

Nov - Dec - 2011



[4063] - 214



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T.E. (Mechanical) (Semester – I) Examination, 2011
INDUSTRIAL ENGINEERING AND TECHNOLOGY MANAGEMENT
(New) (2008 Pattern)

Time : 3 Hours

Max. Marks : 100

- Instructions :**
- 1) Answer **three** questions from Section I and **three** questions from Section II.
 - 2) Answers to the **two** Sections should be written in separate books.
 - 3) Neat diagrams must be drawn **wherever** necessary.
 - 4) Black figures to the **right** indicate **full** marks.
 - 5) **Use** of logarithmic tables slide rule, Mollier charts, electronic pocket calculator and steam tables is **allowed**.
 - 6) Assume suitable data, if **necessary**.

SECTION – I

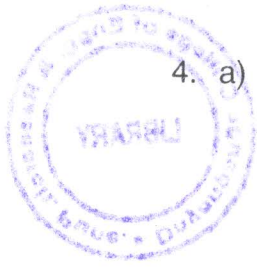
1. a) Define the management functions in terms of business or organisation of your choice. 8
- b) Explain concept of Maslow's hierarchy of needs. 4
- c) Briefly discuss various leadership styles adopted in industry. 4

OR

2. a) Explain various types of layout ? State their advantages and disadvantages. Justify your type giving appropriate application. 8
- b) Define the unit load concept used in material handling. Explain the different configurations that a unit load may take. 4
- c) Explain Vroom's expectancy theory. 4
3. a) Define and explain what do you understand by industrial engineering ? What is its importance ? 8
- b) Explain Method Study. What are its objectives ? 4
- c) Briefly explain procedure and methods for job evaluation and merit rating. 4

OR

P.T.O.



4. a) Describe with suitable examples following : 8
- 1) Operation process chart
 - 2) Flow process chart
 - 3) Two handed process chart
 - 4) Models
- b) What is productivity ? What are the different techniques used for it ? 4
- c) Explain the concept of following : 4
- 1) Qualified worker
 - 2) Basic time
 - 3) Contingency allowance
 - 4) Skill of operator.
5. a) A diesel engine manufacturing company has planned its production schedule for the next year based on the forecasted demand, back orders, and plant capacity. Instead of manufacturing piston the company has decided to out source it from Indian Pistons Ltd. The number of pistons required at the rate of 60 per day. Ordering cost is estimated at Rs. 50/- per order and carrying cost fraction is 0.15. The company can take advantage of quantity discount at following levels. The year is having 300 working days. 6

| Quantity ordered | Unit price (Rs.) |
|------------------|------------------|
| 0-1999 | 65 |
| 2000-4999 | 60 |
| 5000-9999 | 55 |
| above 10000 | 50 |

Find out :

- a) What is optimal quantity ?
 - b) What is minimum inventory cost ?
- b) What do you understand by Break-even analysis ? Explain. 6
- c) What is critical path in PERT 1 CPM ? How it is determined ? Explain. 6

OR

