 20th October
- B. 5th September
- C. 5th November
- D. 16th July
- E. 20th March

5. Who wrote Pilgrim's Progress?

- A. Jane Austin
- B. John Bunyan
- C. Bankim Chandra Chatterjee
- D. Fevder Michailovick Destoevsky
- E. Carl Marx

6. Who is the head of Reserve Bank of India?

- A. The President
- B. The Chairman
- C. The Director
- D. The Governor
- E. None of the above

7. The director of the film "Gandhi" is _____

- A. Shyam Benegal
- B. Satyajit Ray
- C. Ben Kingsley
- D. Richard Attenberough
- E. None of the above

8. The emblem of U.N. includes:

- A. Dove
- B. Red
- C. Olive Branch
- D. Liberty Statue
- E. Star

History

9. Kancheepuram was the capital city of

- A. Pallavas
- B. Cheras
- C. Sakyas
- D. Cholas
- E. Chalukyas

10. The new religion founded by Akbar was called
- A. Akbar Namah
 - B. Din-Illahi
 - C. Aini Akbari
 - D. Fathepur Sikri
 - E. Islam
11. Krishnadevaraya's court was adorned by
- A. Ten famous scholars
 - B. Seven famous scholars
 - C. Eight famous scholars
 - D. Navarathnas
 - E. Birbal and Tansen
12. The age of Hindu renaissance was
- A. Chola's period
 - B. Mughal's period
 - C. Gupta's age
 - D. Kanishaka's period
 - E. Kilji's period
13. The original home of the Aryans was
- A. Indus valley
 - B. Central Asia
 - C. Egypt
 - D. Sumaria
 - E. Ganges plain
14. Nalanda University was founded by
- A. Kanishka
 - B. Harsha
 - C. Asoka
 - D. Chandragupta
 - E. Hieun Tsang
15. The Public works Department in India was introduced by
- A. Akbar
 - B. Cornwallis
 - C. Dalhousie
 - D. Wellesley
 - E. Warren Hastings

16. The first Indian to be elected as the President of the U.N. General Assembly was:

- A. V.K.Krishna Menon
- B. B.N.Rao
- C. Mrs. Vijayalakshmi Pandit
- D. S.Radhakrishnan
- E. Mrs. Indira Gandhi

17. Who founded the Brahmo Samaj?

- A. Rajaram Mohan Roy
- B. Balagangathara Thilak
- C. Shankarar
- D. Guru Nanak
- E. Swami Dayananda Saraswathy

Science

18. The animal that can make electricity in its body is

- A. eel
- B. squid
- C. Octopus
- D. toad
- E. Rhinoceros

19. The plant that grows in thick masses on wet surfaces is:

- A. Grass
- B. Moss
- C. Cycas
- D. Onion
- E. Weeds

20. Plasma state is a

- A. Liquid state
- B. Gaseous state
- C. ionised state
- D. solidified phase
- E. crystalline phase

21. Angular valocity is concerned with

- A. Oscillating bodies
- B. Rotating bodies
- C. Bodies moving in a straight line
- D. Freely falling bodies
- E. Static bodiēs

22. Thallophytes are:

- A. Fruit bearing plants
- B. Water living plants
- C. Undifferentiated plants
- D. Flowering plants
- E. Open seeded plants

23. Pasteurisation is

- A. Process of preserving fruits
- B. Sterilization of glass
- C. Process of stopping liquid food being spoiled.
- D. A new method of vaccination
- E. Vaccination

24. An ice cube is floating in a beaker in water. When the ice melts, the water level will:

- A. Rise
- B. Go down
- C. Remain the same
- D. Rise or fall, depending upon the size of the cube
- E. Rise first and go down later.

25. A small gap is left between the joints of rails to

- A. Produce sound
- B. Save the cost
- C. Allow passage for rain water to flow
- D. Accommodate expansion in summer
- E. Produce resistance

26. Bleeding of _____ is caused due to the lack of:

- A. Vitamin A
- B. Vitamin B
- C. Vitamin C
- D. Vitamin D
- E. Vitamin E

27. It takes more time to cook potatoes on mountain tops because:

- A. the atmospheric pressure is low
- B. the atmospheric pressure is high
- C. the place is very cool
- D. the temperature is very low
- E. none of the above.

28. Ornithology deals with:

- A. Education
- B. study of birds
- C. origin of species
- D. study of reptiles
- E. study of ancient people

Geography

29. Tides are caused by

- A. Sun's heat
- B. Moon's Pull
- C. Water Currents
- D. Movement of ships
- E. Wind

30. Rhinoceros is found in the forests of

- A. Assam
- B. Kashmir
- C. Kerala
- D. Madhya Pradesh
- E. Chambal Valley

31. Bauxite is a:

- A. Principal one of Aluminium
- B. Ore of potassium
- C. Chemical name of silver nitrate
- D. Iron Ore
- E. Amalgum

32. The Ganges and Yamuna meet at






- A. Kanpur
- B. Allahabad
- C. Haridwar
- D. Calcutta
- E. Agra

33. The name 'Himalayas' means:

- A. Abode of Gods
- B. Abode of Prince
- C. Abode of snow
- D. Abode of Shiva
- E. Abode of Badrinath

34. The plain from Bombay to Goa is known as
- Konkan coast
 - Malabar coast
 - Western coast
 - Goan coast
 - Coromondal coast
35. The national Highways link
- Delhi and Goa
 - The capitals of states
 - Delhi and
 - Delhi and Madras
 - Kashmir to Kanyakumari
36. The longest river in India is:
- Ganges
 - Sindu
 - Brahmaputra
 - Krishna
 - Godavari
37. Sericulture deals with:
- rearing of flowering plants
 - rearing of bacteria
 - textile technology
 - rearing of silkworms
 - growth of plants
38. Savana is:
- Tropical Grass lands
 - Fracks full of trees
 - Vast plains
 - Mountains
 - Coniferous forests

Maths

39. Every member of a hostel drinks tea or coffee. In that 35 drink coffee, 23 drink tea and 10 drink coffee and tea. Which one of the following correctly represents the same.
- A.  B.  C. 
- D.  E. 
40. Lines that pass through the same point are called?
- Concurrent lines
 - Converging lines
 - Equal diverging lines
 - Co-planar lines
 - Collinear lines

41. An angle less than a right angle is:
- A. obtuse angle
 - B. Reflex
 - C. Straight angle
 - D. Acute Angle
 - E. Oblong
42. Lines which do not meet are known as:
- A. Parallel lines
 - B. Straight lines
 - C. Track
 - D. Linear lines
 - E. None of the above
43. Write down a number of 3 digits that are divisible by 3 but not by 9.
- A. 169
 - B. 264
 - C. 643
 - D. 109
 - E. 99
44. What does the symbol \angle represent in Maths?
- A. heat
 - B. equilateral triangle
 - C. isoscles
 - D. angle
 - E. parallelogram
45. What does the L.C.M. stand for?
- A. Least common multiple
 - B. Linear coordinate
 - C. Linearly curved measure
 - D. Alternate composite angle
 - E. Lograthamic cosine.

Subtest - 4
Professional Awareness Test

Directions:

In each of the following items, a question or an incomplete statement is followed by a number of answer or a number of alternatives to complete the statement.

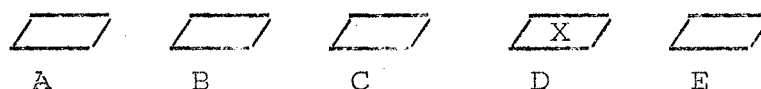
Choose the best answer or alternative and write your answer in the answer book provided to you, by putting an 'X' mark on the corresponding box against the letter denoting the correct response.

Example:

If a pupil comes late very often to your class, you will:

- a) not allow the pupil to come in and attend the class
- b) report this to the head of the institution
- c) report this to the pupil's parents
- d) try to find out the causes of this problem and help the pupil to come early.
- e) scold the pupil severely, so that the pupil will not repeat it.

Answer:



Now proceed in the same manner.

I. PROFESSIONAL AWARENESS:

1. A teacher should think of his work in terms of:

- A. Systematic drill
- B. the mastery of subject matter
- C. reciting lessons
- D. disciplining the pupils
- E. children's growth and development

2. Which of the following is more effective?

- A. Immediate reward
- B. Group reward
- C. Individual reward
- D. Valuable reward
- E. Attractive reward

3. Staff meetings are helpful to:
- A. create a "We" feeling among the teachers
 - B. share the workload of others
 - C. Take important decisions about the pupils
 - D. Wipe off differences of opinion among the teachers
 - E. Express the grievances
4. When the concept explained by you is not followed by the pupils, you will:
- A. Write the entire thing on the blackboard
 - B. try to relate the concept with their past experience
 - C. try to repeat the explanation twice
 - D. make the pupils write the concept once
 - E. make the pupils read and understand from books
5. The question asked by you was not followed by your pupils. You will:
- A. tell the answer yourself
 - B. repeat it twice or thrice
 - C. try to simplify your question by re-wording it
 - D. switch on to some other easier question
 - E. comment on their inattentiveness
6. Which one out of the following helps most in effective teaching learning process?
- A. the use of dictionary
 - B. school museum
 - C. group work
 - D. text book
 - E. question bank
7. Newspaper reading (in the class-room)
- A. deviates the attention of the pupils
 - B. drags them into the political scene
 - C. motivates learning
 - D. broadens their vision
 - E. reduces their concentration in studies
8. Selection of content and method of instruction should be based on:
- A. Age and intelligence of the pupils
 - B. The cultural heritage
 - C. The environment of the pupils
 - D. All the above
 - E. None of the above

9. When you introduce a new lesson, which one of the following techniques, do you think, will be most suitable as the first step?
- A. Telling the gist of the lesson
 - B. Starting with the beginning of the lesson
 - C. Asking one of the pupils who may know the information to tell the others
 - D. Asking a few questions to arouse their interest
 - E. Reading out the information in the text book
10. You are asked to select a suitable place for an educational tour, you will select:
- A. the nearest place
 - B. a place with natural set up
 - C. an industrial town
 - D. a place of some interest
 - E. a far off place
11. The Co-curricular activities in schools serve as:
- A. an excellent project work
 - B. a means for all round development of the pupils
 - C. As a means to engage the energetic children
 - D. building leadership qualities
 - E. a recreation
12. Club activities in schools:
- A. serve as leisure time activities
 - B. try to avoid the boredom caused by the routine work
 - C. develop creative abilities in pupils
 - D. help the pupils to learn more
 - E. raise the status of the school

II. RAPPORT WITH PUPIL:

13. A successful teacher is the one who:
- A. extracts maximum work from the pupil
 - B. adjusts himself with the colleagues
 - C. maintains harmonious relationship with the pupil
 - D. masters the subject matter
 - E. does no work

14. You find a pupil frequently visiting your house, you will:
- A. consider the pupil as a nuisance
 - B. Welcome the pupil happily inspite of your work
 - C. show signs of dislike
 - D. advise the pupil not to visit again
 - E. try to avoid the pupil
15. Any decision taken by the teachers should:
- A. not be against the rules and regulations laid down by the school authorities
 - B. not spoil the reputation of the school
 - C. be in accordance with the circumstances
 - D. depend upon the pupils progress
 - E. be based on personal benefit
16. The teachers' effectiveness can be best judged by:
- A. their colleagues
 - B. the parents
 - C. the head of the institution
 - D. an external observer
 - E. their pupils
17. You happen to move closely with a pupil during an educational tour. You find him misusing that in the class. You will:
- A. give him severe punishment
 - B. tolerate it
 - C. advise the pupil
 - D. simply ignore it
 - E. report it to the head of the institution

