Birla Institute of Technology & Science, Pilani
Second Semester 2023-2024
Mid-Semester Test

Course No.   : BITS F469
Course Title   : Financing Infrastructure Projects
Nature of Exam   : Closed Book
Weightage   : 25%
Duration   : 2 Hours
Date of Exam   : 24-November-2023 / Friday 12:00 PM - 1:30 PM

| No. of Pages   = 1 |
| No. of Questions = 5 |

Note:
1. Please follow all the *Instructions to Candidates* given on the cover page of the answer book.
2. All parts of a question should be answered consecutively. Each answer should start from a fresh page.
3. Mobile phones and computers of any kind should not be brought inside the examination hall.
4. Use of any unfair means will result in severe disciplinary action.

Q.1(a) What are the two parameters used to classify projects. Give two examples of projects which show extreme points of above chosen   (2 Marks)
    (b) List and explain the four dimensions of project goals.   (2 Marks)

Q.2 The sales of a certain product during a 7-year period have been as follows:

Period	1	2	3	4	5	6	7
Sales	2,000	22,00	21,00	23,00	25,00	32,00	36,00

    (a) Find the least square regression line for the data given.   (2 Marks)
    (b) For the data given in above problem, set n equal to 3 and develop forecasts for the periods 4 to 7 using the moving average method.   (2 Marks)

Q.3 How would you calculate the cost of project. Show and explain the various components used in calculating cost of project.   (3 Marks)

Q.4 What is IRR. List two weaknesses of IRR. What is technique is used to overcome the weaknesses of IRR.   (4 Marks)

Q.5 (a) What do you mean by the types of interest rates? Using a suitable diagram, present and discuss the various types of interest rates.   (2. Marks)
(b) An office of Municipal engineer has in place a revenue generation scheme that provides Rs 5,00,000 per year for street lighting projects. The Chief Engineer's office seeks to ascertain the total amount generated starting 2023 until 2027 when the street lights are due for replacement. By 2027, how much would the Chief Engineer's office accumulate for this purpose? Assume 5% interest rate and type 1 compounding of the interest rate (i.e. Interest rate is constant throughout the year).   (3 Marks)
(c) A building engineer seeks to replace his/her aging air-conditioning units that were installed in the early 1990s. In November 2023, he/she receives a loan of Rs. 1,00,00,000 to carry out the project, which is to be repaid over a 5-year period. How much will the owner need to pay back to the bank every year, starting December 2015 until December 2019? Assume 5% interest rate and type 1 compounding of the interest rate (i.e. Interest rate is constant throughout the year).   (4 Marks)

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