

Roll No



**PRESIDENCY UNIVERSITY
BENGALURU**

SET A

**SCHOOL OF ENGINEERING
END TERM EXAMINATION - JAN 2024**

Semester : Semester V - 2021

Course Code : CIV3038

Course Name : Construction Economics and Finance

Program : B.Tech.

Date : 10-JAN-2024

Time : 9:30AM - 12:30 PM

Max Marks : 100

Weightage : 50%

Instructions:

- (i) Read all questions carefully and answer accordingly.
- (ii) Question paper consists of 3 parts.
- (iii) Scientific and non-programmable calculator are permitted.
- (iv) Do not write any information on the question paper other than Roll Number.

PART A

ANSWER ALL THE QUESTIONS

4 X 5M = 20M

1. Define Arithmetic Gradient and Geometric gradient with the help of an example?
(CO1) [Knowledge]
2. What is the balance in an account at the end of 10 years if ₹2500 is deposited today and the account earns 4% interest, compounded quarterly and semi- annually?
(CO2) [Knowledge]
3. Define Breach of a contract and discuss its types.
(CO3) [Knowledge]
4. Differentiate between an Approximate estimate and a Detailed estimate.
(CO3) [Knowledge]

PART B

ANSWER ALL THE QUESTIONS

5 X 10M = 50M

5. A manager can employ several techniques while making decisions. The quantitative techniques enable managers to take decisions objectively and efficiently. To make good decisions, a manager can rely on a scientific and statistical approach. Explain the various quantifying alternative techniques of decision making.
(CO1) [Comprehension]
6. A company is considering 2 equipments for their construction project. Equipment A has an initial cost of \$30,000, Annual operating cost (AOC) of \$18,000 and salvage value of \$7000 after 4 years. Equipment B has \$50,000 as initial cost with an AOC of \$16,000 and salvage value of \$9000 after 6 years. Which Equipment should the company select at an interest rate of 12% per year.
(CO1) [Comprehension]

7. The cash flow associated with a strip mining maintenance operation is expected to be \$10000 in year 1, \$10,500 in year 2, and amounts increasing by \$500 through year 10. At an interest rate of 8% per year, determine the present worth and annual equivalent of the equipment
(CO2) [Comprehension]
8. A dispute resolution in construction contracts is vital because it prevents potential legal action. There are various methods to resolve the issues in Construction. Discuss the different causes of disputes in construction Projects and also explain the different methods of Dispute resolution.
(CO3) [Comprehension]
9. Any disagreement or problem may arise during the formation or performance of the contract. The contract issue could be something as small as a misunderstanding about the terms of the agreement, or it could be something much larger, such as one party not holding up their end of the bargain. Discuss on different Contract issues that one might get while working on a construction project.
(CO3) [Comprehension]

PART C

ANSWER ALL THE QUESTIONS

2 X 15M = 30M

10. One of the four televisions in a showroom is being considered for replacement. Its salvage value and maintenance costs are given in the table below for several years.

Year	OLD TELEVISION		NEW TELEVISION	
	Salvage Value at the end of the year	Maintenance Costs	Salvage Value at the end of the year	Maintenance Costs
0	20000	-	40000	-
1	17000	9500	35000	1000
2	14000	9600	30000	1200
3	11000	9700	26000	1400
4	7000	9800	22000	1600

Both the old and new TVs have similar productivities and energy costs. Should the TV be replaced this year, if the MARR equals 10%?

(CO1) [Application]

11. Hafiz Ullah & Company purchased a factory machine of Rs. 180,000 on January 1, 2012. The machine is expected to have a salvage value of Rs. 20,000 at the end of its 4 year useful life. During the useful life, the machine is expected to be used for 160,000 hours. The machine was used as under:

Years	Hours used
2012	40,000
2013	60,000
2014	35,000
2015	25,000

Prepare Schedule of Depreciation on the basis of following methods:

- (a) Straight Line Method (3M)
 (b) Units of Output Method (4M)
 (c) Double decline Balance method and (4M)
 (d) Sum of Year Digit Method (4M)

(CO2) [Application]