III. PROFESSIONAL INTEREST

18. A good teacher should have knowledge about
- A. First aid
 - B. Child psychology
 - C. Rules of the road
 - D. Sanitation and hygiene
 - E. Counselling

19. The happiest teachers are usually those who:
- A. devote their working hours to the profession
 - B. do their job with minimum effort
 - C. like to teach, but have other interests and hobbies
 - D. fight continuously to improve their working conditions
 - E. never take the school work home
20. A teacher's first duty is to his:
- A. head of the institution
 - B. community
 - C. pupils
 - D. Co-workers
 - E. management
21. The best evidence of the professional status of teaching is:
- A. publication of articles
 - B. fixing a salary schedule
 - C. enforcement of high standards
 - D. establishment of retirement system
 - E. extensive vacations
22. One should select a career in terms of:
- A. values which are important to him
 - B. the amount of salary one can earn
 - C. the qualifications needed for the course
 - D. the ease with which he can get it
 - E. the social prestige which it commands
23. Check any one of the following activities in which you are more interested.
- A. gardening
 - B. reading books
 - C. painting, sculpture, hand work etc.,
 - D. seeing films, exhibition, concerts etc.,
 - E. playing cards, chess, carum etc.,
24. Which one of the following sayings is liked by you?
- A. Let us do or die
 - B. It is easier to give advice than to bear the sufferings manfully
 - C. The greatest hope of society is individual character
 - D. Circumstances alter eases
 - E. What is to be will be

25. After attending a programme on "Skill based method of teaching", you will:
- A. try to implement it in your class
 - B. try to give the pupils a lecture about the new method
 - C. prepare an article on it and submit it to the head of the institution
 - D. try to inform your colleagues also about it, for practice in the class.
 - E. speak about the hardships you met.
26. Your name is suggested for attending an inservice programme in a hill station. You will attend it, because you would like to:
- A. gain a good name from the head of the institution
 - B. improve your knowledge
 - C. enjoy the opportunity well
 - D. meet eminent persons
 - E. visit one of your relatives there

IV. ADAPTABILITY:

27. You are trying to explain a concept which is not followed by two out of 35 students, you will:
- A. proceed to the next topic
 - B. try to explain them separately
 - C. make them write imposition
 - D. ask them to go out
 - E. explain the concept again to the whole class
28. When you are successfully adopting a method of extracting maximum work from the most disobedient set of pupils, by giving mild corporal punishments the Principal asks you to drop that method:
- A. you will obey him without any second thought
 - B. you will flare up at the Principal
 - C. you will continue your method
 - D. you will try to modify that method
 - E. you will give still more severe punishment to the pupils.

29. When you are asked to take care of your co-worker's class teaching due to her continued absence, you will:
- A. ask the principal to appoint another teacher
 - B. do the extra work with murmuring
 - C. try to skip away the work
 - D. try your best to manage the show
 - E. try to do the work to win the favour of the Principal.
30. If you don't agree with the other teachers, you will:
- A. openly criticise their activities
 - B. diplomatically avoid the situation
 - C. try to agree with the majority of the members
 - D. pretend to agree with the majority of the teachers
 - E. cling on to your opinion strongly
31. When the head of the institution is accusing you that you are incapable of controlling the class, you will:
- A. tell him that the pupils were unruly
 - B. accept the fact that you are incapable
 - C. tell him that you are going to resign
 - D. tell him that you will take proper steps to control the class
 - E. give severe punishment to the pupils.
32. You find one of your colleagues highly favoured by the management, you will:
- A. not mind it
 - B. show your dissatisfaction openly
 - C. criticise it
 - D. try to get good impression of the ruling authority
 - E. try to create bad impression about the colleague.
33. You find your pupils arranging for a picnic. You will:
- A. Happily join with them
 - B. try to dissuade them
 - C. take up the whole responsibility
 - D. remain unaffected
 - E. help them to organise the programme

34. You are suffering from a bad sore throat, you will:

- A. sit silently and make the pupils individually do their work
- B. apply for leave
- C. give the charge to the class pupil leader
- D. ask one of your colleagues to look after the class
- E. send them to the library

V. Tolerance:

35. When you find the head of the institution supporting a pupil of your class due to some reason:

- A. you will immediately point out the mistake
- B. you will punish the pupil after the headmaster leaves your class
- C. you will wait for another chance to catch the pupil
- D. you will simply ignore the matter
- E. you will take up the matter to the correspondent.

36. During lunch time you find Raja trying to throw a big stone at Ramu, in the Play ground, you will:

- A. not take any action as it is lunch time
- B. send word to the class-teacher of the boy's class
- C. immediately report to the Head of the Institution
- D. give severe punishment to Raja
- E. try to prevent Raja from throwing the stone.

37. A pupil bullying and cheating children:

- A. should be put in a hostel
- B. should be depromoted
- C. should be given scope for self-expression
- D. should be appreciated
- E. should be left unnoticed

38. A pupil unwilling to learn should be:

- A. sent out immediately
- B. depromoted
- C. tried with other methods
- D. found out the cause of disinterestedness
- E. tried with a tuition master

39. A boy is focussing the light rays on your eyes with the help of a plane mirror, you will:
- A. send the boy out immediately
 - B. Report to the head of the institution
 - C. continue the class
 - D. call the boy out and talk to him softly to help him
 - E. tolerate it without any reaction
40. The pupils in your class are posing a challenge by not opening their mouth as pre-determined, you will:
- A. Walk-out from the class
 - B. continue the class by doing a problem on the black-board
 - C. punish the class pupil leader severely
 - D. make the whole class stand up on the bench
 - E. try to find out the root cause of the problem
41. You happen to find a pupil given to stealing, you will:
- A. Punish him
 - B. improve the ethical and moral standard of the pupil
 - C. take immediate possession of the stolen article
 - D. approach the pupil sympathetically
 - E. sympathise with the looser.
42. You have a pupil with wandering mania and avoids coming to class, you will:
- A. try to create in him interest in studies
 - B. try to find out the causes for the problem
 - C. try to meet the parents
 - D. leave him as such as long as he does not disturb the other pupils.
 - E. try to get him some friends.
43. You consider:
- A. Aggressive pupils more troublesome
 - B. Obstinate pupils more troublesome
 - C. Mischeivous pupils more troublesome
 - D. Withdrawn pupils more troublesome
 - E. None of them are troublesome
44. Misbehaviour in the class-room can be managed by:
- A. Giving just and appropriate punishment
 - B. ignoring its occurrence, whenever it is possible to do so
 - C. finding out its cause and providing corrective measures
 - D. making the class pupil leader responsible for the conduct.
 - E. Sending the offender to the school management for action.
45. You find a boy in your class, giving you trouble in a gang, you will:
- A. Punish the boy; B. punish the entire group
 - C. try to dismiss the trouble maker alone silently
 - D. try to engage them in some other activity
 - E. ignore the entire group.

VI. Give the equivalent words with the prefix 'super'.

1. Supreme _____
2. Characterised by a speed greater than that of sound _____
3. To pay or play on something else _____
4. Scornfully superior _____
5. To follow closely upon something _____

VII. Select the correct form of verb.

1. We should let him _____ (do, to do) this work.
2. The people of India _____ (is, are) brave.
3. He made me _____ wait, _____ to wait, for an hour.
4. This _____ done, _____ being done, he went away quickly.
5. _____ (suppose, supposing) this _____ to be true he is certainly innocent.

VIII. Which of the underlined words are adjective, pronoun, & conjunction?

- | | |
|---------------------------------------|-------------|
| | Answer here |
| 1. I know <u>that</u> boy | 1. _____ |
| 2. Don't do <u>that</u> | 2. _____ |
| 3. I was told <u>that</u> he was dead | 3. _____ |

IX. Which of the underlined words are prepositions and which are conjunctions?

- | | |
|-------------------------------------|----------|
| 1. He went <u>after</u> I came | 1. _____ |
| 2. The dog <u>ran after</u> the cat | 2. _____ |
| 3. Look <u>before</u> you leap | 3. _____ |
| 4. He stood <u>before</u> the door | 4. _____ |

X. Select the correct word from the alternatives.

1. Our teacher does not believe in (corporal, corporcal) punishment.
2. He is disliked for his (childish, childlike) habits.
3. He is honest (beside, besides) being hard-working.
4. In the absence of his senior he is the (official, officious, officiating) superintendent.
5. He is so (credulous, credible, creditable) that he readily believes everything that others tell him.

XI. Correct the spelling of the following words:

- a) Priviledge _____
- b) Suspence _____
- c) Litrature _____
- d) Deciet _____

XII. Frame five questions to bring out the main points in the given paragraph.

"Of all living creatures on the earth, insects are the most plentiful. Some varieties are very useful to man, for example the bees, from which we get honey and wax and silk worms which supply us with silk. Other varieties are extremely harmful and do a great amount of damage especially to crops. Locusts are perhaps the most dangerous of all, for they will eat almost any green plant, and when millions of them settle on cultivated land they soon leave it bare. In some countries they are the farmer's greatest enemies. Another nuisance is the common fly not only because it worries us indoors and out of doors but ^{also} because it spreads diseases.

Appendix VI

ITEM - ANALYSIS OF THE PILOT STUDY SCORES

Subtest I - Mental Ability (A) Problem Solving Ability Test

Item No.	Difficulty value %	Discriminating index	Selected or Discarded	No. in final form	Distractor Change Made	Remarks
1	92	.14	D	-	-	Deleted
2	25	.44	S	9	No Change	Satisfactory
3	57	.59	S	3	No Change	Satisfactory
4	85	.29	S	2	No Change	Satisfactory
5	87	.25	S	1	No Change	Satisfactory
6	-	-	-	-	--	Deleted
7	37	.44	S	5	No Change	Satisfactory
8	54	.48	S	4	No Change	Satisfactory
9	30	.29	D	-	--	Deleted
10	31	.48	S	8	No Change	Satisfactory
11	37	.37	S	6	No Change	Satisfactory
12	33	.37	S	7	No Change	Satisfactory
13	24	.33	S	10	No Change	Satisfactory
14	29	.14	D	-	--	Deleted
15	16	.11	D	-	--	Deleted

Out of 15 items, 5 were discarded because of low discrimination.

Subtest No. I Mental Ability (B) Reasoning Ability Test

1	58	.55	S	6	No Change	Satisfactory
2	54	.22	D	--	--	Deleted
3	77	.55	S	1	No Change	Satisfactory
4	52	.51	S	7	No Change	Satisfactory
5	71	.51	S	4	No Change	Satisfactory
6	61	.25	D	-	--	Deleted
7	65	.51	S	5	No Change	Satisfactory
8	73	.70	S	3	No Change	Satisfactory
9	46	.41	S	8	D - As high group chose more than low group	
10	24	.13	D	-	--	Deleted
11	29	.51	S	10	C - As high group chose more than low group	
12	24	.29	D	-	--	Deleted
13	57	.22	D	-	--	Deleted
14	36	.44	S	9	No Change	Satisfactory
15	76	.70	S	2	No Change	Satisfactory

Out of the items, 5 were discarded because of low discrimination.

