

**MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WEST BENGAL**

Paper Code : HM-601/HM-EE601/HM-EEE601/HM-HU601/HS-HU601 Economics for Engineers

UPID : 006621

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) Which fixed assets do not depreciate?
- (II) What is Defender?
- (III) Write down the full form of PCEPI.
- (IV) What is an Annuity?
- (V) What is Profitability Index?
- (VI) Which index is helpful for measuring inflation?
- (VII) How are risks and returns of an asset mathematically related?
- (VIII) A machine worth Rs. 1,00,000 is purchased by paying Rs. 20,000 as down-payment and the remaining amount is paid in 12 monthly instalments of Rs. 8,000 each. What is the book cost at the time of purchase?
- (IX) What is the relation between the slope of the Total Cost (TC) curve and the slope of the Total Revenue (TR) curve?
- (X) What is Capital Recovery Factor?
- (XI) What is meant by contribution margin?
- (XII) What is deflation?

Group-B (Short Answer Type Question)Answer *any three* of the following :

[5 x 3 = 15]

2. What are the advantages of simulation? Discuss. [5]
3. Ratio Analysis has certain inherent limitations. Discuss. [5]
4. Dimpy Co., a radio manufacturing company finds that the existing cost of a component, Z 200, is Rs. 6.25. [5]
The same component is available in the market at Rs. 5.75 each, with an assurance of continued supply.
The breakup of the existing cost of the component is:

	Rs.
Materials	2.75 each
Labour	1.75 each
Other variables	0.50 each
Depreciation and other Fixed cost	1.25 each
Total	6.25

- i) Should the company make or buy? Present the cases where (a) the firm cannot utilize the capacity profitably elsewhere and (b) when it can. Will your answer change if the supplier has offered the component at Rs. 4.50 each?
5. A student took an education loan of Rs. 7 Lakhs @ 9% p.a. for 5 years, in 2013. Calculate the amount of money to be repaid after 5 years under compound interest (compounded annually). Find out the effective interest rate. [5]
6. Life of a dam is 50 years. Initial Cost = Rs. 25,000, $i=10\%$, Find E(PW). [5]

	Life (Years)	6	9
	Probability	0.67	0.33
Profit (Rs)	5000	8000	10000
Probability	0.3	0.6	0.1

Group-C (Long Answer Type Question)Answer *any three* of the following :

[15 x 3 = 45]

7. (a) What is meant by demand-pull inflation? What are its causes? [4]

- (b) What is meant by cost-push inflation? What are its causes? [3]
- (c) Discuss the measures that the government may take to control inflation. [8]
8. (a) Distinguish between Depreciation and Obsolescence. [4]
- (b) A company purchased a machine on 1st April 2012 for Rs. 2,60,000; Shipping and forwarding charges: Rs. 10,000; Import duty: Rs. 12,000; Installation charges: Rs. 10,000; Depreciation is to be charged under diminishing balance method at
1st year – 10% p.a.; 2nd year – 20% p.a., 3rd year – 30% p.a.
Calculate the amount of depreciation each year. [6]
- (c) An asset purchased at Rs. 17,000 has a life time of 5 years and salvage value of Rs. 2,000. If depreciation is computed using straight line method, calculate the book value of the asset at the end of 3 years. [5]
9. The following is the Trial Balance of Durga Industries Ltd. as on 31st March, 2018 and other information. [15]
Prepare a Trading and Profit and Loss Account for the year ended on 31st March, 2018 and a Balance Sheet as on 31st March, 2018.

Trial Balance of Durga Industries Ltd. as on 31st March, 2018

Dr.			Cr.
Particulars	Rs.	Particulars	Rs.
Investment	35,000	Share Capital	4,00,000
Calls on arrear	1,000	Sales	3,00,000
Land & Building	45,000	Sundry Creditors	17,000
Machinery	3,00,000	General Reserve	25,000
Furniture	15,000	Profit on consignment	13,000
Customs Duty	3,800	Loan from Bank	45,000
Wages	31,400	Dividend	3,000
Salaries	45,200		
Insurance	2,800		
Purchase	1,60,000		
Bills Receivable	21,200		
General Expenses	6,900		
Sundry Debtor	60,000		
Opening Inventory	65,000		
Cash at bank	8,800		
Cash in hand	900		
Director's fees	1,000		
	8,03,000		8,03,000

The following further information is to be taken into consideration:

- Closing Inventory Rs. 86,000
 - Depreciate Machinery at 10%
 - Outstanding Salary Rs. 4,000
 - Transfer Rs. 5,000 to General Reserve
- v) The authorized capital of the company is Rs. 6,00,000 divided into Equity Shares of Rs. 10 each
Provision for income tax @ 30%
10. A manufacturing unit is considering launching a product and is in trial production. Time taken to make a unit is 200 hrs and past experience reveals a learning curve of 90 % applies. Calculate the average time and incremental time required for 1 unit, 2 units, 3 units , 5 units ,6 units and 8 units respectively. [15]
11. (a) Autoparts Ltd., has an annual production of 90,000 units for a motor component. The component cost structure is as below, The purchase manager has an offer from a supplier who is willing to supply the component at Rs. 540. Should the component be purchased from outside or manufactured internally? [7]

	Rs.
Materials	270 per unit
Labour (25% fixed)	180 per unit
Expenses:	
Variable	90 per unit
Fixed	135 per unit

Total	676 per unit
-------	--------------

(b) Discuss the Importance and Relevance of Capital budgeting.

[8]

*** END OF PAPER ***