Bachelor of Production Engineering Examination, 2018

(3rd Year, 2nd Semester)

Production Economics and Financial Management

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 **2 x 15 = 30**

(a) Write short notes on any three questions. **3 x 5**
(i) Cobb-Douglas production function; **(ii)** price control; **(iii)** MRTS. **(iv)** factors of production, **(v)** indifference curves.

(b) What do you understand by 'economies of scale'? Classify external economies of scale. Summarise internal economies of scale. **2 + 5 + 8**

(c) State law of demand and law of supply. How are they applied to get market equilibrium? How do you obtain price elasticity of demand from the demand curve? When does not price elasticity of demand operate? **2 + 2 + 5 + 6**

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2. Answer any one from (a) and (b) in this block **1 x 15 = 15**

(a) Provide a detailed comparison of Perfect competition, oligopoly, monopolistic completion and monopoly in a tabular format. **15**

(b) Draw long-run cost and revenue curves of perfectly competitive market and interpret. What factors determine the structure of a market? Under which condition a firm is in equilibrium? What is price discrimination? When does it operate? **5 +3 + 2 + 1 + 2 + 2**

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3. Answer any one from (a) and (b) in this block **1 x 25 = 25**

(a) (i) Explain the significance of leverage ratio with an example. **5**
(ii) The following trial balance was taken from the books of Lakshmi Co. on December 31, 2017. All amounts are in Rupees.

	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

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

Prepare a trading account, profit and loss account, and an end of year balance sheet from the above trial balance in report form. Interpret the working capital ratio of your prepared balance sheet. **6 + 6 + 5 + 3**

(b) (i) Classify various types of financial accounts according to traditional and modern approaches. **5 + 4**

(ii) 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. **15 + 1**

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4. Answer any one from (a) and (b) in this block **1 x 30 = 30**

(a) (i) Demonstrate how operating cycle method is applied to estimate working capital requirements. **10**

(ii) Compare the following two mutually exclusive projects on the basis of NPV & ARR. Cash flows and salvage values are in crore of rupees. Use the straight line depreciation method. The minimum required return is 10%, while the minimum required ARR is 12%. **10 + 10**

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

(b) **(i)** Explain features of joint stock companies. What are the benefits of such companies? **4 + 4**

(ii) What are the assumptions of 'traditional approach' of 'capital structure theories'? **6**

(iii) Apply those assumptions to solve the following cases:
EBIT = Rs. 150,000, presently 100% equity finance with cost of equity = 16%. Introduction of debt to the extent of Rs. 300,000 @ 10% interest rate or Rs. 500,000 @ 12%. For case I , cost of equity = 17%, and for case II, cost of equity = 20%. Find the value of the firm and the weighted average cost of capital for both the cases. **8 + 8**