Subtest 2. Creativity Test:

Item No.	Diffi- culty value %	Dis- crimi- nation index	Selected or Discarded	No. in final form	Distractor change made	Remarks
1	24	.15	Rejected	-	-	-
2	68	.32	Selected	1	-	-
3	24	.29	Selected	5	-	-
4	26	.35	Selected	3	-	-
5	47	.14	Rejected	-	-	-
6	25	.28	Selected	4	-	-
7	40	.29	Selected	2	-	-
8	16	.22	Rejected	-	-	-

Out of 8 items 3 were discarded because of low discrimination.

Subtest 3
General Information Test

1	37.5	.38	Selected	3	No change	Satis- factory
2	25	.14	Rejected	-	-	-
3	49.5	.52	Selected	1	No change	-do-
4	75.9	.09	Rejected	-	-	-
5	20.6	.04	Rejected	-	-	-
6	37.5	.19	Rejected	-	-	-
7	48	.26	Selected	2	No change	-do-
8	36.7	.28	Selected	4	No change	-do-
9	44.7	.52	Selected	5	No change	-do-
10	37.5	.29	Selected	6	No change	-do-
11	23	.09	Rejected	-	-	-
12	32	.17	Rejected	-	-	-
13	31	.33	Selected	7	D - None had selected	-
14	25.8	.29	Selected	8	No change	-do-
15	11	.14	Rejected	-	-	-
16	27.8	.19	Rejected	-	-	-
17	25.8	.14	Rejected	-	-	-
18	23	.22	Rejected	-	-	-
19	47	.24	Rejected	-	-	-
20	25.8	.14	Rejected	-	-	-
21	62	.11	Rejected	-	-	-
22	25.4	.24	Rejected	-	-	-
23	21	.23	Rejected	-	-	-
24	34	.52	Selected	12	No change	-do-
25	54	.43	Selected	9	No change	-do-
26	11	.14	Rejected	-	-	-

Item No	Diffi- culty value %	Dis- crimi- nation intex	Selected or Discarded	No. in final form	Distractor change made	Remarks
27	37	.48	Selected	11	No change	Satisfactory
28	42	.31	Selected	10	E -	More of high group had chosen
29	8.6	.19	Rejected	-	-	-
30	25.4	.24	Rejected	-	-	-
31	8.6	.24	Rejected	-	-	-
32	31	.34	Selected	16	C -	More of high group had chosen
33	26	.12	Rejected	-	-	-
34	36	.26	Selected	15	No change	Satisfactory
35	32	.14	Rejected	-	-	-
36	38	.20	Rejected	-	-	-
37	48	.38	Selected	13	No change	Satisfactory
38	42.5	.28	Selected	14	No change	Satisfactory
39	25	.34	Selected	20	No change	Satisfactory
40	35	.15	Rejected	-	-	-
41	33	.26	Selected	19	No change	Satisfactory
42	75.9	.19	Rejected	-	-	-
43	66	.08	Rejected	-	-	-
44	65	.26	Selected	18	No change	Satisfactory
45	68.7	.28	Selected	17	No change	Satisfactory

Out of 45 test items 25 were discarded because of low discrimination.

Subtest - 4
Professional Awareness Test

1	51	.26	Selected	1	D -	More of high group had chosen
2	17	.08	Rejected	-	-	-
3	66	.08	Rejected	-	-	-
4	49	.26	Selected	2	No change	Satisfactory
5	72	.13	Rejected	-	-	-
6	35	.13	Rejected	-	-	-
7	31	.21	Rejected	-	-	-
8	24	0	Rejected	-	-	-
9	72	.17	Rejected	-	-	-
10	21	.21	Rejected	-	-	-
11	41	.19	Rejected	-	-	-
12	51	.22	Rejected	-	-	-
13	41.2	.43	Selected	4	No change	Satisfactory
14	68	.17	Rejected	-	-	-
15	29	.30	Selected	6	No change	Satisfactory
16	33.2	.33	Selected	5	No change	Satisfactory

Item No.	Diffi- culty value %	Dis- crimi- nation intex	Selected or Discarded	No. in final form	Distractor change made	Remarks
17	68	.28	Selected	3	No change	Satisfactory
18	81	.19	Rejected	-	-	-
19	91	.34	Selected	7	No change	Satisfactory
20	51	.21	Rejected	-	-	-
21	21	.34	Selected	9	No change	Satisfactory
22	21	.34	Selected	10	No change	Satisfactory
23	9	.17	Rejected	-	-	-
24	25	.20	Rejected	-	-	-
25	31	.34	Selected	8	No change	Satisfactory
26	29	.21	Rejected	-	-	-
27	18	.30	Selected	14	D - None had selected	
28	48	.43	Selected	12	No change	Satisfactory
29	42	.39	Selected	13	No change	Satisfactory
30	34	.18	Rejected	-	-	-
31	72	.39	Selected	11	No change	Satisfactory
32	20	.39	Selected	15	C - More of high group had selected	
33	42	.17	Rejected	-	-	-
34	21	.21	Rejected	-	-	-
35	31	.22	Rejected	-	-	-
36	69	.34	Selected	17	No change	Satisfactory
37	41.2	.39	Selected	18	No change	Satisfactory
38	26	.21	Rejected	-	-	-
39	71	.29	Selected	16	No change	Satisfactory
40	29	.21	Rejected	-	-	-
41	28	.17	Rejected	-	-	-
42	29	.08	Rejected	-	-	-
43	38	.34	Selected	19	No change	Satisfactory
44	53.9	.41	Selected	20	No change	Satisfactory

Out of 44 items 24 were discarded because of low discrimination

Subtest - 5
English Language Ability

I				B I	
A	48	.32	Selected		
B	56	0	Rejected		
C	40	.4	Selected		
D	80	.24	Rejected	A	
E	58	.52	Selected		

Item No.	Diffi- culty value %	Dis- crimi- nation intex	Selected or Discarded	No. in final form	Distractor change made	Remarks

II						
A	42	.44	Selected	C		
B	44	.64	Selected	A		
C	48	.40	Selected	D		
D	40	.56	Selected	B	VII	-
E	50	.32	Selected	E		-
Whole test item						
	44.8	.43	Selected			
III						
A	26	.12	Rejected			
B	26	.2	Rejected	-	-	-
C	30	.44	Rejected			
D	18	.28	Rejected			
E	24	.08	Rejected			
Whole test item						
	13.2	.216				
IV						
Whole test						
	48	.56	Selected		VIII	
V						
Whole test						
	24	.20	Rejected	-	-	-
VI						
A	32	.21	Rejected	-	-	-
B	34	.68	Selected	A		
C	26	.32	Selected	B		
D	24	.16	Rejected	-	IX	-
E	26	.32	Selected	C		
Whole test						
	11.2	.28	Selected			
VII						
A	44	.40	Selected	C		
B	66	.44	Selected	B		
C	40	.4	Selected	D		
D	76	.32	Selected	A	II	-
E	40	.32	Selected	E		
Whole test item						
	53.2	.37				

Item No.	Diffi- culty value %	Dis- crimi- nation intex	Selected or Discarded	No.in final form	Distractor change made	Remarks
VIII						
A	58	.36	Selected	A		
B	46	.44	Selected	B		
C	54	.52	Selected	C	IV	-
Whole test item						
	52.4	.44	Selected			
IX						
A	58	.68	Selected	A		
B	52	.48	Selected	C		
C	46	.28	Selected	D	III	-
D	56	.4	Selected	B		
Whole test item						
	53	.42	Selected			
X						
A	58	.2	Rejected			
B	68	.28	Selected	A		
C	24	.28	Selected	C		
D	38	.44	Selected	B	VI	-
Whole test item						
	46	.284	Selected			
XI						
A	24	.4	Selected	D		
B	70	.36	Selected	B		
C	72	.48	Selected	A		
D	38	.36	Selected	C	V	-
Whole test item						
	51	.4	Selected			
XII						
Whole test item						
	38	.52	Selected		X	-

Appendix VII
DISTRACTOR ANALYSIS

Sub- test No.	Name of the Subtest	Item No. in the final study	Groups	Distractors Chosen					Dis- trac- tor chan- ged	Remarks
				A	B	C	D	E		
1	Mental Ability									
	B. Reasoning Ability	8	High	2	2	<u>18</u>	(4)	1	D	More of high groups have been chosen
			Low	6	6	<u>7</u>	(3)	5		
		10	High	2	1	(7)	<u>15</u>	2	C	
			Low	4	7	(5)	<u>1</u>	7		
3	General Information	7	High	4	<u>13</u>	3	(0)	7	D	None had selected
			Low	88	<u>4</u>	9	(0)	6		
		10	High	2	<u>15</u>	3	2	(5)	E	More of high group had selected
			Low	8	<u>7</u>	5	5	(2)		
		16	High	2	<u>13</u>	(8)	2	2		selected
			Low	5	<u>14</u>	(6)	5	7	C	-do-
4	Professional Information	1	High	2	2	2	(4)	<u>17</u>	D	
			Low	5	6	4	(2)	<u>10</u>		
		14	High	4	<u>9</u>	6	(0)	8		
			Low	8	<u>1</u>	9	(0)	9		
		15	High	<u>10</u>	4	(6)	4	(3)		
			Low	<u>1</u>	8	(4)	9	5		

The numbers under lined show the frequencies of the correct responses where as those bracketed show the non-discriminating distractors.

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1. Mental Ability Test
 - A. Problem Solving Ability Test
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2. Creativity Test
3. General Information Test
4. Professional Awareness Test
5. English Language Ability Test and

An Attitude Towards Teaching Profession Scale

Instructions to the Candidates

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3. Do not write anything in the question paper.
4. Answer all the test items without omitting any item, by putting an 'X' mark in the box provided against the letter indicating the correct answer.
5. There is no time limit for the test.
6. This is not an examination. These tests are prepared to assess your aptitude for teaching. Therefore do not omit any question. Try to answer all of them.
7. Return the question paper along with your answer book when you finish answering.
8. The data furnished by you will be kept strictly confidential.

10. Mohan was supposed to meet his friend at noon every Sunday. The first time he came at 12.30, the next at 1.20, then at 2.30, then at 4.00. When did he turn up the time after that?
 A) 5.10 B) 5.50 C) 6.10 D) 7.10 E) 5.40

B—REASONING ABILITY TEST

Directions

In each of the following questions, a pair of words expressing a relationship between them is given. By its side, a single word is given. Below these words five different words are also given. You are to find the correct word from among the five words given below to form a pair with the single word so that the pair express is a relationship similar to that of the pair already given.

Represent the correct choice by putting an 'X' mark inside the box against the letter denoting the correct answer in the answer book provided.

Example :

Night : Day = Moon : ()

- A) Star B) Sky C) Sun D) Light E) Bright

Answer

A	B	C	D	E
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Now proceed in the same manner

1. Early : Begin = Late ()
 A) Start B) End C) Awake D) Enter E) Prompt
2. Sin : Hell = Theft ()
 A) Honesty B) Virtue C) Prison D) Police E) Money
3. Prosperity : Adversity = Education : ()
 A) Illiteracy B) Poverty C) Unhappiness D) Hardship E) Richness
4. Difficult : Easy = Hard : ()
 A) Quick B) Loose C) Trouble D) Tight E) Smooth
5. Heavy : Light = Autocrat : ()
 A) Easy B) Diplomat C) Hard D) Democrat E) King
6. Narrow : Broad = Lane : ()
 A) Road B) Footpath C) Field D) Pavement E) Curved
7. Metre : Calorie = Length : ()
 A) Liquid B) Heat C) Cloth D) Temperature E) Weight
8. Effect : Cause = Success : ()
 A) Luck B) Praise C) Effort D) Greatness E) Happiness
9. Arrow : Bullet = Bow : ()
 A) Missile B) Gunpowder C) Rama D) Spear E) Rifle
10. Flower : Bud = Fruit : ()
 A) Twig B) Seed C) Stem D) Flower E) Bush

SUBTEST No. 3

GENERAL INFORMATION TEST

Directions

In each of the following items, a question or an incomplete statement is followed by a number of answers or alternatives, to complete the statement. Choose the correct answer or alternative and point out your answer in the answer book provided to you, by putting a cross (X) mark on the corresponding box against the letter denoting the correct answer.

