MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WEST BENGAL

Paper Code : HM-HU301/HSMC 301/HSMC-301/HSMC301 Economics for Engineers (Humanities-II)

UPID : 003446

CSE, IT, CSBS, CYS, DS, IOT & AIML

Time Allotted : 3 Hours *Full Marks :70*

The Figures in the margin indicate full marks.

Candidate are required to give their answers in their own words as far as practicable

Group-A (Very Short Answer Type Question)

1. Answer *any ten* of the following : [1 x 10 = 10]

(I) If the nominal rate of interest is 10% per annum and there is quarterly compounding the effective rate of interest will be:

(II) If too much money is chasing too few goods, the resulting inflation is known as _________.

(III) Given selling price is Rs 10 per unit, variable cost is Rs 6 per unit and fixed cost is Rs 5,000. What is break-even point?

(IV) High inflation levels in the economy leads to _______ in the supply of money.

(V) A fixed cash flow in each year for a specified number of years is called as......

(VI) In replacement analysis ,the term defender is –

a) existing equipment
b) new equipment
c) both of the above
d) none of the above

(VII) ------------------ better describes variable cost ?

(VIII) If the nominal rate of interest is 10% per annum and there is quarterly compounding, the effective rate of interest will be:

(IX) The concept that value of a rupee to be received in future is less than the value of a rupee on hand today is known as:

(X) Determine Contribution if Sales is Rs 1,50,000 and P/V ratio is 40%.

(XI) When inflation is a result of an increase in the price of factors of production, the result is ________.

a. Stagflation
b. Cost-push inflation
c. Demand-pull inflation
d. None of the above

(XII) A company produces a single, high-volume product. One year its production volume was 780,000 units, its fixed costs were Rs 32 lac and its variable costs were Rs, 16 per unit. What was the company's average fixed cost for the year?

Group-B (Short Answer Type Question)

Answer *any three* of the following : [5 x 3 = 15]

2. An Electricity company wants to replace its machinery which was installed in the year 1982 at a cost of Rs 3000000 with a capacity of 300 MW. This consists of material , labour and overhead in the ratio of 5:3:2.The present cost index of material, labour and overheads are 250,300 and 240 respectively. The company wants to increase to double of its present capacity. You are required to determine the present cost of machinery to be replaced with double capacity by using cost indexes and power-sizing model. The power sizing factor is 0.80. [5]

3. State the different causes of Inflation. [5]

4. Distinguish between variable cost and Fixed cost . [5]

5. The operating results of a company for the last two years are as follows: [5]

Year	Sales	Profit
2009	270000	6000
2010	300000	15000

Assuming that the cost structure and selling prices remains the same in both the years, find out:

a) P/V ratio b) Fixed cost c) Break-even point d) Margin of safety at a profit of Rs 24000.

6. The following figures for the month of march 2005 were extracted from the cost records of yuvraj and co . [5]
Raw materials consumed Rs 4000
Direct labour cost Rs 6000
Factory overhead Rs 500
Administration overhead 20% on work cost.
Selling and distribution overhead 6 paisa per unit
Units produced Rs 20000
Units sold (at a profit of 20% of selling price) Rs 18000
You are required to prepare a cost sheet showing profit for the month of March 2005.

Group-C (Long Answer Type Question)

Answer *any three* of the following : [15 x 3 = 45]

7. The following data are obtained from the records of a factory : [15]

Details	Amt (Rs)	Amt(Rs)
Sales : 4000 units @Rs 25 each		100000
Materials consumed	40000	
Variable overheads	10000	
Labour charges	20000	
Fixed overheads	18000	
		88000
Net profit		12000

Calculate :

a) The number of units by selling which the company will neither lose nor gain anything .

b) The sales needed to earn a profit of 20% on sales .

c) The extra units which should be sold to obtain the present profit if it is proposed to reduce the selling price by 20% and 25% .

d) The selling price to be fixed to bring down its break even point to 500 units under present conditions

8. From the following information calculate IRR: [15]
Year cash inflows (Rs)
1 5000
2 8000 Initial Outlay : Rs 20000
3 10000
4 4000
Present value at Re 1 receivable at the end of the year 1 ,2, 3 and 4 are as follows:
Yr1 Yr2 Yr3 Yr4 https://www.makaut.com
12% 0.892 0.797 0.712 0.636
13% 0.885 0.783 0.693 0.613
14% 0.877 0.770 0.675 0.592
15% 0.867 0.756 0.658 0.572
16% 0.862 0.743 0.641 0.552

9. What do you mean by Depreciation? Explain the difference methods of calculation of depreciation. [5+10]

10. Mr. Singh has started a transport business with Ten taxies.The various expenses incurred by him are given below: [15]
Cost of each taxi = Rs 75000
Salary of office staff- Rs 1500pm
Salary of garage supervisor- Rs2000 pm
Rent of garage Rs1000pm
Drivers salary (per taxi) Rs 400 pm
Road tax and repairs per taxi Rs 2160pa
Insurance premium@ 4% of cost pa
The life of a taxi is 300000 km and at the end of which it is estimated to be sold at Rs 15000.A taxi runs an average of 4000 km per month of which 20% it runs empty. Petrol consumption is 9km per litre of petrol costing Rs 6.30 per litre. Oil and other expenses are Rs 10 per 100 km.
Calculate the cost of running a taxi per kilometer if the hire charges is Rs 1.80 per kilometer. Find out the profit that Mr. Singh may expect to make in the first year of operation.

11.

Following is the Trial Balance of Raj Traders as on 31.3.1999 :

Debit Balances	Rs	Credit Balances	Rs
Debtors	16,000	Capital	42,000
Bills Receivable	4,800	Creditors	12,000
Furniture	3,000	Bills Payable	6,400
Machinery	20,000	Wages Outstanding	500
Salaries	4,000	Provision for Doubtful Debts	1,000
Electricity	1,200	Gross Profit	10,000
Rent	2,000		
Advertisement Expenses	1,600		
Closing Stock	3,000		
Investment at 12% Interest	12,000		
Bank	4,300		
	71,900		71,900

Prepare a Profit and Loss Account for the year ended 31.3.1999 and a Balance Sheet as on that date with the following adjustments :

(a) Rent is prepaid for Rs 200.

(b) A provision for doubtful debts and a provision for discount on debtors are to be made both at 5% on Debtors.

(c) Depreciate machineries @ 10% p.a.; and furniture @ 20% p.a.

(d) Bills receivable include a dishonoured bill of Rs 600.

(e) 3/4th of the advertisement expenses is to be carried forward.

*** END OF PAPER ***