

**BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(MID SEMESTER EXAMINATION)**

**CLASS: B.TECH.
BRANCH: ALL**

**SEMESTER: 7th
SESSION: MO/2022**

SUBJECT: PE211 ENGINEERING ECONOMY

TIME: 2 HOURS

FULL MARKS: 25

INSTRUCTIONS:

1. The total marks of the questions are 25.
 2. Candidates attempt for all 25 marks.
 3. Before attempting the question paper, be sure that you have got the correct question paper.
 4. The missing data, if any, may be assumed suitably.
 5. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.
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| Q1 | (a) | What do you mean by the term ‘cash flow diagram’? With suitable example explain the concept of cash flow diagram from borrower and lender viewpoint. | [2] | CO1 | BL | L2 | |
| Q1 | (b) | Construct a cash flow diagram that represents the amount of money that will be accumulated in 1 year from an initial investment of Rs.1000 at an interest rate of 6% per year compounded quarterly. | [3] | CO1 | L3 | | |
| Q2 | (a) | What is continuous compounding? Explain with suitable example. | [2] | CO1 | L2 | | |
| Q2 | (b) | A father, on the day of his son is born wishes to determine the amount he would have to deposit in to an account bearing at 12% compounded annually to provide payment of Rs.2000 on each of the son’s 18th, 19th,20th, and 21st birthdays. | [3] | CO1 | L3 | | |
| Q3 | (a) | What do you mean by an investment proposal? Mention the most common bases for comparison of alternative proposals. | [2] | CO2 | L2 | | |
| Q3 | (b) | From the following table select the best alternative using present worth amount as base and taking interest rate of 12%: | [3] | CO2 | L3 | | |

End of year		0	1	2	3	4
Alternative P (in Rs.)	(in	-15000	9000	8000	10000	6000
Alternative Q (in Rs.)	(in	-20000	11000	10000	9000	8000

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| Q4 | (a) | What is annual equivalent amount? Explain the important features of annual equivalent amount. | [2] | CO2 | L2 | | |
| Q4 | (b) | Define “internal rate of return” and explain how the internal rate of return is computed. | [3] | CO2 | L3 | | |
| Q5 | (a) | Define a “Bond” and explain the face value of a bond. Briefly explain different types of bonds. | [2] | CO1 | L2 | | |
| Q5 | (b) | Define mutually exclusive alternatives. How mutually exclusive alternatives are formed? | [3] | CO2 | L3 | | |