Illustration

Our Constitution came into force on :

- A) 15th August 1947 B) 26th November 1949 C) 26th January 1950
D) 1st January 1952 E) 15th August 1957

Answer

Now Proceed

CURRENT EVENTS

1. Yen is the currency of :
A) Italy B) Japan C) Jordan D) Panama E) China
2. The Director of the film 'Gandhi' is...
A) Shyam Banegal B) Satyajit Ray C) Ben Kingsley
D) Richard Attenborough E) None of the above
3. Michael Ferreira is a popular player in...
A) Cricket B) Football C) Badminton D) Billiards E) Basketball
4. The emblem of U. N. includes
A) Dove B) Red C) Olive Branch D) Statue of Liberty E) Star

HISTORY

5. Kancheepuram was the capital of :
A) Pallavas B) Cheras C) Sakyas D) Cholas E) Chalukyas
6. The new religion founded by Akbar was called :
A) Akbar Namah B) Din-Ilahi C) Aini-Akbari D) Fatehpur Sikri E) Islam
7. The original home of the Aryans was :
A) Indus Valley B) Central Asia C) Egypt D) South India E) Gangetic Plain
8. Nalanda University was founded by :
A) Kanishka B) Harsha C) Ashoka D) Chandragupta E) Hiuen-Tsang

SUBTEST No. 4

PROFESSIONAL AWARENESS TEST

Directions

In each of the following items, a question or an incomplete statement is followed by a number of answers or a number of alternatives to complete the statement. Choose the correct answer or alternative and write your answer in the answer book, provided to you, by putting a cross (X) mark on the corresponding box against the letter denoting the correct answer.

Illustration

If a pupil comes late very often to your class, you will

- A) not allow the pupil to come in and attend the class
- B) report this to the Head of the institution
- C) report this to the pupil's parents
- D) try to find out the causes of this problem and help the pupil to come early
- E) scold the pupil severely, so that the pupil will not repeat it

Answer

Now proceed

1. A teacher should think of his work in terms of
 - A) systematic drill B) the mastery of subject matter C) reciting lessons
 - D) controlling the pupils E) children's growth and development
2. What will you do, if the concept you are explaining is not followed by the pupils?
 - A) Write the concept on the blackboard B) Try to relate the concept with their past experience
 - C) Repeat the explanation twice D) Make the pupils write the concept
 - E) Make the pupils read and understand from the books
3. You happen to be very close to a pupil during an educational tour. You find him misusing that in the class. What will you do?
 - A) Advise the pupil B) Tolerate it C) Give him severe punishment
 - D) Simply ignore it E) Report it to the Head of the institution
4. A successful teacher is one who
 - A) extracts maximum work from the pupils B) adjusts himself with his colleagues
 - C) maintains harmonious relationship with the pupils D) masters the subject matter
 - E) does the least amount of work in the school

13. When you are asked to take care of your co-worker's class teaching due to his/her continued absence, you will:
- A) ask the Principal to appoint another teacher
 - B) do the extra work with murmuring
 - C) try to skip away the work
 - D) try to do the work to win the favour of the Principal
 - E) try your best to manage the class
14. When you are trying to explain a concept which is not followed by two out of the whole class, you will:
- A) proceed to the next topic
 - B) try to explain them separately
 - C) make them write imposition.
 - D) ask them to go out, learn and come to the class
 - E) explain the concept again to the whole class
15. When you find one of your colleagues being highly favoured by the management, you will:
- A) not mind it
 - B) show your dissatisfaction openly
 - C) criticise the management
 - D) try to get good impression of the ruling authority
 - E) try to create bad impression about that colleague
16. A boy is focussing the light rays on your eyes with the help of a plane mirror. You will:
- A) send the boy out immediately
 - B) report to the Head of the institution
 - C) continue the class
 - D) tolerate without any reaction
 - E) call the boy out and talk to him softly to help him
17. During lunch time, you find Raja, a pupil, trying to throw a big stone at Ramu, another pupil, in the playground. You will:
- A) not take any action as it is lunch time
 - B) send word to the class teacher of Raja's class
 - C) immediatly report it to the Head of the institution
 - D) give severe punishment to Raja
 - E) try to prevent Raja from throwing the stone
18. A pupil bullying and cheating children:
- A) should be put in a hostel
 - B) should be depromoted
 - C) should be given scope for self-expression
 - D) should be appreciated
 - E) should be left unnoticed
19. Misbehaviour in the classroom can be managed by:
- A) giving just an appropriate punishment
 - B) ignoring its occurrence, whenever it is possible to do so
 - C) finding out its cause and providing corrective measures
 - D) making the class pupil leader responsible for the conduct
 - E) sending the offender to the school management for action
20. Which one of the following sayings is liked by you?
- A) Let us do or die
 - B) It is easier to give advice than to bear the sufferings manfully
 - C) The greatest hope of society is individual character
 - D) Circumstances alter cases.
 - E) What is to be, will be

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7. Return the question paper along with your answer book when you finish answering.
8. The data furnished by you will be kept strictly confidential.

SUBTEST No. 1

MENTAL ABILITY

A—PROBLEM SOLVING ABILITY TEST

Directions

A set of problems are given below. Try to solve all of them. Below each problem five possible answers are given. Only one of them is the correct answer. Solve each problem orally and put a cross mark (X) inside the box against the letter denoting the correct answer in the answer sheet provided. If necessary all the computations can be done on a separate blank sheet.

Example:

How much is 75% of 80?

- A) 40 B) 60 C) 52 D) 64 E) 58

Answer :

- | | | | | |
|--------------------------|-------------------------------------|--------------------------|--------------------------|--------------------------|
| A | B | C | D | E |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Now Proceed and do the following problems as in the example

- In this series what is the next number?
98, 87, 76, 65 ()
A) 58 B) 44 C) 60 D) 54 E) 56
- Find out the next number 2, 4, 3, 9, 4, 16, 5 ()
A) 20 B) 25 C) 17 D) 18 E) 39
- Calculate the next number
2, 5, 7, 12, 19, ()
A) 31 B) 24 C) 28 D) 27 E) 41
- In this series what is the next number? 1, 1, 2, 6, ()
A) 24 B) 20 C) 10 D) 8 E) 30
- The age of the father is thrice that of his son before 18 years. Now his age is twice that of his son's age. Find out the age of the father and son now.
A) 48 and 24 B) 56 and 28 C) 72 and 36 D) 80 and 40 E) 64 and 32
- A boy caught hold of some spiders and a few moths and put them in a box. The total number was 8. He was able to count 54 legs in total. Find out the number of spiders and moths (spiders have 4 pairs of legs and moths have 3 pairs of legs).
A) 3 moths and 5 spiders B) 5 moths and 3 spiders C) 4 moths and 4 spiders
D) 6 moths and 2 spiders E) 2 moths and 6 spiders
- The total salary earned by a man was found to be Rs. 50/-per week. His basic salary was found to be Rs. 40/- more than the overtime wages. What was his basic salary?
A) 40 B) 60 C) 45 D) 75 E) 55
- Seven numbers, 1, 2, 4, 5, 6, 7, and 8 are put in a column. 1 is at the top and 2 is at the bottom. 4 is between 7 and 5; 8 is between 6 and 7; 5 is above 2. How many numbers are below 8?
A) 1 B) 2 C) 3 D) 4 E) 5
- A man walks 2 km North, then $1\frac{1}{2}$ km West and then 2 km North and finally $1\frac{1}{2}$ km East. How far is he from the starting point?
A) 7 km B) $5\frac{1}{2}$ km C) $1\frac{1}{2}$ km D) 4 km E) $2\frac{1}{2}$ km

10. Mohan was supposed to meet his friend at noon every Sunday. The first time he came at 12.30, the next at 1.20, then at 2.30, then at 4.00. When did he turn up the time after that?
 A) 5.10 B) 5.50 C) 6.10 D) 7.10 E) 5.40

B—REASONING ABILITY TEST

Directions

In each of the following questions, a pair of words expressing a relationship between them is given. By its side, a single word is given. Below these words five different words are also given. You are to find the correct word from among the five words given below to form a pair with the single word so that the pair express is a relationship similar to that of the pair already given.

Represent the correct choice by putting an 'X' mark inside the box against the letter denoting the correct answer in the answer book provided.

Example :

Night : Day = Moon : ()

- A) Star B) Sky C) Sun D) Light E) Bright

Answer

A	B	C	D	E
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Now proceed in the same manner

- Early : Begin = Late ()
 A) Start B) End C) Awake D) Enter E) Prompt
- Sin : Hell = Theft ()
 A) Honesty B) Virtue C) Prison D) Police E) Money
- Prosperity : Adversity = Education : ()
 A) Illiteracy B) Poverty C) Unhappiness D) Hardship E) Richness
- Difficult : Easy = Hard : ()
 A) Quick B) Loose C) Trouble D) Tight E) Smooth
- Heavy : Light = Autocrat : ()
 A) Easy B) Diplomat C) Hard D) Democrat E) King
- Narrow : Broad = Lane : ()
 A) Road B) Footpath C) Field D) Pavement E) Curved
- Metre : Calorie = Length : ()
 A) Liquid B) Heat C) Cloth D) Temperature E) Weight
- Effect : Cause = Success : ()
 A) Luck B) Praise C) Effort D) Greatness E) Happiness
- Arrow : Bullet = Bow : ()
 A) Missile B) Gunpowder C) Rama D) Spear E) Rifle
- Flower : Bud = Fruit : ()
 A) Twig B) Seed C) Stem D) Flower E) Bush

SUBTEST No. 2

CREATIVITY TEST

Directions

1. You can write this test in English or in Tamil.
 2. This is a test to explore your creative ability.
 3. There are no definite right or wrong answers.
 4. There is no time limit for this test.
 5. Novel answers, unique answers, original answers, and the correct answers will be taken into consideration, while allotting marks.
 6. Do not write anything in the question paper. Write your answers in the answer sheet provided.
 7. Give many and varied answers for the questions given.
1. இத்தேர்வை நீங்கள் ஆங்கிலம் அல்லது தமிழ் மொழியில் எழுதலாம்.
 2. இத்தேர்வு உங்களுடைய 'படைப்பாற்றல் சிந்தனையை' அளவிடும் தேர்வு.
 3. விடைகள் தவறு என்ற அடிப்படையில் கணிக்கப்படமாட்டாது. எந்த விடையுமே சரி.
 4. இத்தேர்விற்குக் காலவரையறை இல்லை.
 5. புதுமையான விடைகளும், தனித்தன்மை பெற்ற விடைகளும், சரியான விடைகளின் எண்ணிக்கைகளும் மட்டுமே மதிப்பெண்களை அளிப்பதில் கணக்கிடப்படும்.
 6. இந்த வினாத்தாளில் எதையும் எழுதக்கூடாது. விடையளிப்பதற்கெனக் கொடுக்கப் பட்டுள்ள விடைத்தாளில் மட்டும் விடையளிக்கவும்.
 7. கொடுக்கப்பட்டுள்ள செய்தியை உட்படுத்தி, மிகுந்த அளவிலும், வெவ்வேறு வகையிலும் விடையளிக்கவும்.

