CLASS: BE   SEMESTER : V
BRANCH: CIVIL   SESSION : MO/19

SUBJECT: CE5007 – CONSTRUCTION PLANNING AND MANAGEMENT

TIME: 3 HOURS   FULL MARKS: 60

INSTRUCTIONS:
1. The question paper contains 7 questions each of 12 marks and total 84 marks.
2. Candidates may attempt any 5 questions maximum of 60 marks.
3. The missing data, if any, may be assumed suitably.
4. Before attempting the question paper, be sure that you have got the correct question paper.
5. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.

Q.1(a)	Write a short note on Indian construction industry.	[2]
Q.1(b)	Who are the stakeholders of a construction project? Briefly discuss.	[4]
Q.1(c)	What is the importance of project management? What are the activities involve in it?	[6]

Q.2(a)	What is cash-flow diagram?	[2]
Q.2(b)	What do you mean by (i) present worth, (ii) future worth?	[4]
Q.2(c)	There are two alternatives for purchasing a concrete mixer. Both the alternatives have same useful life. The cash flow details of alternatives are as follows; **Alternative-1:** Initial purchase cost = Rs.3,00,000, Annual operating and maintenance cost = Rs.20,000, Expected salvage value = Rs.1,25,000, Useful life = 5 years. **Alternative-2:** Initial purchase cost = Rs.2,00,000, Annual operating and maintenance cost = Rs.35,000, Expected salvage value = Rs.70,000, Useful life = 5 years. Using present worth method, find out which alternative should be selected, if the rate of interest is 10% per year.	[6]

Q.3	Write short notes on equipments used for the following operations: (i) earth work, (ii) dredging, (iii) concreting.	[12]

Q.4(a)	Define "event" and "activity" in a network. Provide suitable examples.	[2]
Q.4(b)	Mention any two common partial situations in a network. Draw the corresponding networks.	[4]
Q.4(c)	Write Fulkerson's rules for numbering the events in network.	[6]

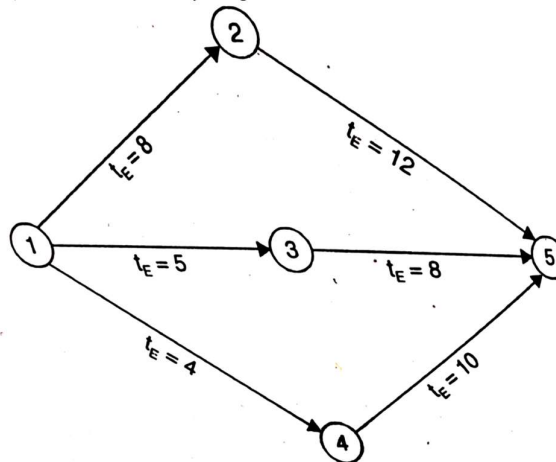|		
Q.5(a)	Define earliest expected time and latest allowable time.	[2]
Q.5(b)	Find the earliest expected time, latest occurrence time, slack of each event shown in the network of Figure 1. Expected time (t_E) of each activity is given.	[10]

Figure 1.

Q.6(a)	Mention name of some of the project management softwares. What are their uses?	[2]
Q.6(b)	Briefly discuss the variation of total project cost with duration.	[4]
Q.6(c)	Discuss Resource allocation and use of Histogram in project management.	[6]

Q.7(a)	What are the various forms used in construction works?	[2]
Q.7(b)	Define (i) Imprest account, (ii) Running bill.	[4]
Q.7(c)	Discuss the various elements of construction quality management.	[6]