

Code: EC3T6

II B.Tech - I Semester – Regular Examinations - December 2014

**ELEMENTS OF MECHANICAL ENGINEERING
(ELECTRONICS & COMMUNICATION ENGINEERING)**

Duration: 3 hours

Marks: 5x14=70

Answer any FIVE questions. All questions carry equal marks

1. a) Describe the moulding materials and equipment . 7 M
b) Explain the general method of making a casting. 7 M
2. a) Explain the principal of gas welding. 7 M
b) How do you completely specify a lathe machine? 7 M
3. a) Explain the role of gears and belt drives in power transmission. 7 M
b) Write note on power transmission by belts. 7 M
4. a) Describe with a neat sketch a steam power plant. 7 M
b) Discuss the importance of solar energy in Indian context. 7 M

5. a) Explain an air conditioning system. 7 M
- b) Discuss the applications of refrigerating system. 7 M
6. a) Distinguish between 2-stroke diesel and petrol engines. 7 M
- b) Distinguish between 2-stroke and 4-stroke engines. 7 M
7. a) Describe the stress strain diagram for a mild steel specimen. 7 M
- b) Define Hooke's law. How do you find the elongation of a mild steel bar subjected to an axial load of P? 7 M
8. a) Discuss the important electrical properties of materials. 7 M
- b) Discuss the significance of magnetic properties of a material. 7 M