Now Proceed

1. What are the several teaching aids you can make using clay, sand, wooden planks, water, sticks, pieces of cloth, paint box and such other things to teach the lesson on 'Gandhi' effectively and meaningfully?

காந்திஜியைப் பற்றிய பாடத்தைக் கருத்தோடு கூடியதாகவும், நன்கும் கற்றுத்தர, என்னென்ன கற்றல் உபகரணங்களை களிமண், மணல், மரப்பலகைகள், மரத்துண்டுகள், தண்ணீர், குச்சிகள், துண்டுத்துணிகள், வண்ணக்கலர் பெட்டி மற்றும் இவை போன்ற பிற உபகரணங்களையும் உபயோகித்துச் செய்வாய்?

2. Imagine yourself as the only human left in this world. What are the several things would you do?

இவ்வுலகில் நீ மட்டுமே மீதமான மனிதன் எனக் கற்பனை செய்துகொள். அப்பொழுது என்ன வெல்லாம் செய்வாய்?

3. Write down the uses of chalk piece, other than for writing on the Blackboard.

கரும்பலகையின் மீது எழுதுவதைத் தவிர, சுண்ணாம்புக்கட்டியின் பிற பயன்கள் என்னென்ன வாக இருக்கலாம் என்பதை எழுதுக.

4. Write as many proverbs of your own, as possible.

நீயே சொந்தமாக புது மொழிகள் (பழமொழிகள் போன்றவை) உன்னால் இயன்றளவு பல எழுதுக.

5. Write down the names of objects which are spherical and hard to touch, but are smaller than the tennis ball.

தொடுவதற்கு உறுதியாகவும், வடிவில் உருண்டையாகவும், ஆனால் டென்னிஸ் பந்தைவிட சிறியதான பொருட்களின் பெயர்களை எழுதவும்.

SUBTEST No. 3

GENERAL INFORMATION TEST

Directions

In each of the following items, a question or an incomplete statement is followed by a number of answers or alternatives, to complete the statement. Choose the correct answer or alternative and point out your answer in the answer book provided to you, by putting a cross (X) mark on the corresponding box against the letter denoting the correct answer.

Illustration

Our Constitution came into force on :

- A) 15th August 1947 B) 26th November 1949 C) 26th January 1950
D) 1st January 1952 E) 15th August 1957

Answer

Now Proceed

CURRENT EVENTS

- Yen is the currency of :
A) Italy B) Japan C) Jordan D) Panama E) China
- The Director of the film 'Gandhi' is...
A) Shyam Banegal B) Satyajit Ray C) Ben Kingsley
D) Richard Attenborough E) None of the above
- Michael Ferreira is a popular player in...
A) Cricket B) Football C) Badminton D) Billiards E) Basketball
- The emblem of U. N. includes
A) Dove B) Red C) Olive Branch D) Statue of Liberty E) Star

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- Kancheepuram was the capital of :
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A) Indus Valley B) Central Asia C) Egypt D) South India E) Gangetic Plain
- Nalanda University was founded by :
A) Kanishka B) Harsha C) Ashoka D) Chandragupta E) Hiuen-Tsang

SCIENCE

9. A small gap is left between the joints of rails in railway lines to ;
A) Produce sound B) Save the cost C) Allow passage for rain water to flow
D) Accommodate expansion in summer E) Produce resistance
10. Ornithology deals with :
A) Education B) Study of birds C) Origin of Species D) Study of reptiles
E) Study of fishes
11. It takes more time to cook potatoes on mountain tops because :
A) The atmospheric pressure is low B) The atmospheric pressure is high
C) The place is very cool D) The temperature is very low E) The air is very dry
12. An ice cube is floating in a beaker of water. When the ice melts, the water level will :
A) Rise B) Go down C) Remain the same
D) Rise or fall, depending upon the size of the cube E) Rise first and go down later

GEOGRAPHY

13. Sericulture deals with :
A) Rearing of flowering plants B) Rearing of Bacteria C) Textile technology
D) Rearing of silkworms E) Growth of plants
14. Savannah is :
A) Tropical grass land B) Tracks full of trees C) Vast plains
D) Mountains E) Stretch of valleys
15. The plain from Bombay to Goa is known as...
A) Konkan Coast B) Malabar Coast C) Western Coast
D) Goan Coast E) Coromandel Coast
16. The Ganges and Yamuna meet at...
A) Kanpur B) Allahabad C) Lucknow D) Calcutta E) Agra

MATHEMATICS

17. What does L. C. M. stand for ?
A) Least Common Multiple B) Linear Co-ordinate Measure
C) Linearly Curved Measure D) Length Cum Metre
E) Logarithmic Cosine Measure
18. What does the symbol 'L' represent in mathematics ?
A) Heat B) Equilateral C) Isocles D) Angle E) Parallelogram
19. An angle less than a right angle is :
A) Obtuse angle B) Reflex angle C) Straight angle D) Acute angle
E) Oblong
20. A line segment connecting 2 points on the circumference is :
A) Chord B) Arc C) Centre D) Curvature E) Bridge

SUBTEST No. 4

PROFESSIONAL AWARENESS TEST

Directions

In each of the following items, a question or an incomplete statement is followed by a number of answers or a number of alternatives to complete the statement. Choose the correct answer or alternative and write your answer in the answer book, provided to you, by putting a cross (X) mark on the corresponding box against the letter denoting the correct answer.

Illustration

If a pupil comes late very often to your class, you will

- A) not allow the pupil to come in and attend the class
- B) report this to the Head of the institution
- C) report this to the pupil's parents
- D) try to find out the causes of this problem and help the pupil to come early
- E) scold the pupil severely, so that the pupil will not repeat it

Answer

Now proceed

1. A teacher should think of his work in terms of
 - A) systematic drill B) the mastery of subject matter C) reciting lessons
 - D) controlling the pupils E) children's growth and development

2. What will you do, if the concept you are explaining is not followed by the pupils?
 - A) Write the concept on the blackboard B) Try to relate the concept with their past experience C) Repeat the explanation twice D) Make the pupils write the concept
 - E) Make the pupils read and understand from the books

3. You happen to be very close to a pupil during an educational tour. You find him misusing that in the class. What will you do?
 - A) Advise the pupil B) Tolerate it C) Give him severe punishment
 - D) Simply ignore it E) Report it to the Head of the institution

4. A successful teacher is one who
 - A) extracts maximum work from the pupils B) adjusts himself with his colleagues
 - C) maintains harmonious relationship with the pupils D) masters the subject matter
 - E) does the least amount of work in the school

5. The teachers' effectiveness can be best judged by
- A) their colleagues
 - B) their parents
 - C) the Head of the institution
 - D) an external observer
 - E) their pupils
6. Any decision taken by the teachers should
- A) not be against the rules and regulations laid by the school authorities
 - B) not spoil the reputation of the school
 - C) be in accordance with the circumstances
 - D) depend upon the pupils' progress
 - E) be based on personal benefit
7. The happiest teachers are usually those who
- A) devote their working hours to the profession
 - B) do their job with minimum effort
 - C) like to teach, but have other interest and hobbies
 - D) fight continuously to improve their working conditions
 - E) never take school work home
8. After attending a programme on 'Skill based method of teaching' you will
- A) try to implement it in your class
 - B) try to give the pupils a lecture about the new method
 - C) prepare an article on it and submit it to the Head of the institution
 - D) try to inspire your colleagues about it
 - E) speak about the hardships you met
9. The best evidence of the professional status of teaching is
- A) publication of articles
 - B) fixing salary schedules
 - C) enforcement of high standards
 - D) establishment of retirement system
 - E) extensive vacations
10. One should select a career in terms of :
- A) popularity which it brings
 - B) the amount of salary one can earn
 - C) the qualifications needed for the career
 - D) the ease with which one can get it
 - E) values which are important to one
11. When the Head of the institution is accusing you that you are incapable of controlling the class, you will :
- A) tell him that the pupils were unruly
 - B) accept the fact that you are incapable
 - C) tell him that you are going to resign
 - D) give severe punishment to the pupils
 - E) tell him that you will take proper steps to control the class
12. When you are successfully adopting a method of extracting maximum work from the most disobedient set of pupils, the Principal asks you to drop the method :
- A) you will obey him without any second thought
 - B) you will flare up at the Principal
 - C) you will continue your method
 - D) you will try to modify the method
 - E) you will give still more severe punishment to the pupil

13. When you are asked to take care of your co-worker's class teaching due to his/her continued absence, you will:
- A) ask the Principal to appoint another teacher
 - B) do the extra work with murmuring
 - C) try to skip away the work
 - D) try to do the work to win the favour of the Principal
 - E) try your best to manage the class
14. When you are trying to explain a concept which is not followed by two out of the whole class, you will:
- A) proceed to the next topic
 - B) try to explain them separately
 - C) make them write imposition.
 - D) ask them to go out, learn and come to the class
 - E) explain the concept again to the whole class
15. When you find one of your colleagues being highly favoured by the management, you will:
- A) not mind it
 - B) show your dissatisfaction openly
 - C) criticise the management
 - D) try to get good impression of the ruling authority
 - E) try to create bad impression about that colleague
16. A boy is focussing the light rays on your eyes with the help of a plane mirror. You will:
- A) send the boy out immediately
 - B) report to the Head of the institution
 - C) continue the class
 - D) tolerate without any reaction
 - E) call the boy out and talk to him softly to help him
17. During lunch time, you find Raja, a pupil, trying to throw a big stone at Ramu, another pupil, in the playground. You will:
- A) not take any action as it is lunch time
 - B) send word to the class teacher of Raja's class
 - C) immediatly report it to the Head of the institution
 - D) give severe punishment to Raja
 - E) try to prevent Raja from throwing the stone
18. A pupil bullying and cheating children:
- A) should be put in a hostel
 - B) should be depromoted
 - C) should be given scope for self-expression
 - D) should be appreciated
 - E) should be left unnoticed
19. Misbehaviour in the classroom can be managed by:
- A) giving just an appropriate punishment
 - B) ignoring its occurrence, whenever it is possible to do so
 - C) finding out its cause and providing corrective measures
 - D) making the class pupil leader responsible for the conduct
 - E) sending the offender to the school management for action
20. Which one of the following sayings is liked by you?
- A) Let us do or die
 - B) It is easier to give advice than to bear the sufferings manfully
 - C) The greatest hope of society is individual character
 - D) Circumstances alter cases
 - E) What is to be, will be

SUBTEST No. 5

ENGLISH LANGUAGE ABILITY TEST

Directions

A set of questions are given below. Directions for each of the questions are given separately and clearly. You are requested to read them carefully, and answer them. Do not write anything in the question paper. Write all the answers in the answer book provided to you for this purpose.

Illustration

Give the correct spelling of the following word :

Controllor

Answer

Controller

Now Proceed

1. When we change the word 'Owl' around, we get another word-'Low'. This is an anagram. Write one suitable anagram for each of the following words in the answer sheet.

They must be meaningful.

A) Bleat B) Silent C) Asleep

2. Select the correct form of the verb from the ones given in the bracket and write them in the space provided in the answer sheet.

