

**Avinashilingam Institute for Home Science and Higher Education for Women  
Coimbatore – 641043**

**Bachelor's Degree Examination – November 2017**

**V Semester**

**Class: III UG**

**Major: Interior Design and Resource Management**

**Max. Marks: 100**

**Time : 3 Hours**

**15BIDC16 Principles of Ergonomics**

**Part – A**

**10 x 1 = 10**

**Choose the Correct Answer**

1. Basic elements of Ergonomics are
  - a. Work environment
  - b. Biomechanics
  - c. Human factors
  - d. All of the above
2. Anthropometrics deals with measurement of
  - a. Human dimension
  - b. Postures
  - c. Work station
  - d. None of the above
3. A movement that decreases the angle between two bones, bending at joints is known as
  - a. Abduction
  - b. Extension
  - c. Flexion
  - d. Adduction
4. Biomechanics is related to the study of
  - a. Motion of living creature
  - b. Motion of an object
  - c. Motion of earth
  - d. All of the above
5. Energy expenditure is measured in
  - a. Kilocalories
  - b. Kilowatt
  - c. Kilograms
  - d. All of the above
6. Work in motion is known as
  - a. Static work
  - b. Dynamic work
  - c. Muscular work
  - d. None of the above
7. MME system deals with
  - a. Man Material and Energy
  - b. Man Machine and Ecology
  - c. Man Machine and Environment
  - d. Man Machine and Energy
8. Noise can be defined as
  - a. Unwanted sound
  - b. Intensity
  - c. Decibels
  - d. Audio
9. The vertical distance from the floor to the inner corner of the eye is called
  - a. Stature
  - b. Knuckle Height
  - c. Eye height
  - d. Popliteal height
10. Instrument used to measure noise is
  - a. Noise dosimeter
  - b. Noise Barometer
  - c. Noise lux meter
  - d. Noise Inclinator

**Part – B**

**5 X 6 =30**

**Answer the Following**

**Answer should not exceed 400 words or two pages**

- 11(a). What do you mean by muscular effort? Give example.  
(Or)
- 11(b). What is energy expenditure? List any four activities with their energy consumption.
- 12(a). Write the objectives of Ergonomics.  
(Or)
- 12(b). Write the significance of Ergonomics.
- 13(a). Define Anthropometry. Give its importance.  
(Or)
- 13(b). Give the importance of body dimension in designing.
- 14(a). Discuss the concept of biomechanics.  
(Or)
- 14(b). What is posture? Discuss any three discomforts due to postural variations.
- 15(a). State the effect of light on the worker.  
(Or)
- 15(b). State the effect of noise pollution in working environment.

**Part – C**

**5 X 12 = 60**

**Answer the Following**

**Answer should not exceed 800 words or four pages**

- 16(a). Discuss the factors affecting energy requirement.  
(Or)
- 16(b). Describe any four methods of measuring energy cost.
- 17(a). Elaborate on MME system.  
(Or)
- 17(b). Explain the fundamentals of work physiology.
- 18(a). Discuss the methods of taking measurements.  
(Or)
- 18(b). Discuss the types of dimension.
- 19(a). Elaborate on physical work capacity.  
(Or)
- 19(b). Elaborate on body, size and movement.
- 20(a). Discuss any four environmental factors that affect worker.  
(Or)
- 20(b). Discuss the ergonomic requirements for people with special needs.

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