JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -1 EXAMINATIONS-2022

B.Tech-V Semester (Civil)

COURSE CODE (CREDITS): 18B1WCE531 (3) MAX. MARKS: 15

COURSE NAME: Construction Technology and Management

COURSE INSTRUCTORS: Mr. KAUSHAL KUMAR MAX. TIME: 1 Hour

Note: All questions are compulsory. Marks are indicated against each question in square brackets.

Q 1. Differentiate between Programme Evaluation Review Technique (PERT) and Critical Path Method (CPM). (Minimum five points) **[CO-1]** **[2 Marks]**

Q 2. Discuss the limitations of Bar Chart Method of project management. What is the different type of errors associated with network diagram? **[CO-1]** **[2 Marks]**

Q 3. Dummies in network diagram are used to maintain logical as well as grammatical sequence of the activity, however there are certain rules defined for using dummies in a network diagram. One such rule for using dummies is ***"If two or more activities having same set of successors, and succeeding activities are having other predecessors as well, the two activities should terminate into one single node."*** Explain the above mentioned rule for using dummy with the help of an A-O-A network example. **[CO-1]** **[2 Marks]**

Q 4. Construct an activity on arrow network based on the activity descriptions below.

a) The predecessors to Activity Z2 are Activities L , C and R.

b) The successors to Activity B are Activities E1 , S , W and D2.

c) Activity E1 also depends on Activity M.

d) Activity U and F follow Activities W and D2, and precede Activities E and R1

e) Activity Y follows Activities C and R and followed by Activity L.

f) Activitiy D , M and B starts the project.

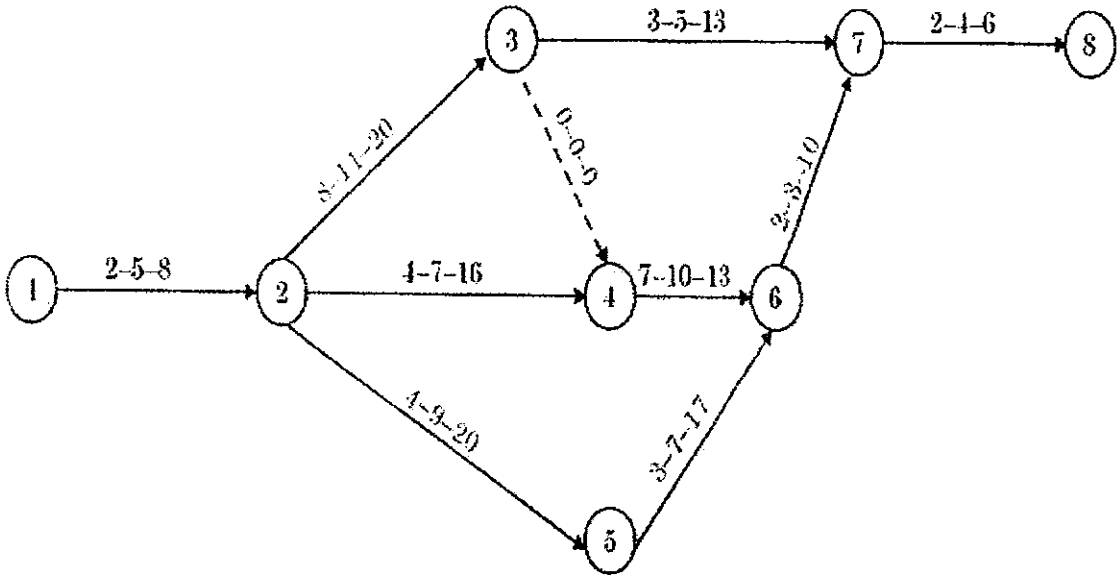
g) Activity C can start when Activities D , E1 and S are completed.

h) Activity R cannot begin until Activity W is finished.

i) Activity I follows Activity D and preceds Activity L.

j) Activity E follows Activities C and R. **[CO-2]** **[4 Marks]**

Q 5. Figure below shows the network for construction project. **[CO-2]** **[5 Marks]**



a) Determine the critical path and its standard deviation.

b) Compute the time duration that will provide 95% probability of its completion in time.

Z(+)	0.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7
Prob. (%)	81.59	84.13	86.43	88.49	90.32	91.92	93.32	94.52	95.54

The End