Avinashilingam Institute for Home Science and Higher Education for Women
(Deemed to be University under Category 'A' by MHRD, Estd. u/s 3 of UGC Act 1956)
Re-accredited with 'A++' Grade by NAAC. Recognised by UGC Under Section 12B
Coimbatore - 641 043, Tamil Nadu, India

Department of Commerce

Continuous Internal Assessment Test II – October 2025

I – SEMESTER

Class : I – UG **Time : 2 Hours**
Major : B.Com (PA) **Max. Marks : 60**

23BCPC03 - Business Mathematics and Logical Reasoning and Statistics

CO1 : Apply the Logarithm Techniques and its Mathematical Equation for Business
CO2 : Prepare the Permutation and Combination Sequences Series for Business Situations
CO3 : Acquire the Logical Reasoning and Syllogism Skill Sets
CO4 : Apply Statistical Techniques for Data Analysis and Interpretations
CO5 : Application of Correlation and Regression Techniques in Business Decision Making

Part – A **6 x 1 = 6**

Choose the correct answer

1. A and B are brothers. E is the daughter of F. F is the wife of B. what is the relation of E to A? **CO1 K2**

(a) Sister (b) Daughter (c) Niece (d) Sister-in-Law

2. R and S are bothers. X is the sister of Y and X is mother of R. What is Y to S? **CO2 K3**

(a) Uncle (b) Brother (c) Father (d) Mother

3. The primary data are collected by **CO3 K4**

(a) Interview Method (b) Observation Method
(c) Questionnaire Method (d) Personal Interview

4. Horizontal bar diagram is used for **CO3 K2**

(a) Qualitative Data (b) Data varying over time (c) Data varying over space (d) (a) or (c)

5. Most extreme value which would ever be included in the class interval is called **CO4 K2**

(a) Class Limits (b) Class Interval (c) Class Boundaries (d) Class Length

6. Quartiles can be determined graphically using **CO3 K2**

(a) Histogram (b) Frequency Polygon (c) Ogive (d) Pie Chart

Part – B **3 x 6 = 18**

Answer all the Questions

Answer should not exceed 400 words

7. (a) Five People A, B, C, D and E are seated about a round table. Every chair is spaced equidistant from adjacent chairs. **CO1 K2**

I. C is seated next to A
II. A is seated two seats from D
III. B is not seated next to a.
Which of the following must be true?
I. D is seated next to B
II. E is seated next to A
Select the correct from the options given below:
(a) Only I
(b) Only II
(c) Both I and II
(d) Neither I nor II

OR

7.(b) Ramya walks 5 kms starting from his house towards west then turns right and walks 3 kms. Thereafter she takes left turn and walks 2 kms. Further, she turn left and walks 3 kms, Finally, she turns right and walks 3 kms. In what directions she is now from her house. **CO2 K2**

(a) North (b) West (c) South (d) East

8. (a) **Syllogism the following Statements:**

In the question below there are three statements followed by two conclusions I and II. You must take the three given statements to be true even if they seem to be at variance from commonly known facts and then decide which of the given conclusions logically follows from the four statements disregarding commonly known facts. **CO3 K2**

Statements

I. No fingers are legs
II. Mostly legs are hands
III. Only a few hands are hairs

Conclusions:

I. Some legs are not hairs
II. All hands being fingers is a possibility

(a) Only conclusion II follows
(b) Neither conclusion I nor conclusion II follows
(c) Only conclusion I follows
(d) Both conclusion I and conclusion II follows
(e) None of the above

8. (b) The Sales return over in lahks of Rupees of an Textile Industries for 2019, 2020, 2021, 2022, 2023, 2024 and 2025 are 50, 80, 90, 60, 120, 150 and 240, respectively. Represent these data using a suitable diagram. **CO3 K2**

9. (a) Following are the weights in Kgs. of 36 M. Com students of Delhi University. **CO3 K2**

70	70	57	44	69	73	64	49	63
65	70	65	62	64	73	67	60	50
70	73	49	61	61	47	57	50	59
59	68	45	55	65	68	56	68	55

Construct a frequency distribution of weights, taking class length as 5.

OR

9. (b) Compute the mean weight of a group of B. Com students of Avinashilingam Institute from the following data. **CO3 K2**

Weight in Kgs	44 – 48	49 – 53	54 – 58	59 – 63	64 – 68	69 – 73
No. of Students	3	4	5	7	9	8

Part – C **3 x 12= 36**

Answer the following

Answer should not exceed 800 words

10. (a) Following are the salaries of 20 workers of firm expressed in the thousand rupees: 5, 17, 12, 23, 7, 15, 4, 18, 10, 6, 15, 9, 8, 13, 12, 2, 12, 2 ,15, 14. The firm gave bonus amounting to Rs. 2,000, Rs. 3,000, Rs. 4,000, Rs. 5,000 and Rs. 6,000 to the workers belonging to the salary groups 1,000 – 5,000, 6,000 – 10,000 and so on and lastly 21,00 – 25,000. Find the average bonus paid per employee. **CO3 K2**

OR

(b) Explain the Theorems on Total Probability. **CO3 K3**

11. (a) Compute the coefficient of mean deviation about median for the following distributions: **CO3 K2**

Weight in Kgs	40 – 50	50 – 60	60 – 70	70 – 80
No. of Persons	8	12	20	10

OR

11. (b) Compute the mean deviation about the arithmetic mean for the following **CO3 K2**

X:	1	3	5	7	9
F:	5	8	9	2	1

Also find the coefficient of the mean deviation about the AM.

12. (a) Two dice are thrown simultaneously. Find the probability that the sum of points on the two dice would be 7 or more? **CO3 K3**

OR

12. (b) Explain the Random Variable Probability Distributions with illustration. **CO4 K2**

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