



B.E.(Full-Time) DEGREE END SEMESTER EXAMINATIONS, APRIL 2011

INDUSTRIAL ENGINEERING BRANCH

FIFTH SEMESTER

IE 9304 APPLIED ERGONOMICS

Time : Three hours

Maximum : 100 marks

Answer ALL questions

PART A – (10 X 2 = 20 marks)

1. What are the objectives of ergonomics?
2. Differentiate between long term memory and short term memory.
3. List down any two of the information receiving and processing model
4. What is meant by 'Hit' and 'Miss' according to signal detection theory?
5. What are the physiological factors involved in muscular activity?
6. Differentiate between aerobic and anaerobic glycolysis
7. What are the three principles of anthropometry?
8. What is the effect of illumination on human performance?
9. Define the term physiological fatigue.
10. How to prevent accident in the industry?

PART B – (5 X 16 = 80 marks)

- 11 (i) What is human factors engineering? Show the relationship between ergonomics and other scientific disciplines (10)
- (ii) Describe the elements of man-machine system. (6)
- 12.(a) Explain the factors influencing human performance at work (16)

(OR)

- (b) Describe the various models of human information receiving and processing

13.(a) Explain the physical work capacity and its evaluation techniques. (16)

(OR)

(b) (i) What is the need for work and rest schedule and how it can be calculated? (10)

(ii) Explain the factors that affect the level of energy consumption on a particular task (6)

14.(a) Explain the problems of body size and anthropometric measures with a suitable diagram (16)

(OR)

(b) (i) Draw and explain the VDT work station by specifying the suitable anthropometric measures (10)

(ii) Discuss the common types of displays and control (6)

15.(a) (i) Describe all the personal protective devices used in the manufacturing industries with a neat diagram of the devices (16)

(OR)

(b) Write short notes on

(i) Effect of noise on human performance (8)

(ii) NIOSH regulations (8)