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## Internal Assessment Test 1 – Sept. 2018

Sub:	Management & Engineering Economics					Sub Code:	15ME51	Branch:	Mech		
Date:	07.09.18	Duration:	90 min's	Max Marks:	50	Sem / Sec:	V/A&B		OBE		
<u>Answer any FIVE FULL Questions</u>									MARKS		
1	Explain the following with neat sketch a) Law of demand & supply b) Problem solving & Decision Making								[10]	CO3	L2
2 a)	Explain Cash Flow Diagram and its significance.								[04]		
b)	A person is planning to gift his son a car 7 years from now. He wishes to invest Rs 1,00,000 first year and thereafter increase the amount by Rs 7000 every year. Find the maturity amount at the end of 7 <sup>th</sup> year if ROI is 7% compounded annually.								[06]	CO3	L3
3	A business man has three investment proposals A,B and C to help him expand his business. The data is given below. Assume ROI is 13%. Solve by present worth Method.									CO3	L3
	<b>Proposal</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>					
	A	-20,000	6000	7000	8000	9000					
	B	-18,000	6500	6500	6500	6500					
	C	-23,000	9000	7500	6000	5200	[10]				
4	A young entrepreneur wants to buy a drilling machine for a small scale industry. He has the following 3 machines available. Help him suggest the best based on Present worth Method at ROI of 10%.									CO4	L3
	<b>Particulars</b>	<b>Machine A</b>	<b>Machine B</b>	<b>Machine C</b>							
	Life cycle (Yrs)	6	3	4							
	First cost (Rs)	13,000	15,000	12,000							
	Annual Cost (Rs)	2000	1600	2000							
	Annual Revenue (Rs)	8000	10000	7500							
	Salvage value (Rs)	6000	6500	5000							
5	A crane is taken for lease for 3 year period for Rs 1,60,000 payable now which includes maintenance. It can also be purchased for Rs 2,40,000 for 3 years and sold for 80,000 after use. Three years maintenance cost is Rs 3000, 5000 and 10,000 respectively. At what interest rate both alternatives are equal?								[10]	CO4	L3
6	Solve the following data by Future worth method. Assume $i = 12\%$ . And suggest which machine is best.									CO4	L3
	<b>Particulars</b>	<b>Alpha</b>	<b>Beta</b>	<b>Gamma</b>	<b>Delta</b>						
	Initial cost (Rs)	70000	80000	85000	92000						
	Annual Revenue (Rs)	27000	29000	29500	32000						
	Annual Cost (Rs)	5000	4300	4000	3500						
	Salvage (Rs)	22000	25000	27000	30000						
	Life (Yrs)	4	2	4	2	[10]					
7.	Rs 3 Million is donated to a college to award scholarships and maintenance for 20 years. College spends Rs 15,000 per year on scholarship and this amount linearly rises by Rs 1500 per year. Every 4 years 27,000 is spent on college painting and maintenance. Assume 10% ROI. Calculate how much money is available now to construct the auditorium.								[10]	CO4	L3