

END TERM EXAMINATION

EIGHTH SEMESTER [B.TECH] MAY-JUNE 2018

Paper Code: ETCE-404

Subject: Planning and Management of
(Batch 2013 Onward) Construction Projects

Time: 3 Hours

Maximum Marks: 75

Note: Attempt any five questions, including Qno.1 which is compulsory.
Assume any missing data suitably, if not given. Use relevant Indian
Codes/Guidelines is permitted.

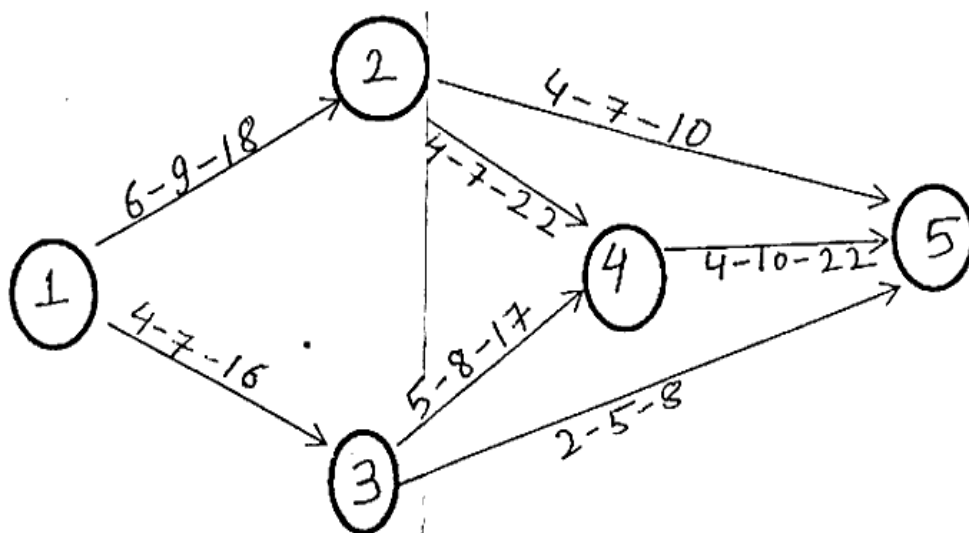
- Q1 Attempt any five of the following: (5x5=25)
- Explain building By-Laws? ✓
 - Explain salient features of land Acquisition? ✓
 - Explain the importance of security deposits? ✓
 - Explain accounting procedure of stores?
 - Enlist pile driving equipments? ✓
 - Explain various provisions for building regulation. ✓
- Q2 (a) Explain the factors required for the efficiency of the projects? (6)
(b) Differentiate between CPM and PERT type analysis? (6.5)
- Q3 (a) Three activities implemented in parallel have the following time cost relationship for direct cost component in each case. What would be the feasible range of total cost component for the three activities together. What is the minimum cost to complete these activities in Nine days? (4.5)
- | Activity | Duration (days) | Cost (Rs.) |
|----------|-----------------|------------|
| A | 10 (normal) | 800 |
| | 9 | 900 |
| | 8 | 1000 |
| B | 11 (normal) | 1200 |
| | 10 | 1350 |
| | 9 | 1500 |
| C | 7 (normal) | 500 |
| | 6 | 700 |
| | 5 | 900 |
- (b) Explain Normal cost, crash time and crash cost. (4)
(c) What do you mean by work breakdown structure? What is its importance in network planning? (4)
- Q4 (a) Explain critical path, supercritical path and sub-critical path. ✓ (4)
(b) Explain free float, independent float and interfering float. ✓ (4.5)
(c) Differentiate among 'forward planning' 'backward planning' and 'combined planning'. ✓ (4)
- Q5 (a) Draw the network diagram and number the events for the following relationship. (6.5)
(i) Activity A,B,E can start together
(ii) Activity C and D are concurrent and depends on completion of both A and B.

- (iii) Activity F and G are concurrent and depend upon completion of C
 (iv) Activity H depends on completion of activity D, E and F.
 (v) The project is completed when activities G and H are done.
 Also indicate the duration of all activities so that the total float is zero at all nodes/activities.

(b) Explain elements of network diagram.

(6)

Q6/ For the given network the estimated time in days for each activity is shown in the network diagram. Find the critical path and the probability of completing the work in 35 days. (12.5)



z	0	+1	+2	+3	-1	-2	-3
Probability(%)	50	84.13	97.72	99.87	15.87	2.28	0.13

- Q7/ (a) Explain the difference between Administrative approval and expenditure sanction. ✓ (4)
 (b) What are the different methods of executing works? ✓ (4)
 (c) Write note on different types of contracts. ✓ (4.5)

- Q8/ (a) Discuss various tenders and its types ✓ (3)
 (b) Discuss various types of contracts ✓ (3)
 (c) Explain different types of earth moving, hauling and hoisting equipments. ✓ (6.5)