- a) We should let him...(do or to do) this work.
- b) The people of India... (is or are) brave.
- c) He made me... (wait or to wait) for an hour.
- d) This... (done or being done) he went away quickly.
- e) ... (suppose or supposing) this is to be true, he is innocent.

3. Which of the underlined words are prepositions and which are conjunctions? Write them in the answer sheet.

- a) He went after I came.
- b) The dog ran after the cat.
- c) Look before you leap.
- d) He stood before the door.

4. Which of the underlined words are adjective, pronoun and conjunction? Write them in the answer sheet.

- a) I know that boy.

- b) Don't do that.
- c) I was told that he was dead.

5. Write down the correct spelling of the following words in the answer sheet.

- a) Priviledge b) Suspence c) Litrature d) Deciet

6. Select the correct word from the alternatives given and write them in the answer sheet.

- a) He is honest (beside, besides) being hard working.
- b) He is so (credulous, credible, creditable) that he readily belives everything that others tell him.
- c) In the absence of his senior he is the (official, officious, officiating) superintendent.

7. Fill up the blanks in the answer sheet choosing relevant collective nouns from the list given below :

- A) a ... of workmen B) a ... of fish C) a ... of chicks
- D) a ... of puppies E) a ... of monkeys
- 1) gang 2) shoal 3) breed 4) litter 5) troop

8. Write down 5 words containing the root "scribe" which means 'to write' in the answer sheet.

9. Write the equivalent words with the prefix 'super' in the space provided in the answer sheet.

- a) Characterised by a speed greater than that of sound.....
- b) To pay or play on something else.....
- c) To follow closely upon something.....

10. Frame five questions to bring out the main points in the given paragraph. Write the questions in the answer sheet.

"Of all living creatures on the earth, the insects are the most plentiful. Some varieties are very useful to man. For example, the bees, from which we get honey and wax and silkworms which supply us with silk. Other varieties are extremely harmful and do a great amount of damage, especially to crops. Locusts are perhaps the dangerous of all, for they will eat almost any green plant, and when millions of them settle on cultivated land, they soon leave it bare. In some countries they are the farmers' greatest enemy. Another nuisance is the common fly, not only because it worries us indoors and outdoors but because it spreads disease."

ATTITUDE SCALE TOWARDS TEACHING PROFESSION

Directions

A set of statements expressing the different points of view regarding the teaching profession are given below. There are considerable variations as to the individual's agreement or disagreement to these statements. Therefore there is no right or wrong answers to these statements. What is wanted is your own individual feelings about the statements. Read each statement and decide as to what you feel about it. Then kindly indicate your acceptance or rejection for each of the statements given below.

If you accept the statement, put a cross on the box against the letter 'A' If you reject the statement, put a cross on the box against the letter 'R'

Illustration

Statement : Teaching is a respectable job.

Answer

A	R
<input checked="" type="checkbox"/>	<input type="checkbox"/>

Now proceed

Statements

1. Teaching is a noble profession.
2. Teacher's success lies in the success of their students.
3. A teacher should feel proud of introducing himself or herself to anyone as a teacher working in a school.
4. Those who cannot do anything else come to teaching profession.
5. Teaching job does not give good monetary benefits.
6. The majority of teachers come from the middle class.
7. By opting to be a teacher one can become a member of a respectable profession.
8. The society does not consider the teaching job as a respectable one.
9. The society needs the teacher very badly.
10. Teachers can do their job with minimum of effort.
11. Teaching profession brings mental peace to the teacher.
12. Teachers can be replaced by computers.
13. The teaching profession is a very degrading one.
14. The teacher never grows professionally.
15. One should dislike being called a 'Teacher'.
16. A teacher is a teacher at any time.
17. 'Thank God! I am not a teacher.'
18. A teacher always follows only the correct method of teaching.
19. Teaching profession is better than many other professions in several respects.
20. Teaching offers no social prestige.

21. Teachers are responsible for knowing the home conditions of every one of their pupils.
22. Correction work in teaching is the only thing I do not like.
23. Teaching is the last refuge of those who are unemployed.
24. A teaching career is probably the best.
25. Teaching can be called an interesting profession.
26. One has to remain a school teacher because of his poor academic career.
27. The majority of teachers are above average in intelligence.
28. Teachers lead a dull life.
29. Teachers learn throughout their lives.
30. Through teaching one can influence the parents and the public.



ANSWER BOOK
TEACHING APTITUDE TEST

Kindly furnish the following particulars.

1. Name of the candidate
2. Age (Completed Years)
3. Native place
4. Sex
5. Name of the Institution
6. Academic Qualifications
7. Other qualifications
8. Education of the Father
Mother
9. Occupation of the Father
Mother
10. Total Teaching Experience
of the Candidate if any
11. Marks obtained in 1) Theory
(Semester Examination)
2. Teaching Practise

ANSWER SHEET

SUBTEST No. 1

MENTAL ABILITY

A—PROBLEM SOLVING ABILITY TEST

1	A <input type="checkbox"/>	B <input type="checkbox"/>	C <input type="checkbox"/>	D <input type="checkbox"/>	E <input type="checkbox"/>
2	A <input type="checkbox"/>	B <input type="checkbox"/>	C <input type="checkbox"/>	D <input type="checkbox"/>	E <input type="checkbox"/>
3	A <input type="checkbox"/>	B <input type="checkbox"/>	C <input type="checkbox"/>	D <input type="checkbox"/>	E <input type="checkbox"/>
4	A <input type="checkbox"/>	B <input type="checkbox"/>	C <input type="checkbox"/>	D <input type="checkbox"/>	E <input type="checkbox"/>
5	A <input type="checkbox"/>	B <input type="checkbox"/>	C <input type="checkbox"/>	D <input type="checkbox"/>	E <input type="checkbox"/>
6	A <input type="checkbox"/>	B <input type="checkbox"/>	C <input type="checkbox"/>	D <input type="checkbox"/>	E <input type="checkbox"/>
7	A <input type="checkbox"/>	B <input type="checkbox"/>	C <input type="checkbox"/>	D <input type="checkbox"/>	E <input type="checkbox"/>
8	A <input type="checkbox"/>	B <input type="checkbox"/>	C <input type="checkbox"/>	D <input type="checkbox"/>	E <input type="checkbox"/>
9	A <input type="checkbox"/>	B <input type="checkbox"/>	C <input type="checkbox"/>	D <input type="checkbox"/>	E <input type="checkbox"/>
10	A <input type="checkbox"/>	B <input type="checkbox"/>	C <input type="checkbox"/>	D <input type="checkbox"/>	E <input type="checkbox"/>

B—REASONING ABILITY

	A	B	C	D	E
1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	A	B	C	D	E
2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	A	B	C	D	E
3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	A	B	C	D	E
4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	A	B	C	D	E
5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	A	B	C	D	E
6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	A	B	C	D	E
7	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	A	B	C	D	E
8	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	A	B	C	D	E
9	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	A	B	C	D	E
10	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

ANSWER SHEET

SUBTEST No. 2

CREATIVITY TEST

1.

2.

3.

1944-1945

1946-1947

1948-1949

4.

5.

ANSWER SHEET

SUBTEST No. 3

GENERAL INFORMATION TEST

1	A <input type="checkbox"/>	B <input type="checkbox"/>	C <input type="checkbox"/>	D <input type="checkbox"/>	E <input type="checkbox"/>
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3	A <input type="checkbox"/>	B <input type="checkbox"/>	C <input type="checkbox"/>	D <input type="checkbox"/>	E <input type="checkbox"/>
4	A <input type="checkbox"/>	B <input type="checkbox"/>	C <input type="checkbox"/>	D <input type="checkbox"/>	E <input type="checkbox"/>
5	A <input type="checkbox"/>	B <input type="checkbox"/>	C <input type="checkbox"/>	D <input type="checkbox"/>	E <input type="checkbox"/>
6	A <input type="checkbox"/>	B <input type="checkbox"/>	C <input type="checkbox"/>	D <input type="checkbox"/>	E <input type="checkbox"/>
7	A <input type="checkbox"/>	B <input type="checkbox"/>	C <input type="checkbox"/>	D <input type="checkbox"/>	E <input type="checkbox"/>
8	A <input type="checkbox"/>	B <input type="checkbox"/>	C <input type="checkbox"/>	D <input type="checkbox"/>	E <input type="checkbox"/>
9	A <input type="checkbox"/>	B <input type="checkbox"/>	C <input type="checkbox"/>	D <input type="checkbox"/>	E <input type="checkbox"/>
10	A <input type="checkbox"/>	B <input type="checkbox"/>	C <input type="checkbox"/>	D <input type="checkbox"/>	E <input type="checkbox"/>
11	A <input type="checkbox"/>	B <input type="checkbox"/>	C <input type="checkbox"/>	D <input type="checkbox"/>	E <input type="checkbox"/>
12	A <input type="checkbox"/>	B <input type="checkbox"/>	C <input type="checkbox"/>	D <input type="checkbox"/>	E <input type="checkbox"/>
13	A <input type="checkbox"/>	B <input type="checkbox"/>	C <input type="checkbox"/>	D <input type="checkbox"/>	E <input type="checkbox"/>
14	A <input type="checkbox"/>	B <input type="checkbox"/>	C <input type="checkbox"/>	D <input type="checkbox"/>	E <input type="checkbox"/>
15	A <input type="checkbox"/>	B <input type="checkbox"/>	C <input type="checkbox"/>	D <input type="checkbox"/>	E <input type="checkbox"/>
16	A <input type="checkbox"/>	B <input type="checkbox"/>	C <input type="checkbox"/>	D <input type="checkbox"/>	E <input type="checkbox"/>
17	A <input type="checkbox"/>	B <input type="checkbox"/>	C <input type="checkbox"/>	D <input type="checkbox"/>	E <input type="checkbox"/>
18	A <input type="checkbox"/>	B <input type="checkbox"/>	C <input type="checkbox"/>	D <input type="checkbox"/>	E <input type="checkbox"/>
19	A <input type="checkbox"/>	B <input type="checkbox"/>	C <input type="checkbox"/>	D <input type="checkbox"/>	E <input type="checkbox"/>
20	A <input type="checkbox"/>	B <input type="checkbox"/>	C <input type="checkbox"/>	D <input type="checkbox"/>	E <input type="checkbox"/>

ANSWER SHEET

SUBTEST No. 4

PROFESSIONAL AWARENESS TEST

	A	B	C	D	E
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9	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

ANSWER SHEET

SUBTEST No. 5

ENGLISH LANGUAGE ABILITY TEST

- | | | |
|------------|-------------|-------------|
| 1 a) _____ | 4 a) _____ | 7 a) _____ |
| b) _____ | b) _____ | b) _____ |
| c) _____ | c) _____ | c) _____ |
| 2 a) _____ | | d) _____ |
| b) _____ | 5) a) _____ | e) _____ |
| c) _____ | b) _____ | 8 a) _____ |
| d) _____ | c) _____ | b) _____ |
| e) _____ | d) _____ | c) _____ |
| 3 a) _____ | | d) _____ |
| b) _____ | | e) _____ |
| c) _____ | 6 a) _____ | 9) a) _____ |
| d) _____ | b) _____ | b) _____ |
| | c) _____ | c) _____ |

