USN | | | | | | | | | | |

DAYANANDA SAGAR COLLEGE OF ENGINEERING

(An Autonomous Institute Affiliated to VTU, Belagavi)

Shavige Malleshwara Hills, Kumaraswamy Layout, Bengaluru-560078

Department of Electronics and Communication Engineering

UG Continuous Internal Assessment – I

Course: ENGINEERING ECONIMICS — Semester : 6

Course Code: 18HS6ICEEM — Date: 14-6-21

Maximum marks: 50 — Duration: 1hour 30 min

1	a	Find the future sum of money to be paid to a lender for a loan amount of Rs 1000 for 2 months at the rate of 10% Simple Interest. i. 1100 ii. 1300 ii. 1200 iv. 1016		1X10 L1 &L2 CO1 CO2
	b	How much interest is earned on a principal of Rs 750 for 5 years 9 months at 6% compounded monthly? i. 502 ii. 608 ii. 308 782		
	c	Effective annual interest rate is calculated as i. P / (F-P) ii.((F – P)/P))×100 iii. (P-F) / 100 iv. $P(1+i)^n$		
	d	If you earn RS 1000 for 3 consecutive years, what is the Present worth of this at 0% compound Interest i. 3000 ii. 1000 iii. 3333 iv. 0		
	e	Time taken for doubling P at a compound interest of 9 % is approximately i. 6 years ii. 10 years iii. 8years iv. 11 years		
	f	Intangible consideration includes i. Revenue ii. Profit iii. Brand value iv. Expenditure		
	g	What is the effective rate corresponding to 18% compounded daily? Consider 360 days for a year. i. 19.61% ii. 19.44% iii. 19.31% iv. 19.72%		
	h	Find the compound interest on Rs 8000 at 20% per annum for 9 months, compounded quarterly. i. 9261 ii. 1261 iii. 8560 iv. 561		
	i	For anu economic venture to be successful, economic efficiency should have a value i. More than 100% ii. Less than 100% iii. Between 0% and 50% iv. Between 50% and 100%		
	j	Assumptions in Present worth comparisons include i. Known interest rates ii. Cash flows are known		

		iii. Constant value cash flow iv. All		
2	a	The rates of simple interest in two banks A and B are in the ratio 5:4. A person wants to deposit his total savings in two banks in such way that he receives equal half yearly interest from both. In what ratio he should deposit his savings in banks A and B.?	03	L1/CO1
	b	The difference between the simple interest and the compound interest for two years at 4% per annum is Rs 20. Compute the principal amount.(Interest rate is same for S.I and C.I)	03	
	c	Compute the effective interest rate for a nominal annual rate of 6% that is compounded i) bi-annually ii) Quarterly iii) Monthly iv) Daily(365 days)	04	L4/CO2
3		Two types of trucks are available for transportation use. They are needed for 10 years. The details are, TRUCK A TRUCK B FIRST COST……10,00,000…….15,00,000 ESTIMATED ANNUAL MTCE COST..20,000……..15,000 ESTIMATED LIFE……..5 Y……..10 Y SALVAGE VALUE…….2,00,000……5,00,000 Both the trucks deliver the same amount of work. If the interest rate is 7%, which truck is to be preferred on Present worth basis.? Use CFD for your analysis.	10	L3/CO2
4	a	Two motorcycle of brand A and B are available on the following terms. (i) Motor Cycle A- Make a down payment of Rs 5000 and then Rs 6000 at the end of each year for seven years. (ii) Motor Cycle B- Make a down payment of Rs 15000 and no payment for the next four years, from the end of 4^{th} year annual payments of Rs 12000 for the next three years. Draw the CFD for comparison of the alternatives at an compound interest of 10% on Future worth basis. Which option is better.?	04	L4/CO2
	b	The following alternatives are available to accomplish an object of 12 years duration PLAN A…..PLAN B……PLAN C A) Life cycle(years)…….6…….3……..4 B) First cost(Rs)……..2000……..8000……..10000 C) Annual cost(Rs)……..3200……...700……..500 Compare the present worth of alternatives using an interest rate of 7%	06	L2/CO2
		OR		
5	a	5 million Rupees are donated to a college ,one student is to be awarded scholarship for the next 20 years. The scholarship amount is 12,000 per year the first year and increases at a rate of Rs 1500 per year, over the following 19 years. Starting with the end of the third year,Rs 15000 are to be spent for maintenance of college. The cost raises linearly at a rate of 2000 per year startng with year 4. Assuming 10% interest rate, determine how much money will be available to construct an Auditorium now?	10	L3/CO2

6	a	Analyse and take decision on the following proposals based on Engineering Economic principles. Proposal A has a life of three years, with an investment of Rs 10000 and annual inflow of Rs 1000, Proposal B has a life of 4 years, with an investment of 12000 and an annual inflow of Rs 500. Assume an interest rate of 10%, which gets doubled the 6^{th} year onwards.	10	L4/CO2
		OR		
7	a	Bank XXX , charges the following interest rates, A) 0-2 Years…….3% B) 2-4 years…6%, C) 4-6 Years….12% an entrepreneur pays on his loan taken as follows, at the end of two years…Rs 20000, at the end of four years Rs 30000 and at the end of six years he pays Rs 50000. Find the present worth of all the payments. Explain the advantage of variable interest and variable payments.	10	L2/CO1