

5E3178

5E3178

B.Tech. (Sem.V) (Main/Back) Examination, December -2013  
Mechanical Engineering  
Industrial Engineering

[Time : 3 Hours]

[Total Marks : 80]

[Min. Passing Marks : 24]

*Instructions to Candidates :*

*Attempt any five questions, selecting one question from each unit. All questions carry equal marks. Schematic diagrams must be shown wherever necessary. Any data you feel missing suitably be assumed and stated clearly. Units of quantities used/calculated must be stated clearly.*

**Unit - I**

1. (a) Define Industrial Engineering and discuss the contributions of earlier pioneers to its development. [8]  
(b) Explain the principles of scientific management. [8]

**OR**

1. (a) Define Industrial Engineer. Discuss functions and scope of Industrial Engineering. [8]  
(b) Write a short note on "reactions and criticisms" of Fayol and Mayo. [8]

**Unit - II**

2. (a) Define organization and explain its importance in an industry. Lists various types of organizational structures and discuss two in detail with examples. [8]  
(b) Write a short note on "forming Joint Stock Companies." [8]

**OR**

2. Discuss forms of business organizations. [16]

**Unit - III**

3. (a) Discuss various financial ratio used for analysing financial statements. [8]

(b) What is working capital and detailed its sources? What are the factors that influence the working capital? [8]

OR

3. (a) Write a short note with example on "Profit and Loss statements" and "Balance Sheet". [8]  
(b) What are the objectives of financial management. Write in detail about the sources of finances. [8]

**Unit - IV**

4. (a) What is depreciation? Discuss the various methods of calculating it. [8]  
(b) A machine costing Rs. 90,000 has a scrap value of Rs. 10,000 at the end of 10 years of its useful life. If the machine runs for 16 hours daily without weekly rest calculate the rate of depreciation charged annually under machine hour basis method. [8]

OR

4. (a) The price of electronic office equipment is Rs. 250,000 and the salvage value at the end of 10 years is Rs. 50,000. Calculate the unamortized value after 5 years by :  
(i) Sinking fund method  
(ii) Sum of years digit (S-Y-D) method  
(iii) Declining balance method  
Take rate of interest equals to 8%. [12]  
(b) An industrial unit with initial value of Rs. 220,000 and the salvage value of Rs. 14,000 at the end of 20 years is sold for Rs. 195,000 at the end of 1 year. What is the profit or loss if sinking fund depreciation method at 8% compounded annually was adopted? [4]

**Unit - V**

- 5.\* Write short notes on any two :  
(i) The Factory Act 1944  
(ii) Payment of wages act  
(iii) Workman's Compensation Act  
(iv) Trade Disputes Acts [16]
- OR
5. (a) How labour legislation improves the industrial relations? [8]  
(b) What are the methods available for resolving disputes in an organization? [8]