

Avinashilingam Institute for Home Science and Higher Education for Women
[Deemed to be University] Coimbatore – 641 043

Bachelor's Degree Examination – November 2018

V Semester

Class : III UG **Time : 3 Hours**
Major : Interior Design and Resource Management **Max. Marks : 100**

15BIDC16 Principles of Ergonomics

Part – A

10 x 1 = 10

Choose the Correct Answer

1. Ergonomics means
 - a. Laws of energy
 - b. Laws of Work
 - c. Laws of Economics
 - d. None of the above
2. Ergonomics helps to reduce
 - a. physical Energy
 - b. physical work loads
 - c. environment work
 - d. energy
3. To be ergonomic, a design must
 - a. improve health and safety
 - b. improve risk factors
 - c. improve work
 - d. none of the above
4. Muscles transform chemical energy stored in the body in to
 - a. kinetic energy
 - b. thermal energy
 - c. physical energy
 - d. physical activity
5. Muscle system of the human body consists of
 - a. four basic types
 - b. three basic types
 - c. two basic types
 - d. five basic types of muscles
6. Voluntary muscles can
 - a. contract and extend voluntarily
 - b. shrink and contract
 - c. expand and extend voluntarily
 - d. none of the above
7. An individual's physical tolerance to physical work is determined by
 - a. capacity of respiratory system to deliver oxygen
 - b. capacity of lungs to deliver oxygen
 - c. capacity of locomotion to produce energy
 - d. none of the above
8. The work demands are usually rated from light to extremely heavy in terms of
 - a. heart rate per minute
 - b. pulse rate per minute
 - c. energy expenditure per minute
 - d. respiration count
9. Total energy expenditure for heavy work
 - a. 3 to 5 Kcal / min of 100 – 120 mts / min
 - b. 5 to 7.5 Kcal / min of 100 – 120 mts / min
 - c. 2 to 3 Kcal / 90 Or less mts / min
 - d. 7.5 to 10 Kcal / min of 120 – 140 mts / min
10. Most widely used techniques in ergonomics
 - a. analysis slare
 - b. work movement
 - c. task analysis
 - d. energy task

Part – B

5 x 6 = 30

Answer the following

Answer should not exceed 400 words or two pages

- 11.a. What are the objectives of study of ergonomics to enhance the work?
(Or)
- 11.b. Write an account on concept of ergonomics.
- 12.a. Give the relationship between anthropometry and ergonomics.
(Or)
- 12.b. Explain the ergonomic principles used for designing a kitchen.
- 13.a. How to control ergonomic risk factors? Explain.
(Or)
- 13.b. What are the functional characteristics of muscle tissues?
- 14.a. Enumerate the basic types of motion.
(Or)
- 14.b. Discuss the various movements of body.
- 15.a. Describe thermal balance of body in work environment.
(Or)
- 15.b. How can we prevent hearing disorders in work places?

Part – C

5 x 12 = 60

Answer the following

Answer should not exceed 800 words or four pages

- 16.a. Write in detail the relationship between man machine and ergonomics.
(Or)
- 16.b. Explain the workplace stress factors.
- 17.a. Give the classifications of dimensions.
(Or)
- 17.b. Write in detail the importance's of anthropometry in ergonomics.
- 18.a. Discuss fatigue and how to alleviate fatigue during working hours.
(Or)
- 18.b. Enumerate the work place hazards.
- 19.a. Write about the work postures. Draw and discuss good working postures.
(Or)
- 19.b. Discuss the seated positions in work place.
- 20.a. Describe the work environment related to health.
(Or)
- 20.b. Enumerate the effects of environmental factors in working environment.
