

B.Tech 8th Semester Mid-Term Examination, 2018
CONSTRUCTION PLANNING AND MANAGEMENT

Subject Code: 01 1X27

Time: 2 hours

Full Marks: 20

Instructions:

- (i) Question No. 1 is compulsory.**
- (ii) Attempt either question number 2 & 3.**
- (iii) Attempt either question number 4 & 5.**

1. Write short notes on following : 10 Marks
- a) CPM v/s PERT
 - b) Slack
 - c) What does a positive slack, a zero slack and a negative slack indicate in a project scenario?
 - d) Bar Chart and Milestone Chart
 - e) Different Time estimates for PERT Network
 - f) Earliest Expected Time and Latest allowable Occurrence time
 - g) Different start and finish times of activity
 - h) Dummy and its usage
 - i) Probability distribution curve.
 - j) Different types of float
2. A construction project consists of 8 major activities. Their interdependency is given below. Draw the network and determine the time for completion of the project. Also mention duration for each path.
- (i) Activities A, B and E can start concurrently. (Starting of the project)
 - (ii) Activities C and D are concurrent and depend on the completion of A and B.
 - (iii) Activities F and G are concurrent and can start after completion of C.
 - (iv) Activity H depends on the completion of C, E and F.
 - (v) Project ends with the completion of G and H.
- Time needed for each activity is

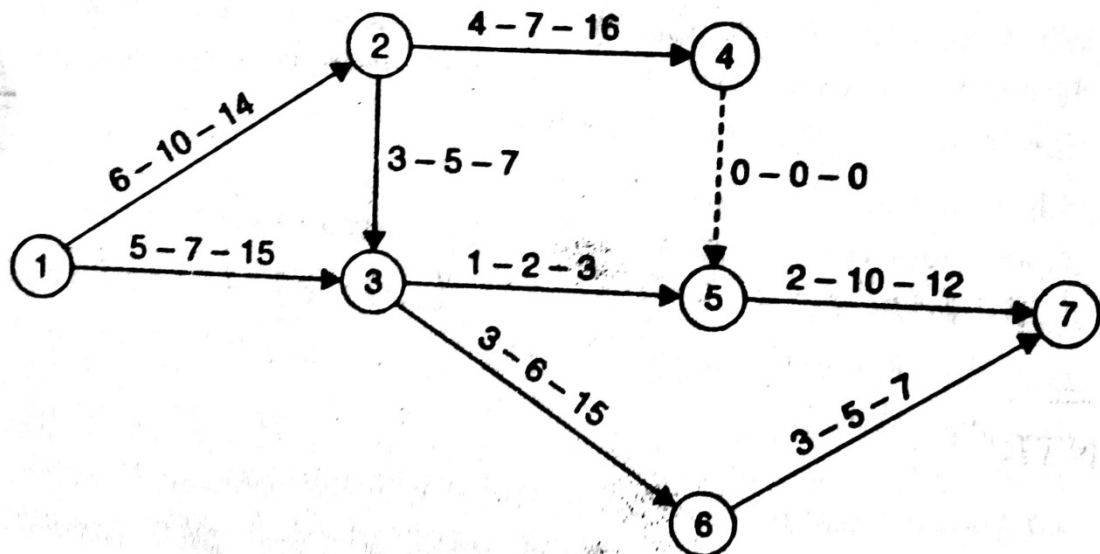
A - 4 weeks, B - 3 weeks, C - 5 weeks, D - 2 weeks, E - 4 weeks, F - 3 weeks, G- 4 Weeks and H- 2 Weeks

3. A project has fourteen activities A through M. The relationships which obtain amongst these activities are given below:

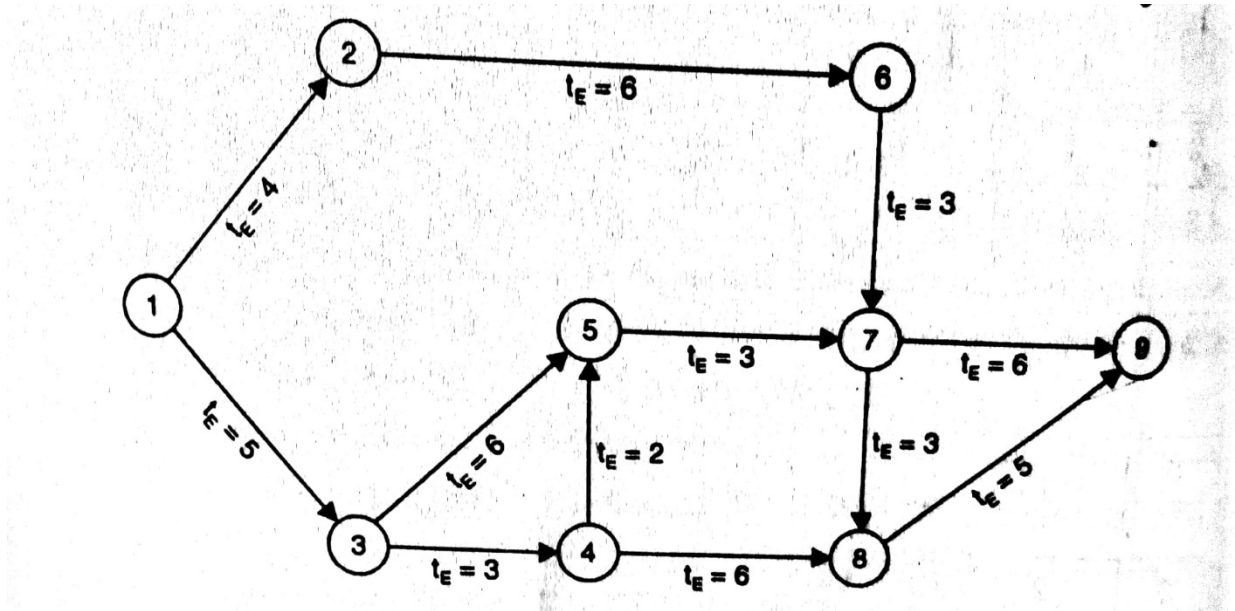
- (i) A is the first operation
- (ii) B and C can be performed in parallel and are immediate successor to A.
- (iii) D, E and F follow B
- (iv) G follows E
- (v) H follows D, but cannot start until E is complete.
- (vi) I and J succeed G.
- (vii) F and J precede K.
- (viii) H and I precede L.
- (ix) M succeeds L and K.
- (x) The last operation succeeds M and C.

Construct the network diagram.

4. The network for ascertain project is shown in figure below. Determine the expected time for each path. Which path is critical?



5. The expected time of completion (in days) for each activity of a network is shown in figure below. Determine the critical path. It is given that the scheduled completion time in 21 days.



BEST OF LUCK