

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

Term-End Examination

December, 2015

00071

BIMEE-018 : INDUSTRIAL ERGONOMICS

Time : 3 hours

Maximum Marks : 70

Note : Answer any **five** questions. Each question carries equal marks.

1. (a) How do ergonomics help to improve a system's performance ? Explain. 7
- (b) Explain the important principles of occupational ergonomics. 7
2. (a) Define the musculoskeletal disorders (MSD) and discuss their causes and remedies. 7
- (b) Describe the recommendations for load lifting task that results in minimum compression force in the spine of a worker. 7
3. (a) With the help of suitable examples, explain the static and dynamic anthropometric measurements. 7
- (b) Explain the rules to be followed for exerting maximum power for standing work. 7

4. (a) Explain the ergonomic considerations in designing a seated workplace. 7
- (b) Describe the adverse effects of back troubles on worker's health and performance. 7
5. (a) Explain the discomfort glare and disability glare with the help of suitable examples. 7
- (b) What are the different types of occupational stresses ? What are their causes and remedies ? Discuss. 7
6. (a) What are the different types of vibrations to which workers are exposed while working ? Describe the effects of these vibrations on worker's health and performance. 7
- (b) Explain the physiological effects of heat and cold. Suggest its remedies. 7
7. Write short notes on any **two** of the following : $2 \times 7 = 14$
- (a) Muscular Fatigue
- (b) Thermo-regulation in Human Body
- (c) Design and Functions of Controls
- (d) Effects of Noise on Workers
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