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**JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT**

**TEST -2 EXAMINATION- April-2019**

**M.Tech. (CM) II<sup>nd</sup> Semester**

COURSE CODE: 10M11CE214

MAX. MARKS: 25

COURSE NAME: Construction Financial Management

COURSE CREDITS: 03

MAX. TIME: 1.5 Hours

*Note: All questions are compulsory. Carrying of mobile phone during examinations will be treated as case of unfair means.*

Q1. The development authority of a city has to select a pumping unit from four feasible mutually exclusive alternatives for supply of water to a particular location of the city. The details of cash flow and the useful life of all the alternatives are presented in the following table. The minimum attractive rate of return (MARR) is 20% per year. Select the best alternative using the incremental investment rate of return analysis. **(9)**

Q2. A machine with 6 years of life was purchased two years ago for Rs. 10,000. Its annual maintenance cost is Rs. 750 and salvage value at the end of its life is Rs. 1,000. Now, a company is offering a new machine at a cost of Rs. 10,000. Its life is four years and its salvage value at the end of its life is Rs. 4,000. The annual maintenance cost of the new machine is Rs. 500. The company which is supplying the new machine is willing to take the old machine for Rs. 8,000 if it is replaced by the new machine. Assuming interest rate of 12%, compounded annually. Does the replacement analysis suggest that it is better to retain the existing machine? Give complete numerical solution. **(10)**

Q3. Choose the correct options: **(6)**

- i) A sunk cost is the difference between a. First cost and salvage value b. Present market value and salvage value c. First cost and present market value d. Book value and present market value
- ii) When asset's annual operating and maintenance are always increasing while salvage values remain constant (over the life of asset), the economic life of the asset is a. Shortest possible life b. Longest possible life c. Zero d. Can't be said
- iii) After two years of service rendered, the capacity of a bulldozer to move soil has reduced. If the bulldozer is considered for replacement, the reason will be a. Physical deterioration b. Obsolescence c. Lack of technological upgradation d. None of the above
- iv) The value of the defender in study of replacement is a. What it cost when originally purchased b. The sunk cost c. The salvage value at the end of its life d. Its worth at present time
- v) Which of the following has no effect on replacement decision? a. Defender's sunk cost b. Defender's salvage value c. Defender's operating cost d. Challenger's first cost
- vi) The unused capital cost of an investment alternative at some point in time prior to the end of its expected life is known as a. Salvage value b. Implied salvage value c. Book value d. Depreciation charges