10. a

b

c

d

e

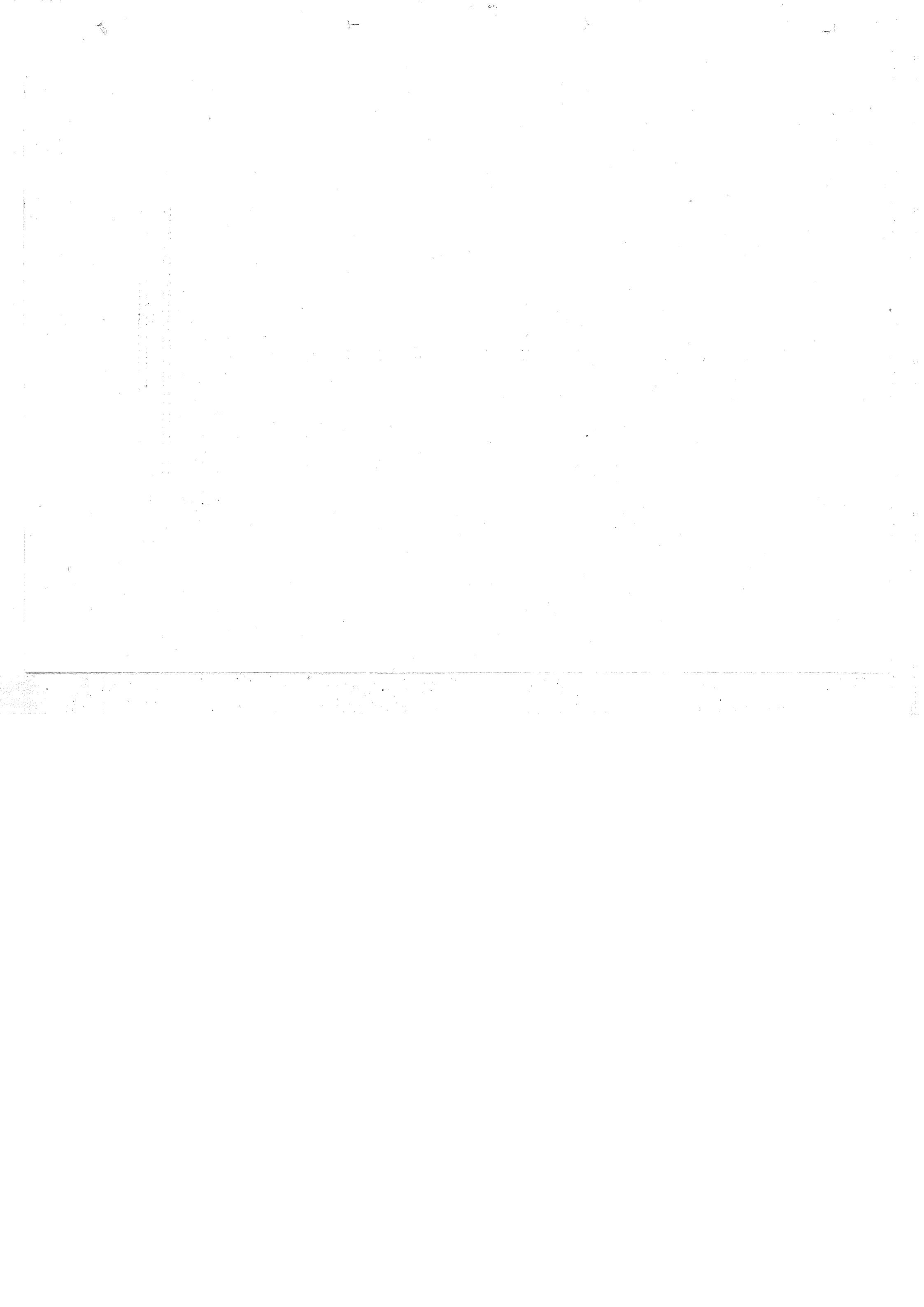
ANSWER SHEET

ATTITUDE TOWARDS TEACHING PROFESSION

A T T P

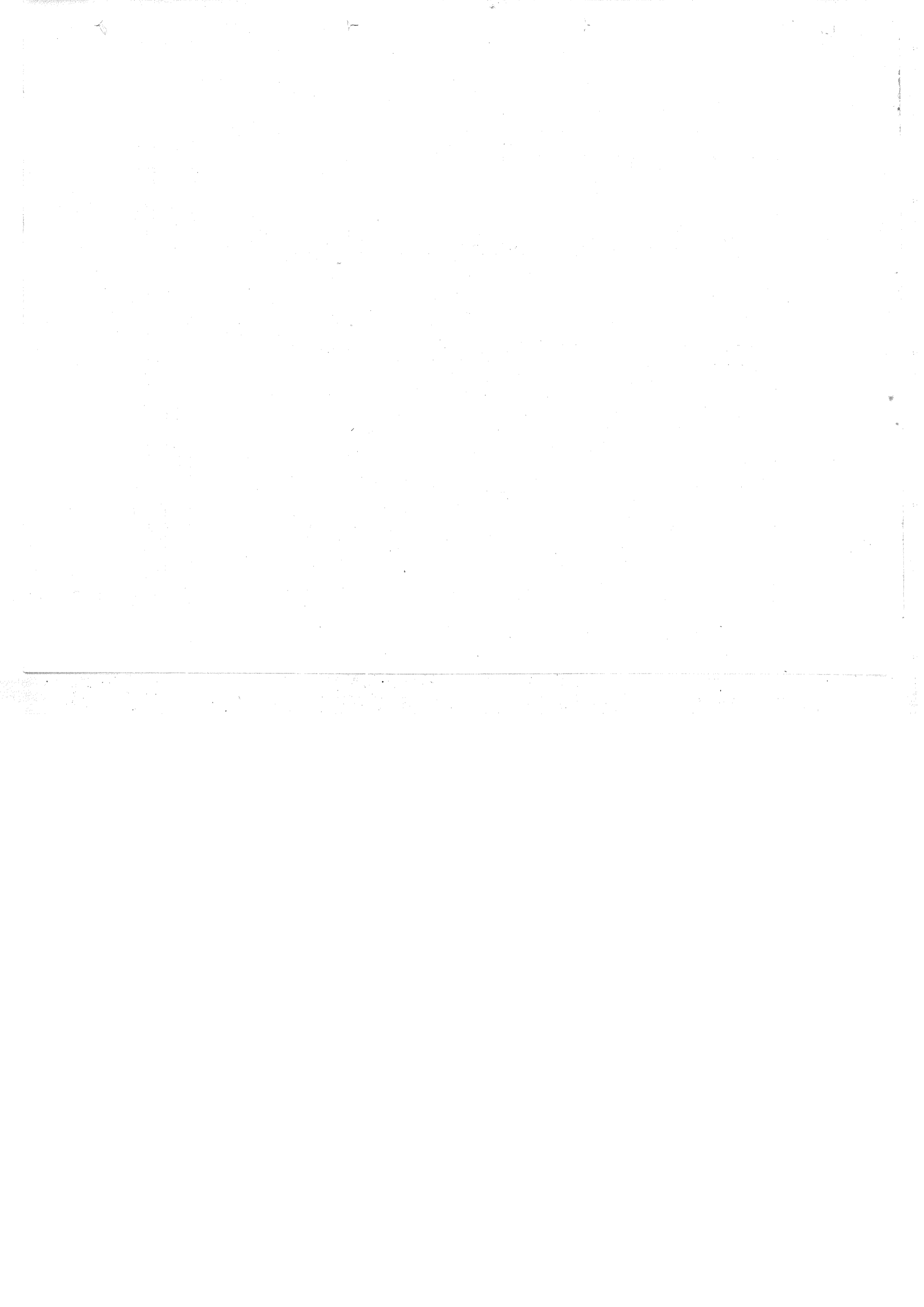
A = Accepted
R = Rejected

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3	A	R	18	A	R
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4	A	R	19	A	R
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5	A	R	20	A	R
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6	A	R	21	A	R
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7	A	R	22	A	R
	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
8	A	R	23	A	R
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13	A	R	28	A	R
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14	A	R	29	A	R
	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
15	A	R	30	A	R
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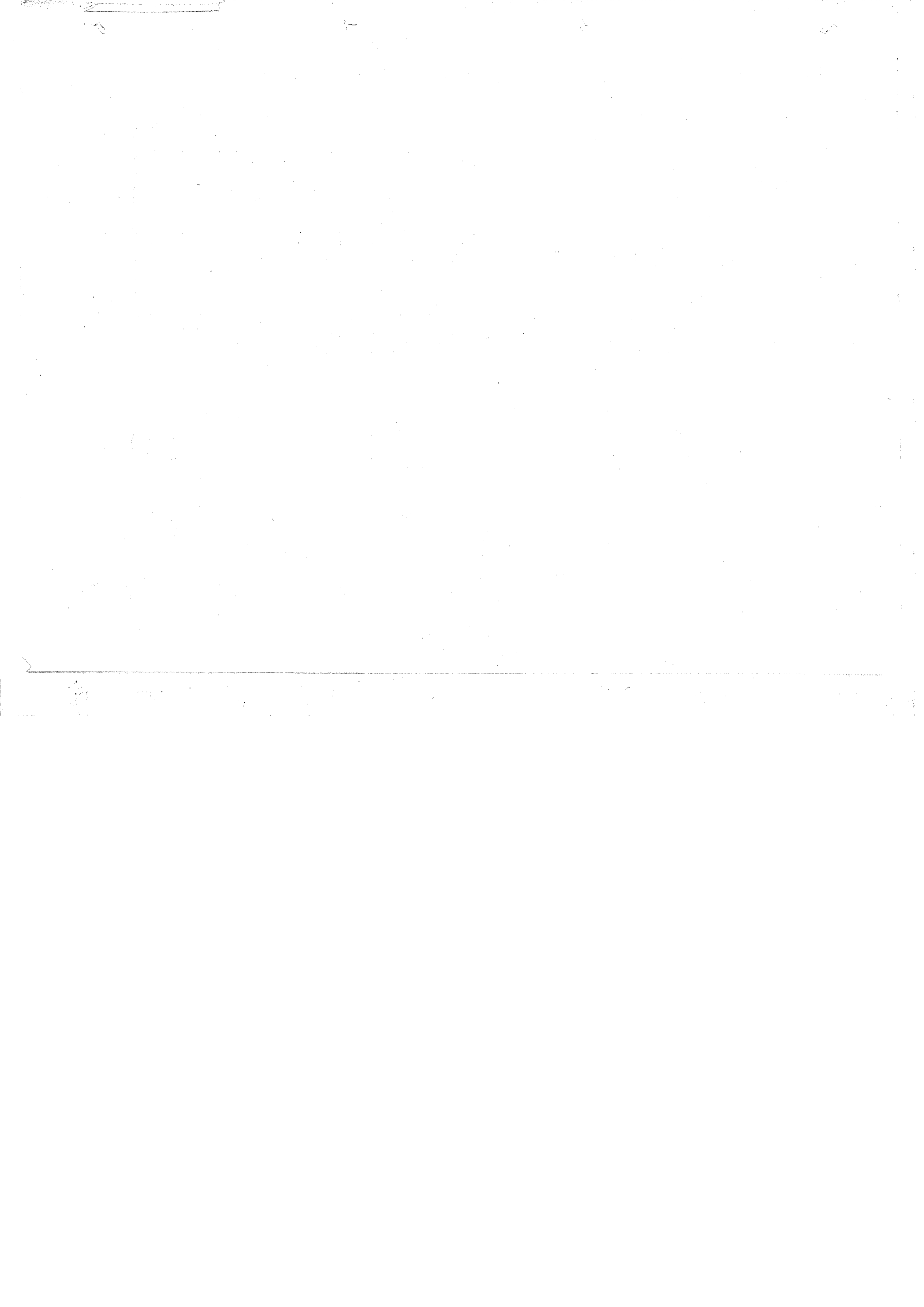


