

Roll No .....

**MMPD-203**

**M.E./M.Tech., II Semester**

Examination, June 2016

**Ergonomics and Design**

*Time : Three Hours*

*Maximum Marks : 70*

**Note :** Answer any five questions. All questions carry equal marks.

1. a) State important principles of ergonomics.  
b) Define ergonomics. State its objectives and applications.
2. a) What is information theory? Discuss various factors affecting information reception.  
b) Discuss characteristics of man machine system.
3. a) Describe the coding and sensory inputs of human body.  
b) Describe the relationship between stress, strain and related procedure of mental workload in detail.
4. a) Differentiate between visual indicators and warning signals with suitable examples.  
b) Discuss the importance of symbolic codes used in visual display. Differentiate between factorial and graphic display.

5. a) Explain the role of over and under illumination in working area.  
b) Describe energy expenditure in physical activities.
6. a) Describe the basic rules for correct sitting position with keyboard in detail.  
b) Sketch a layout of human control system. State its functions.
7. a) Discuss various possible hazards in electrical shocks.  
b) What do you mean by plant safety and occupational safety? State its considerations.
8. Write short note on following (any two):
  - a) Anthropometry
  - b) Hazards from radiation machines
  - c) Government legislation about environment and safety

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