

Total No. of Questions : 12]

SEAT No. :

P3989

[Total No. of Pages : 4

[4860] - 75

**M.E. (Mechanical) (Heat Power)**  
**TECHNOLOGY AND FINANCE MANAGEMENT**  
**(Common to Mechatronics and Design Engg.)**  
**(2008 Pattern)**

*Time : 3 Hours]*

*[Max. Marks : 100*

*Instructions to the candidates:*

- 1) Answer any three questions from each section.*
- 2) Answers to the two sections should be written in separate books.*
- 3) Neat diagrams must be drawn wherever necessary.*
- 4) Figures to the right indicate full marks.*
- 5) Use of electronic pocket calculator is allowed.*
- 6) Assume suitable data, if necessary.*

**SECTION - I**

**UNIT - I**

- Q1)** a) Write difference between short term and long term finance? [8]  
b) Explain in detail sources of finance? [8]

OR

- Q2)** a) What is budget? Explain its types in detail? [8]  
b) Explain importance of capital market? [8]

**UNIT - II**

- Q3)** a) Write difference between fixed and flexible budget? [8]

**P.T.O.**

- b) The company manufactures three products X, Y and Z. The unit selling prices of these products are 120, 170 and 80 respectively. The corresponding unit variable cost are Rs. 50, Rs. 80 and Rs. 30. The proportions in which these products are manufactured and sold are 20%, 30% and 50% respectively. The total fixed costs are 14,00,000. Calculate overall break even quantity and the product wise break up of such quantity. [10]

OR

- Q4) a) Explain in detail internal sources of finance and growth? [8]
- b) A company has production capacity of 16,000 units and normal capacity utilization is 90%. Opening of finished goods on 1-1-2002 was 1800 units. During the year ending 31-12-2002, it has produced 19,000 units while sold only 13,000 units. The standard variable cost per unit is Rs. 8 and standard fixed factory cost per unit is Rs. 3. The total fixed selling and administration overhead amounted to 13,000. The company sells its product at Rs. 18 per unit. Prepare the income statement under Marginal Costing. [10]

### UNIT - III

- Q5) a) Write short note on any three : [12]
- i) Importance of economics.
  - ii) Marginal Costing.
  - iii) Types of unemployment.
  - iv) Price elasticity of demand.
- b) What are objectives of foreign trade? Explain foreign trade policy of India? [4]

OR

- Q6) a) What is need of Engineering Economics? Give comparison between micro and macro economics? [8]
- b) Explain in detail effect of inflation on business and economy. [8]

## SECTION - II

### UNIT - IV

Q7) a) What do you mean by TQM. Give the detailed importance of Juran trilogy diagram in Quality management. [8]

b) What is JIT concept? Explain elements of JIT in detail. [8]

OR

Q8) a) Explain in detail importance of KAIZEN in Industries. [8]

b) What is ISO ? Explain importance of ISO 9001-2000 series for industries. [8]

### UNIT - V

Q9) a) Write in detail project life cycle with suitable example? [8]

b) A project has been defined to contain the following list of activities along with their required times for completion : [10]

| Activity No. | Activity                | Expected completion time | Dependency |
|--------------|-------------------------|--------------------------|------------|
| 1.           | Requirements collection | 5                        | -          |
| 2.           | Screen design           | 6                        | 1          |
| 3.           | Report design           | 7                        | 1          |
| 4.           | Database design         | 2                        | 2, 3       |
| 5.           | User documentation      | 6                        | 4          |
| 6.           | Programming             | 5                        | 4          |
| 7.           | Testing                 | 3                        | 6          |
| 8.           | Installation            | 1                        | 5, 7       |

i) Draw a PERT diagram

ii) Show critical Path

iii) Calculate earliest expected completion time

OR

**Q10) a)** What are objective and importance of PERT and CPM. [8]

b) For a project consisting of several activities, the duration and required resources of carrying out each of the activities and their availabilities are given below : [10]

i) Draw a neat network, identify critical path and compute total float for each of the activities.

ii) Find the project completion time under given resource constraints.

| Activity | Equipments | Operator | Duration (days) |
|----------|------------|----------|-----------------|
| 1 - 2    | X          | 40       | 5               |
| 1 - 3    | Y          | 30       | 4               |
| 1 - 4    | Z          | 30       | 7               |
| 2 - 4    | X          | 40       | 5               |
| 2 - 5    | Z          | 30       | 9               |
| 3 - 4    | Y          | 30       | 5               |
| 3 - 5    | Y          | 30       | 5               |
| 4 - 5    | X          | 40       | 7               |

### UNIT - VI

**Q11) a)** Write short notes on : [8]

i) HR Management

ii) Role of Manpower planning.

b) Explain in detail role of Training and Development in organization.

[8]

OR

**Q12) a)** Explain in detail types of Merit Rating. [8]

b) Distinguish between HR and Personal Management.

[8]

