

BACHELOR OF ENGINEERING (ELECTRICAL ENGINEERING) FIFTH 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) What do you mean by a perfectly competitive market? State the Law of Demand. What are the factors affecting the demand of a commodity? 2+2+5
- b) State the Law of Supply. What are the factors affecting the supply of a commodity? 2+5
2. a) What do you mean by economic efficiency of a business system? How can you improve the economic efficiency or productivity of a business system? 2+9
- b) Explain briefly the method of deriving the selling price of a product. 5
3. Journalise the following transactions in the books of Mr. M. Bose.
- 01-03-2019 : Started business with ₹ 15,000 in cash.
- 02-03-2019 : Received a loan of ₹ 20,000 from P. Roy by cheque, a bank account being opened and the cheque paid into it.
- 06-03-2019 : Bought office furniture on credit from Craft & Co. for ₹ 8,000.
- 10-03-2019 : Bought goods for cash ₹ 3,000.
- 13-03-2019 : Returned faulty office furniture costing ₹ 1,000 to Craft & Co.
- 15-03-2019 : Took ₹ 3,000 out of bank and paid it into cash.
- 19-03-2019 : Sold goods to Goon & Co. on credit ₹ 4,000.
- 25-03-2019 : Paid salary in cash ₹ 2,000.
- 27-03-2019 : Paid ₹ 7,000 owing to Craft & Co. by cheque.
- 28-03-2019 : Prepaid part of P. Roy's loan by cheque ₹ 3,000.
- 28-03-2019 : Paid ₹ 1,500 out of cash in hand into the bank account. 16

4. From the following ledger account balances extracted from the books of B. Roy, prepare a Trial Balance as on 31st. December 2018.

Purchases	: ₹ 1,04,000	Returns Inward	: ₹ 5,360	
Debtors	: ₹ 18,550	Furniture	: ₹ 15,600	
Land	: ₹ 62,000	Cash in hand	: ₹ 390	
Sales	: ₹ 1,49,000	Closing Stock	: ₹ 30,000	
Returns Outward	: ₹ 8,900	Capital	: ₹ 85,000	
Taxes	: ₹ 780	Factory Wages	: ₹ 5,830	
Cash at Bank	: ₹ 1,560	Carriage outwards	: ₹ 260	
Carriage inwards	: ₹ 650	Rent received	: ₹ 2,990	
Salaries	: ₹ 3,900	Insurance	: ₹ 2,100	
Drawings	: ₹ 7,950	Bad debts	: ₹ 260	
Creditors	: ₹ 8,300	Opening Stock	: ₹ 47,500	16
		(on 01-01-2018)		

5. Prepare a Trading and Profit & Loss Account and a Balance Sheet from the following data of Raman Traders for the year ended on 31st March, 2019 after considering the necessary adjustments.

Capital	₹ 56,000	Accounts Payable	₹ 30,000
Cash in hand	₹ 1,500	Opening Stock	₹ 6,000
Cash at Bank	₹ 3,000	Land	₹ 10,000
Purchases	₹ 1,10,000	Buildings	₹ 80,000
Sales	₹ 2,50,000	Machinery	₹ 30,000
Returns Outward	₹ 2,000	Patents	₹ 15,000
Returns Inward	₹ 1,500	Salaries	₹ 12,000
Wages	₹ 20,000	General Expenses	₹ 6,000
Fuel	₹ 8,000	Insurance	₹ 1,000
Carriage outward	₹ 6,000	Drawings	₹ 8,000
Carriage inward	₹ 5,000	Account Receivable	₹ 15,000

Adjustments:

1. Closing Stock as on 31st March, 2019 was valued at ₹ 20,000.
2. Provision for bad and doubtful receivables at 5% on Accounts Receivable.
3. Outstanding salaries ₹ 5,000, Outstanding wages ₹ 3,000
4. Depreciate Buildings, Machinery and Patents at 10% .

BACHELOR OF ENGINEERING (ELECTRICAL ENGINEERING)**FIFTH YEAR SECOND SEMESTER EXAM 2019****ECONOMICS AND INDUSTRIAL MANAGEMENT**

Total Time: Three hours

PART -- II

Full Marks: 50

Use Separate Answer Script for PART - II

Question No. 1 is compulsory & answer any two other questions

1. What is the importance studying Industrial Management? Explain 10

2. (a) Solve the following LP problem by graphical method :

Maximize $Z = 15x_1 + 10x_2$

Subject to, $4x_1 + 6x_2 \leq 360$

$3x_1 + 0x_2 \leq 180$

$0x_1 + 5x_2 \leq 200$

And $x_1, x_2 \geq 0$ 15

(b) Write the dual form of the above lpp. 5

3. Given:

Year:	1	2	3	4	5	6	7
Demand:	132	119	105	97	113	128	147

(i) Plot the data on graph paper and establish a forecast for the upcoming period. 4

(ii) Determine the forecast for the 8th year. 16

4. A project schedule has the following characteristics:

Activity	Time ,week	Activity	Time, week
1-2	4	5-6	4
1-3	1	5-7	8
2-4	1	6-8	1
3-4	1	7-8	2
3-5	6	8-10	5
4-9	5	9-10	7

- (i) Construct a network diagram
- (ii) Find the critical path(s), critical activities and project duration
- (iii) Find out total float for each activity 20

[Turn over

5. Perform ABC analysis using the following data:

Item	Units	Unit price (Rs./Unit)
1	3000	90
2	270	100
3	1700	5
4	1500	4
5	340	50
6	2500	1
7	2000	2
8	170	500

20

6. Write short notes on **any four**:

4x5=20

- (a) Break even analysis
- (b) Forecasting control and monitoring
- (c) EOQ model
- (d) Pareto analysis
- (e) SWOT analysis
- (f) MAD and MAPE