

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -1 EXAMINATION- Feb 2018

M.Tech IInd Semester

COURSE CODE: 10M11CE213

MAX. MARKS: 15

COURSE NAME: Construction cost analysis

COURSE CREDITS: 3

MAX. TIME: One Hr

*Note: Attempt any three questions. Question no. 2 and 4 is compulsory. Carrying of mobile phone during examinations will be treated as case of unfair means.*

1. What do you understand by B/C analysis? Why is it required? Explain the methods in detail used for B/C analysis. (4)
2. Using modified benefit-cost ratio method (both conventional and modified), 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. 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 (8)
3. What do you understand by estimation? Explain different categories of estimation in detail along with the requirement of estimation. (4)
4. There are four mutually exclusive alternatives for a public project. Select the best alternative using incremental B/C ratio analysis if interest rate is 7% per year. The cash flow details of the alternatives are shown in the following table. Each alternative has the useful life of 40 years. (3)

<b>Alternative</b>	<b>Alternative-1</b>	<b>Alternative-2</b>	<b>Alternative-3</b>	<b>Alternative-4</b>
<b>Cash flow</b>	<b>A1</b>	<b>A2</b>	<b>A3</b>	<b>A4</b>
<b>Initial investment (Rs.)</b>	<b>101000000</b>	<b>112000000</b>	<b>145200000</b>	<b>122800000</b>
<b>Annual operating and maintenance cost (Rs.)</b>	<b>6700000</b>	<b>6450000</b>	<b>5780000</b>	<b>6135000</b>
<b>Worth of annual benefits (Rs.)</b>	<b>16420000</b>	<b>17200000</b>	<b>19100000</b>	<b>17900000</b>
<b>Useful life (Years)</b>	<b>40</b>	<b>40</b>	<b>40</b>	<b>40</b>

UNIT 11 EXAMINATION FEB 2018