

**B.Tech. – VIEP – MECHANICAL ENGINEERING
(BTMEVI)**

Term-End Examination

00632

December, 2017

BIMEE-018 : INDUSTRIAL ERGONOMICS

Time : 3 hours

Maximum Marks : 70

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

1. Discuss the Ergonomics guidelines to be followed for an effective workplace layout. 14

2. (a) With the help of a suitable example, discuss the designing of a Visual Display Terminal (VDT) workstation from an ergonomic point of view. 7

- (b) What is OSHA ? Explain its role in framing safety related guidelines. 7

3. (a) Define Ergonomics. Discuss the importance of occupational ergonomics in day-to-day working. 7

- (b) With the help of examples, describe 'optimal use of muscle strength' considering physiological principles. 7
4. (a) Discuss the importance of anthropometry in ergonomics. 7
- (b) Describe how an ergonomic system is designed to reduce the physical load/stress on workers. Give suitable examples. 7
5. (a) Define the following terms in respect of a light vehicle : 8
- (i) Visual capacities
 - (ii) Reflectance
 - (iii) Luminance contrast
 - (iv) Glare
- (b) Describe the physiological requirements of artificial lighting with the help of suitable examples. 6
6. (a) What is a Readability Task ? Discuss the factors that adversely affect this task. 7
- (b) Explain slipped disc problem. Discuss its causes and remedies. 7

7. Write short notes on any *two* of the following : 2×7=14

- (a) Assessment of Energy Consumption of Workers during Heavy Work
 - (b) Indoor Air Quality
 - (c) Thermo-regulation in the Human Body
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