Seat No.:	Enrolment No.

GUJARAT TECHNOLOGICAL UNIVERSITY

ME - SEMESTER- II(New course) • EXAMINATION (Remedial) - WINTER- 2015

	•	Code: 2724609 Name: Engineering Economic	s & Financial Mar	Date: 11/12/201	15	
		:30 pm to 5:00 pm		Total Marks: 7	0	
Ins	tructio					
		Attempt all questions.				
		Make suitable assumptions wherever				
		Figures to the right indicate full mark Use of factor tables is permitted.	KS.			
Q.1	(a)		nree)		07	
Ų.1	(a)	(i) Explain: Time Value of M			07	
		(ii) Explain significant feature		iness format.		
		(iii) Explain the concept of pr	_			
		context of Financial Envir		311041 J 11141 110 111 1110		
		(iv) Define budget? What is the	e purposes budget?			
	(b)					
	()	(i) Single payment factors (Factors (Fa			07	
	(ii) Present worth factor (P/A) and Capital recovery factor (A/A)					
		(v) Sinking fund factor (A/F)				
Q.2	(a)	Prepare a balance sheet of Amardeen I	ndustries Pyt I td. with	the help of following	07	
Q. <u>2</u>	Q.2 (a) Prepare a balance sheet of Amardeep Industries Pvt. Ltd. with the help of following financial data as on 31/3/2015. Calculate the working capital and current liquidity				07	
		ratio.	or the worlding cupiture	no content inquiency		
	Details Amount in Rs. (x)		in Rs. (x1000)			
		ÉCash in hand		,		
		ÉMachinery of plant	85			
		ÉVehicles				
		ÉWork in Progress				
		ÉLoan given for 5 years				
		ÉShare capital				
		ÉBank balance				
		ÉRaw material stock				
		ÉFinished goods stockÉPayment to be made in 45 days				
		ÉPayment to be made in 43 daysÉPayment to be received from custome				
		ÉLoan taken from bank for 5 years				
		ÉBuilding				
		ÉShare premium account				
		ÉReserves				
		ÉDepreciation 10%				
	(b)					
		Further details of estimate is as follows				
			Lathe A	Lathe B		
		First cost, P (Rs)	5,00,000	7,50,000		
		Annual Operating Cost, (AOC)	30,000	25,000		
		Salvage Value (SV), Rs.	50,000	80,000		
		Life, (years) Determine which machine should be se	5 Nested on the besis of D	10 Trasant Warth (PW)		
		Analysis , if rate of interest is 10% / year		resent aa oltii (L aa)		
		remary sis, in race of interest is 10707 year	и.			

- (b) Calculate the **capitalized cost** of a project that has an initial cost of Rs. 2,00,000 and an additional investment cost of Rs.50,000 after 10 years. The annual operating cost will be Rs.10,000 for the first 5 years and Rs.15,000 thereafter. In addition, there is expected to be recurring major rework cost of Rs.25,000 every 10 years. Assume that rate of interest (i) = 10% / year.
- Q.3 (a) A small material testing laboratory is trying to decide between purchas of harness testing equipment for material testing or sending the samples to a private lab. In order to equip the lab, an initial expenditure of Rs. 3,00,000 will be required. In addition, a full time technician will have to be hired at a cost of Rs.5000 per month. A total of 400 analytical tests are required each month. If the testing is done in-house, the cost per sample will average Rs.20, but if the samples are sent to an outside lab, the average cost will be Rs. 50. The equipment purchased for the lab is expected to have a useful life of 5 years. If the utility uses an interest rate of 10%, determine the B/C ratio and modified B/C ratio for the project.
 - (b) Explain following concepts of costing.

(i) Fixed cost and Variable cost (ii) Direct cost and Indirect cost

OR

- Q.3 (a) Mr. Dilip Patel is investing Rs.1,00,000 in a business. He expects to yield Rs. 07 50,000 at the end of 4 years and further Rs.80,000 at the end of 10 years, what is the **Rate of Return** on investment? (Use of interpolation or trial and error approach)
 - (b) The overheads for a subcontract machinist are tabulated as following. Apportion the overheads to the workshops.

Cost Centers	No. of people	Direct Material Cost	Department Overheads
Administration	02	-	50,000
Sales & Mktg.	02	-	40,000
Machine shop	08	80,000	90,000
Press shop	08	40,000	80,000

- Q.4 (a) The cost of a machine is Rs. 1,00,000, salvage value is Rs. 10,000, estimated life is 10 years, Depreciation rate = 10%. Calculate the depreciation for first 5 years using **Reducing balance method**. Find the book value after 5 years.
 - **(b)** Explain: (i) Law of Demand (ii) Law of diminishing return

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- Q.4 (a) The following data relates to Krishna Plastics Pvt. Ltd. for its standard product.
 Selling Price = Rs.50/unit, Sales = 50,000 units, Variable cost Rs.20/unit, Fixed cost = 4,50,000.
 - Calculate Break Even Point quantity and amount, margin of safety at current level of sales and profit-volume ratio. Draw Break Even Analysis diagram.
 - (b) Explain: Division of Labour. Mention advantages and disadvantages of it. 07
- Q.5 (a) Explain: Increase of demand, Decrease of demand, Extension of demand and O7 Contraction of demand with suitable example in each case.
 - **(b)** Explain: Modes of Long and medium term financing

OR

- Q.5 (a) What is the significance of working capital? Why optimum amount of current 07 assets is preferable approach?
 - **(b)** Compare significant characteristics of Perfect Market and Imperfect market.

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