

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST-2 EXAMINATION- April -2018

M.Tech. IV Semester

COURSE CODE: 10M11CE214

MAX. MARKS: 25

COURSE NAME: Construction Financial Management

COURSE CREDITS: 03

MAX. TIME: 1.5 HRS

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

Q.1. A construction firm has purchased an excavator 3 year ago at a cost of Rs.6000000 and the estimated life and salvage value at the time of purchase were 11 years and Rs.1600000 respectively. The annual operating cost was Rs.195000. The current market value of the equipment is Rs.4400000. The construction firm is planning for a major overhaul of the equipment now at a cost of Rs.1000000. After overhaul, the revised estimate of salvage value, annual operating cost and remaining life of the excavator are Rs.1250000, Rs.175000 and 9 years respectively.

However the construction firm has the option to replace the current excavator with a new model. The initial cost of the new model is Rs.6300000. The estimated life, annual operating cost and salvage value are 9 years, Rs.150000 and Rs.1800000 respectively. Determine whether the construction firm should continue with the existing excavator with the planned overhaul or replace it with the new model if the firm's MARR is 10% per year. (10)

Q.2. The initial cost of a piece of construction equipment is Rs.3500000. It has useful life of 10 years. The estimated salvage value of the equipment at the end of useful life is Rs.500000. Calculate the annual depreciation and book value of the construction equipment using straight-line method and double-declining balance method. Also, calculate the annual depreciation and book value of the construction equipment using sum-of-years-digits method. The interest rate is 8% per year. (8)

Q.3. The cash flow details of a public project is as follows

Initial cost = Rs.21000000, Annual operating cost = Rs.1600000, Worth of annual benefits = Rs.5000000, Worth of annual disbenefits = Rs.1100000, Salvage value = Rs.4000000, Interest rate per year = 8% and useful life = 30 Years. Using benefit-cost ratio method, find out the economical acceptability of the public project. Use PW, AW and FW methods to find out the equivalent worth of costs, benefits and disbenefits. (7)