

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -3 EXAMINATION- May-2018

M.Tech. – IInd Semester

COURSE CODE: 10M11CE214

MAX. MARKS:35

COURSE NAME: Construction Financial Management

COURSE CREDITS: 3

MAX. TIME: Two Hours

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

Q1. Let's assume that an investment proposal for a ready mix concrete plant as per details below is being evaluated.

Initial Cost (P) = \$450,000, Salvage value (SV) = \$45,265, Annual operating revenues (AOR) = \$300,000, Annual operating costs (AOC) = \$180,000, Economic life (N) = 5 years MARR = 10%, Inflation Rate = 0%, Draw spider curve (sensitivity graph) for

(a) If the estimate of AOR goes wrong and instead of \$300,000 it is \$250,000.

(b) If actual N is 7 years.

(c) Draw Isoquants between AOR & N.

(17)

Q2. A manufacturer is contemplating the purchase of an additional forklift truck to improve material handling in the plant. He is considering two popular models, the Convair T6 and the FMC 340. The relevant financial data are shown below. The manufacturer's MARR is 12%.

Model	First Cost	Life	Salvage Value	Annual Operating Cost
Convair T6	\$20,000	6 years	\$2,000	\$8,000
FMC 340	\$29,000	7 years	\$4,000	\$4,000

(a) Which model is more economical?

(b) List two important assumptions that are implicit in your computations in (a).

(9)

Q3. Hero Motors owns a CNC machine that it is considering replacing. Its current market value is \$25,000, but it can be productively used for four more years at which time its market value will be zero. Operating and maintenance expenses are \$50,000 per year.

Hero Motors can purchase a new CNC machine, with the same functionality as the current machine, for \$90,000. In four years the market value of the new CNC machine is estimated to be \$45,000. Annual operating and maintenance costs will be \$35,000 per year.

Should the old CNC machine be replaced using a before-tax MARR of 15% and a study period of four years?

(9)