

B. E. ELECTRICAL ENGINEERING FOURTH YEAR SECOND SEMESTER EXAM 2019**SUBJECT : ECONOMICS AND INDUSTRIAL MANAGEMENT Time : Three Hours Full Marks : 100****PART-I (50 Marks)**

(Use separate Answer Scripts for each Part)

Answer any *three* questions*(two marks reserved for neat and well organised answers)*

1. a) State the Law of Demand and the Law of Supply. What are the factors affecting the demand of a commodity? 4+5
- b) What do you mean by a perfectly competitive market? Does the Law of Demand always hold good in a perfectly competitive market? - Justify your answer. 2+5
2. "The Reserve Bank of India is considered as the nerve centre of Indian monetary system" - Justify the statement. 16
3. a) Define a Journal and a Ledger. What are the differences between the two? 4+6
- b) What is a Trial Balance and what are its features? 1+5
4. Prepare a Trading and Profit & Loss Account and a Balance Sheet from the following data of Kamal Enterprises for the year ended on 31st March, 2019 after considering the necessary adjustments.

Capital	₹ 27,000	Accounts Payable	₹ 12,000
Cash in hand	₹ 500	Opening Stock	₹ 12,000
Cash at Bank	₹ 1,200	Land	₹ 25,000
Purchases	₹ 60,000	Furniture	₹ 6,000
Sales	₹ 1,50,300	Machinery	₹ 24,000
Returns Outward	₹ 5,000	Commissions Paid	₹ 1,200
Returns Inward	₹ 2,000	Salaries	₹ 7,000
Wages	₹ 30,000	Office Expenses	₹ 2,000
Fuel	₹ 6,000	Bills receivable	₹ 3,500
Carriage outward	₹ 3,500	Drawings	₹ 7,000
Carriage inward	₹ 1,200	Account Receivable	₹ 15,000
Taxes	₹ 1,700	Dividend received	₹ 2,000
Bills Payable	₹ 8,000	Rent received	₹ 3,500
Discount received	₹ 1,000		

Adjustments:

- Closing Stock as on 31st March, 2019 was valued at ₹ 18,000.
- Depreciate Machinery at 10% .
- Outstanding salaries ₹ 1,000, Outstanding Fuel ₹ 2,000
- ₹ 5,000 was spent on Machinery but wrongly included in Wages.
- To provide for bad and doubtful debts for ₹ 1,500.
- Discount earned but not received ₹ 100.
- Commission due to be paid but not recorded ₹ 200
- Rent received includes ₹ 500 received in advance.

5. The following Trial Balance of Mr. A. Roy has been prepared by an accountant on 31.03.2019. Do you think that it is correct? If not, rewrite in its correct form stating reasons.

Trial Balance of Mr. A. Roy for the year ended 31st March, 2019

Particulars	Debit	Credit
1. Capital		₹ 3,00,000
2. Debtors	₹ 62,010	
3. Creditors		₹ 37,500
4. Fixed assets	₹ 2,37,000	
5. Bank Overdraft	₹ 33,000	
6. Returns Inward	₹ 7,200	
7. Cash in hand	₹ 1,140	
8. Interest Paid		₹ 3,300
9. Discount allowed		₹ 2,280
10. Taxes	₹ 21,390	
11. Commission received		₹ 2,610
12. Rent received	₹ 11,400	
13. Bills Payable		₹ 24,000
14. Bills Receivable	₹ 45,000	
15. Salary	₹ 94,200	
16. Purchases	₹ 1,82,760	
17. Opening stock	₹ 49,770	
18. Sales		₹ 3,07,800
19. Export Duty		₹ 2,400
20. Returns Outward		₹ 3,690
21. Carriage inward	₹ 2,400	
22. Import Duty	₹ 3,600	
23. Carriage outward		₹ 5,550
24. Closing stock		₹ 61,470
Total	₹ 7,50,870	₹ 7,50,600

Bachelor of Electrical Engineering Examination, 2019
(4th Year, 2nd Semester)
Economics and Industrial Management

Time: 3 hours

Full Marks: 100

Different parts of the same question should be answered together
(Answer only required number of questions. Any extra question answered shall be ignored.)

Part 2

(50 Marks)

Section 1

Answer any three from 1, 2, 3, 4 and 5 in this section. Only first 3 answered questions shall be examined.
3 x 15 = 45

1. (a) Explain the features of management. 5
 (b) Present a diagram of an MBO process. 4
 (c) Enumerate merits and demerits of scientific management. 6
2. 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	Time (days)		
			Optimistic	Most Likely	Pessimistic
A	Select the computer model	-	4	6	8
B	Design input/output system	A	5	7	15
C	Design monitoring systems	A	4	8	12
D	Assemble computer hardware	B	15	20	25
E	Develop the main programmes	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

(a) 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. (b) Determine the critical path and compute the expected completion time of the project. (c) Determine the probability of completing the project in 55 days (please consult **Appendix - 1**). 6 + 6 + 3

3. Why do organizations need inventories? Illustrate with a diagram the relationship between various costs and EOQ. The annual demand of a product 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).

4 + 3 + 8

4. A dairy firm has three plants located in a state. The daily milk production at each plant is as follows:

Plant 1 : 6 million litres, Plant 2 : 1 million litre, and Plant 3 : 10 million litres

Each day, the firm must fulfil the need of its four distribution centres. The minimum requirement of each centre is as follows:

Distribution centre 1 : 7 million litres, Distribution centre 2: 5 million litres,
Distribution centre 3 : 3 million litres, Distribution centre 4: 2 million litres

Cost (in hundreds of rupees) of shipping one million litres from each plant to each distribution centre is given below:

		Distribution Centre			
		D1	D2	D3	D4
Plant	P1	4	6	22	14
	P2	2	0	12	2
	P3	10	16	30	18

Find the initial basic solution for the given problem by using the following methods:

(i) Least cost method, (ii) Vogel's approximation method

6 + 9

5. A producer of boats has estimated the following distribution of demand for a particular kind of boat:

Number demanded:	0	1	2	3	4
Probability:	0.14	0.22	0.27	0.18	0.19

Each boat costs him Rs.9,000 and he sells each boat for Rs. 13,000. Any boat that is left unsold at the end of each season must be disposed off for Rs. 7,000 each. Prepare a payoff matrix, and compute number of boats to be stocked in order to maximise his profit.

6 + 9

Section 2

6. Answer any one from (a), (b), (c) and (d) in this section. Only first answered question shall be examined.

1 x 5 = 5

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| (a) Describe features of a partnership firm. | 5 |
| (b) Enumerate advantages and disadvantages of a joint stock company. | 5 |
| (c) Explain various forms of joint ventures in India. | 5 |
| (d) Describe theory X and theory Y. | 5 |

