EX/PE/T/225/2018

Bachelor of Power Engineering Examination, 2018

(2nd Year, 2nd Semester)

Engineering Economics and Costing

Time: Three Hours **Full Marks: 100**

Different parts of the same question should be answered together

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1. Answer any two from (a), (b) and (c) in this block **15 x 2 = 30**

(a) Write short notes on any three of the following: **5 x 3**
(i) Cobb-Douglas production function; **(ii)** Price control; **(iii)** Assumptions of utility; **(iv)** Features of monopoly; **(v)** Law of returns

(b) Define 'Law of Variable Proportions'. What assumptions are related to this law? With the help of a graphical presentation explain various stages of this law. Under which conditions postponements of this law occur? **2 + 3 + 8 + 2**

(c) Which factors impact market structure? Under which condition a firm called to be in equilibrium? Compare and contrast perfect competition, monopoly, oligopoly and monopolistic competition in a tabular format. **4 + 1 + 10**

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2. Answer any two from (a), (b) and (c) in this block **10 x 2 = 20**

(a) What is a joint venture? How is it governed in India? Explain the approval process of FDI in India through joint ventures. Enumerate types of joint ventures. **2 + 3 + 3 + 2**

(b) Define international business. Describe the characteristics of international business. **2 + 8**

(c) What were the objectives of GATT? How did WTO evolve? Compare GATT with WTO. **4 + 2 +4**

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3. Answer any two from (a), (b) and (c) in this block **15 x 2 = 30**

(a) From the following balances extracted from the books of Agni Co., **prepare a trading account, a profit and loss account** for the year ending 31st December, 2016, and a **balance sheet** as on 31st December, 2017. **5 + 5 + 5**

	Rs.		Rs.
Stock on 1st January, 2017	11,000	Returns outwards	500
Bills receivables	4,500	Trade expenses	200
Purchases	39,000	Office fixtures	1,000
Wages	2,800	Cash in hand	500
Insurance	700	Cash at bank	4,750
Sundry debtors	30,000	Rent and taxes	1,100
Carriage inwards	800	Carriage outwards	1,450
Commission (Dr.)	800	Sales	60,000
Interest on capital	700	Bills payable	3,000
Stationary	450	Creditors	19,650
Returns inwards	1,300	Capital	17,900

Note: The stock on 31st December, 2017 was valued at Rs.25,000.

PTO

(b) Solve the problem of acceptance of the following two mutually exclusive projects on the basis of internal ra of return (IRR). IRR should be calculated through trial and error method. Year-end cash flows and salvage values are in crore of rupees.

Project Shiva:

Year	0	1	2	3
Cash Outflow	-220			
Cash Inflow		91	130	105
Salvage Value				10

Project Shakti:

Year	0	1	2	3
Cash Outflow	-198			
Cash Inflow		87	110	84
Salvage Value				18

(c) (i) Explain debtors turnover ratio. What is its significance? **3 +**

(ii) Prepare a trial balance of Durga Ltd. and interpret it from the following extracts as on 31-03-18 (all amounts are in '000 rupees): **8 +**

Cash in hand	5,000	Cash at bank	2,000
Bills receivable	3,000	Office supplies	3,000
Office equipment	15,000	Bank loan	15,000
Bills payable	1,000	Share capital	10,000
Consulting revenue	9,400	Rent expense	3,000
Salaries	2,500	Wages	1,200
Utilities expense	600		

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4. Answer any one from (a) and (b) in this block **20 x 1 =**

(a) Prepare a cost sheet from the following extracts of Rabi Co.:

Material used in manufacturing Rs 5,500
Material used in packing material Rs 1,000
Material used in selling the product Rs 150
Material used in the factory Rs 175
Material used in the office Rs 125
Labour required in production Rs 1,000
Labour required for supervision in factory Rs 200
Expenses direct factory Rs 500
Expenses indirect factory Rs 100
Expenses office Rs 125
Depreciation of office building Rs 75
Depreciation on factory plant Rs 175
Selling expenses Rs 350
Freight on material Rs 500
Advertising Rs 125

Assuming that all products manufactured and sold, what should be the selling price to obtain a profit of 20% on selling price.
18 + 2

(b) For the production of 10,000 units of Surya Company, the following is the budgeted expenses:

	Rs. per unit
Direct materials	30
Direct labour	15
Variable overhead	12.50
Fixed overhead	7.50
Variable expenses (direct)	2.50
Selling expenses (10% fixed)	7.50
Administration expenses (Rs. 25,000 fixed for all levels of production)	2.50
Distribution expenses (20% fixed)	2.50
Total cost of sales per unit	80.00

Develop a flexible budget for 14,000 units of production and compare with that of 10,000 units of production with critical comments.
15 + 5