

**Bachelor of Pharmaceutical Technology Examination, 2019**(2nd Year, 2<sup>nd</sup> Semester)**Industrial Management**

Time: Three Hours

Full Marks: 100

Different parts of the same question should be answered together

**Answer any five questions (only first five answered questions shall be examined)**

1. Write short notes on any four of the following: 4 x 5  
 (a) production possibility frontier, (b) factors of production, (c) assumptions of monopolistic competition, (d) market skimming pricing, (e) price controls, (e) price elasticity of demand, (f) least cost combination of inputs.
2. Describe in your own words importance of economics for engineers. How scarcity' impacts economic decision making? Prove that marginal utility of money (MU<sub>m</sub>) is constant. If the demand curve  $P = 20 - 0.1Q_d$  and the supply curve  $P = 5 + 0.05Q_s$ , calculate market equilibrium price ( $P^*$ ) and market equilibrium quantity ( $Q^*$ ). Calculate the unit elastic point of the previous demand equation. 3 + 3 + 6 + 4 + 4
3. The owner of a chain of fast food restaurants is considering a new computer system for accounting and inventory control. A computer company sent the following set of information about the computer system installation:

Activity	Description	Immediate Predecessor	Times (days)		
			Optimistic	Most Likely	Pessimistic
A	Select the computer model	-	4	6	8
B	Design input/output system	A	5	7	1
C	Design monitoring systems	A	4	8	12
D	Assemble computer hardware	B	15	20	25
E	Develop the main	B	10	18	26
F	Develop input/output routines	C	8	9	16
G	Create database	E	4	8	12
H	Install the system	D, F	1	2	3
I	Test and implement	G, H	6	7	8

- (i) Construct the network diagram of the project, and show expected early start time, early finish time, late start time and late finish time of each activity on the diagram. (ii) Determine the critical path and compute the expected completion time of the project. (iii) Determine the probability of completing the project in 55 days (please consult Appendix - 1). 8 + 7 + 5
4. Why do we need to manage inventory? Present a diagram of various cost curves of a simple EOQ model. The annual demand of a product of Shiva company is 10,000 units. Each unit costs Rs. 100, if the orders are placed in quantities below 200 units. For orders of 200 or above, however, the price is Rs. 95. The annual inventory holding cost is 10% of the value of the item and the ordering cost is Rs. 5 per order. Find the economic lot size (EOQ). 5 + 5 + 10

5. Determine an initial basic feasible solution to the following transportation problem by using (a) NWCR, (b) LCM, (c) VAM:

5 + 6 + 9

		Destination				Supply
		D1	D2	D3	D4	
Source	A	11	13	17	14	250
	B	16	18	14	11	300
	C	21	24	13	10	400
Demand		200	225	275	250	

6. Make journal entries and respective ledger entries, and finally prepare a month-end trial balance from the following transactions:
- On 01 /01/ 18 Durga opened a business with a capital of Rs. 120 lakh.
  - On 10 /01 / 18 purchased long-term assets of Rs. 40 lakh on bank loan.
  - On 15 /01 / 18 purchased furniture of Rs. 5 lakh on bank loan.
  - On 20 /01 / 18 purchased inventories of Rs. 40 lakh paid in form of a bank draft which was prepared and handed over to the supplier on the same date.
  - On 31 /01 / 18 made cash sales of Rs. 20 lakh.
7. What are the features of a partnership organisation? Enumerate advantages and disadvantages of joint stock organizations. Explain forms of merger. Describe various forms of PPP in India?
8. State objectives of management. Enumerate fourteen principles of management as prescribed by Henry Fayol. State functions of top level management. Why does MBO fail sometimes?
9. Describe working hours as per Indian Factories Act. What are the basic requirements of industrial relations programme? State importance of labour legislation.