Appendix IX
SCALE VALUES AND 'Q' VALUES FOR THE 100 STATEMENTS

Item No.	Scale Value	'Q' Value	Selected or Rejected	Item No. in the final scale
1	.3	2	Accepted	1
2	2	2	Accepted	2
3	2.8	4		
4	2.9	5.6		
5	9	1.7	Accepted	3
6	9.2	3.9		
7	9	1.8		
8	9	4		
9	0.5	0.6	Accepted	4
10	0.8	1.2	Accepted	5
11	0.9	0.5		
12	9.6	0.6	Accepted	6
13	9.3	1.1	Accepted	7
14	2.6	2.4		
15	0.3	0.7	Accepted	8
16	2.8	2.5		
17	8.5	3.6		
18	2	2.5		
19	8.8	1.9	Accepted	9
20	6.4	2.5	Accepted	10
21	9.8	1.8		
22	8.5	4.3		
23	3.5	5.2		
24	1.2	2.6		
25	1.6	2.1	Accepted	11
26	8.5	1.9	Accepted	12
27	1.3	1.7	Accepted	13
28	10	1.7	Accepted	14
29	2.7	1.5	Accepted	15
30	1.7	4.8		
31	1.5	2.3		
32	10.5	0.5	Accepted	16
33	8.2	4.6		
34	8	5.9		
35	9	3.1		
36	4.6	4.5		
37	1.8	4.5		
38	1.5	3.3		

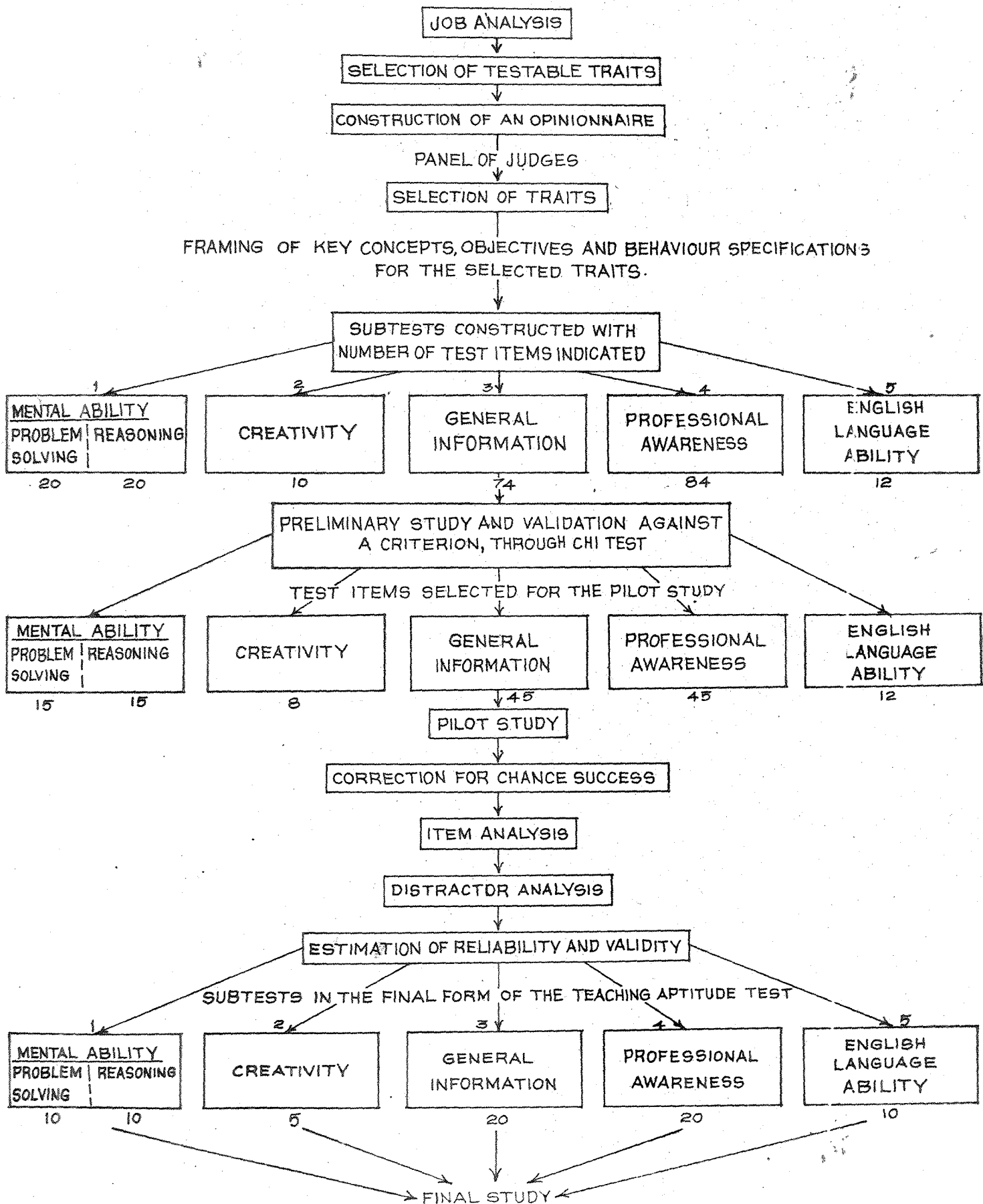


Item No.	Scale Value	'Q' Value	Selected or Rejected	Item No in the final scale
39	7.2	3.5		
40	1.2	1.5	Accepted	17
41	1	3.5		
42	9.5	3.4		
43	4.5	3		
44	2.6	7.2		
45	9.8	3.1		
46	8.7	3.2		
47	5.4	6.1		
49	5.2	4.8		
50	1	3		
51	0.5	2.3		
52	10.2	1.9	Accepted	18
53	9.5	2.4		
54	9.2	2.1		
55	5.2	2.4		
56	4.8	3.5		
57	9.2	3.9		
58	3.5	1.9	Accepted	19
59	8	4		
60	8.8	2.6		
61	9.5	2.1		
62	7	3		
63	7.5	2.4	Accepted	20
64	2.5	4		
65	1	1.9		
66	2.8	3.2		
67	4.4	2.5		
68	5.6	3		
69	9	2.3		
70	9.7	1.5	Accepted	22
71	10	1.7	Accepted	23
72	6.8	2.8		
73	9.1	2.2		
74	2	5.2		
75	10.2	2.5		
76	8.8	4		
77	8.2	1.8	Accepted	24
78	10.6	3		
79	3.5	5.5		
80	3.1	3.3		

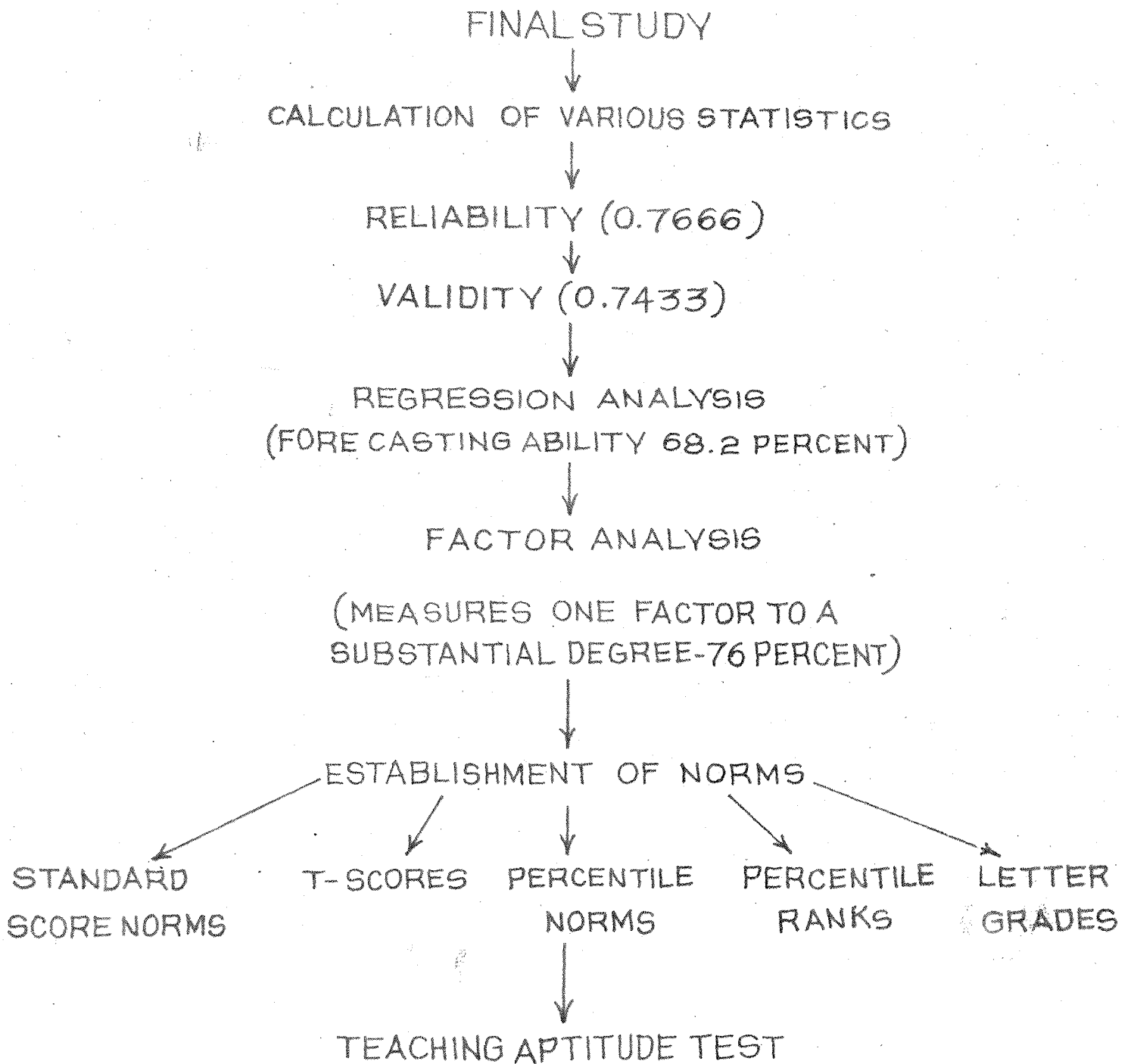


Item No.	Scale Value	'Q' Value	Selected or Rejected	Item No. in the Final Scale
81	2.8	3.3		
82	4.6	5.5		
83	8.2	2.2		
84	3.3	2	Accepted	25
85	2.3	1.7	Accepted	26
86	8	4		
87	5.8	3.8		
88	9.6	2.1		
89	8.9	3		
90	4.5	2.1		
91	5.5	2.5	Accepted	27
92	2	3.7		
93	4.1	3.2		
94	5.4	4.3		
95	7.8	1.8	Accepted	28
96	0.8	1.2	Accepted	29
97	2.5	2		
98	1.2	2		
99	7.8	4.4		
100	1.2	1.5	Accepted	30

FLOW CHART ILLUSTRATING THE PROCEDURE FOLLOWED IN THE CONSTRUCTION OF THE TEACHING APTITUDE TEST



FLOW CHART ILLUSTRATING THE ANALYSIS OF THE FINAL STUDY



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