

[5255] - 112

**M.E. (Mechanical) (Common to Design, Heat Power, Automotive  
and Mechatronics)**

**TECHNOLOGY AND FINANCIAL MANAGEMENT  
(2008 Course) (Semester - I)**

*Time : 3 Hours]**[Max. Marks : 100**Instructions to the candidates:*

- 1) *Answer any one question from each unit.*
- 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) Distinguish between 'Flexible budget' and 'Fixed budget'? What are the main features of a budgetary control system? **[10]**
- b) Prepare a *materials budget* of XY Co. Ltd. for estimated production of 10,000 units and 8,000 units of products C and D, respectively. The production orders of the products show the following consumption for a batch of 1,000 units: **[6]**

Materials	Price/Kg	Product C (Kg)	Product D (Kg)
01	50	40	50
02	40	--	10
03	10	5	20
04	30	3	5
05	20	2	--
Total (Kg)		50	85

OR

**P.T.O.**

**Q2) Write short notes on the following: [16]**

- a) Flexible budgets.
- b) Forces driving global economy.
- c) Sources of short term finance.
- d) Functions of finance.

**Unit-II**

**Q3) a) What do you mean by marginal costing? Explain with an example how do income statements prepared under the absorption costing and marginal costing concepts differ? [8]**

- b) Two manufacturing companies which have the following operating details decide to merge:

	Company No.1	Company No.2
Capacity utilization %	90	60
Sales (Rs. in lakhs)	540	300
Variable costs (Rs. in lakhs)	396	225
Fixed costs (Rs. in lakhs)	80	50

Assuming that the proposal is implemented, calculate

- i) Break even sales of the merged plant. [8]
- ii) The capacity utilization at that stage. [2]

OR

**Q4) a) Explain the different methods of computing profits on contracts, where work is not completed at the close of the accounting year? [8]**

- b) XYZ Co. Ltd. process a product through two distinct processes- process A and process B. 20,000 units were introduced in process A, at a cost of Rs. 40,000. After processing 18,500 units were transferred to process B, which produced final output of 18,000 units. Other particulars are given below:

	Process A	Process B
Materials cost	Rs. 40,000	Rs. 4,000
Labor cost	12,000	10,000
Overheads	8,000	9,553
Normal loss %	5	4
Sales value of scrap units	Rs.1	Rs.2

There was no opening or closing work in progress. Prepare process accounts for process A and process B. [10]

### **Unit-III**

- Q5)** a) Distinguish between micro economics and macro economics? [6]  
b) Explain the theory of consumer's demand with the help of indifference curve analysis? Also explain Income effect and substitution effect? [10]

OR

- Q6)** a) How does international trade affects domestic market? Explain in brief the methods to protect domestic trade? [12]  
b) Distinguish between monopoly and oligopoly types of competition? [4]

### **SECTION-II**

#### **Unit-IV**

- Q7)** a) Define Total Quality Management (TQM)? What are the elements and principles of TQM? [10]  
b) Explain KAIZEN duties in different levels of management? [6]

OR

- Q8)** a) Explain the Deming's 14 point approach to Quality Management? [8]
- b) Distinguish between *push* and *pull* system? Explain the role of Kanban cards in JIT cycle with the help of a neat line diagram? [8]

### Unit-V

- Q9)** A small engineering project consists of set of activities whose three time estimates in *days* are given below:

Activity	Optimistic time	Most likely time	Pessimistic time
1-2	2	5	14
1-6	2	5	8
2-3	5	11	28
2-4	1	4	7
3-5	5	11	17
4-5	3	5	14
6-7	3	9	27
5-8	2	2	8
7-8	7	13	23

- a) Draw the PERT network diagram and identify the critical path and critical path duration. [7]
- b) Calculate the standard deviation, variance, EST, LST, total slack for each activity. [8]
- c) Calculate the variance of critical path. [3]

OR

- Q10)** a) Explain the stages involved in project life cycle with a neat line diagram? [6]
- b) Explain the concept of BOT in brief? [6]
- c) Distinguish between PERT and CPM? [6]

## **Unit-VI**

- Q11)**a) How does training differ from development? Discuss the role of training and development in the present business environment? [8]
- b) Discuss the process of organizing human resource functions. How can this process be completed effectively? [8]

OR

- Q12)**a) Distinguish between autocratic and supportive models of organizational behavior? [6]
- b) Discuss the following in brief: [10]
- i) Management by Objectives.
  - ii) Any two methods of merit rating practices.

*EEE*