



Name :

Roll No. :

Invigilator's Signature :

CS/B.Tech/CE/SEM-8/CE-803/2013

2013

**CONSTRUCTION MANAGEMENT, TECHNOLOGY
& DEPARTMENTAL PROCEDURE**

Time Allotted : 3 Hours

Full Marks : 70

The figures in the margin indicate full marks.

*Candidates are required to give their answers in their own words
as far as practicable.*

GROUP – A

(Multiple Choice Type Questions)

1. Choose the correct alternatives for any *ten* of the following :

10 × 1 = 10

- i) In PERT, the time estimates of activities and probability of their occurrence follow
 - a) Poisson's distribution b) β -distribution
 - c) Normal distribution d) Binomial distribution.
- ii) Public Works Department (P.W.D.) is headed by
 - a) Superintending Engineer
 - b) Chief Engineer
 - c) Executive Engineer
 - d) Asst. Executive Engineer.



- iii) Muster Roll is the
- a) attendance record of daily labour employed
 - b) measurement of the daily work done
 - c) accounting register for consumable materials
 - d) none of these.
- iv) The distance of building line for a building facing a NH is from the centre line of the highway
- a) 15 m
 - b) 30 m
 - c) 45 m
 - d) 60 m.
- v) An embankment constructed of granular soil has Relative Density (%) between 65 to 85. The soil is
- a) very loose
 - b) loose
 - c) medium
 - d) dense.
- vi) Early finish is always greater than
- a) early start
 - b) late start
 - c) late finish
 - d) none of these.
- vii) A vibrator that is used for concreting columns or their wall is
- a) internal vibrator
 - b) external vibrator
 - c) surface vibrator
 - d) platform vibrator.



- viii) Sinking fund is
- a) the fund for rebuilding a structure when its economic life is over
 - b) raised to meet maintenance costs
 - c) the total sum to be paid to the municipal authorities by the tenants
 - d) apart from the money kept in reserve for providing additional structures and structural modifications.
- ix) If an activity has zero activity slack it
- a) means that the project is expected to be delayed
 - b) must be a dummy activity
 - c) is on the critical path
 - d) all of these.
- x) The independent float affects only
- a) preceding activities
 - b) succeeding activities
 - c) the particular activity involved
 - d) none of these.
- xi) PERT analysis computes the variance of the total project completion time as
- a) the sum of the variances of all activities on the critical path
 - b) the sum of the variances of all activities not on the critical path
 - c) the sum of the variances of all activities in the project
 - d) the variance of the final activity of the project.



xii) Which of the following is a direct responsibility of the project manager ?

- a) Calculating completion probabilities for all tasks in the project
- b) Drawing the network diagram
- c) Making sure that the people assigned to the project receive the motivation, direction and information needed to do their jobs
- d) Performing all of the activities in the project.

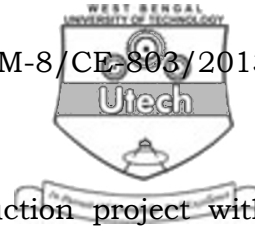
GROUP – B

(Short Answer Type Questions)

Answer any *three* of the following. $3 \times 5 = 15$

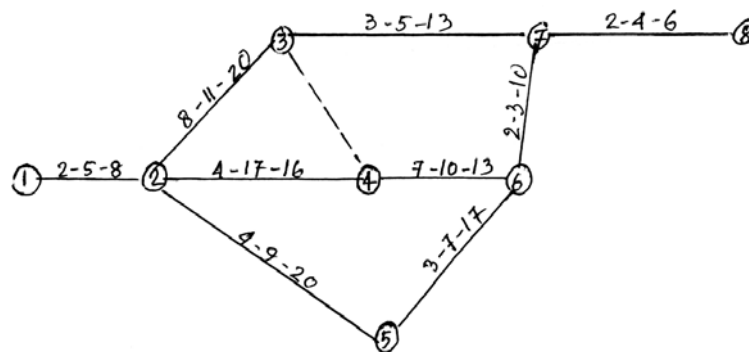
2. What is a tender ? What are the essential contents of a tender document ?
3. Discuss Fulkerson's Rule for numbering agents.
4. A project plan consists of ten events, have predecessors relationship as under :

Events	Immediate predecessor	Events	Immediate predecessor
1	—	6	3, 5
2	1	7	3, 4
3	2	8	3, 7
4	2	9	7
5	2	10	3, 6, 8, 9



5. Discuss various types of contracts.
6. Figure shows the network for a construction project with three-time estimates. Determine
 - a) Critical path and its standard deviation
 - b) Probability of completion of project in 40 days.

Normal deviate	Probability percentage
1.0	84.13
1.1	86.43
1.2	88.49



GROUP - C

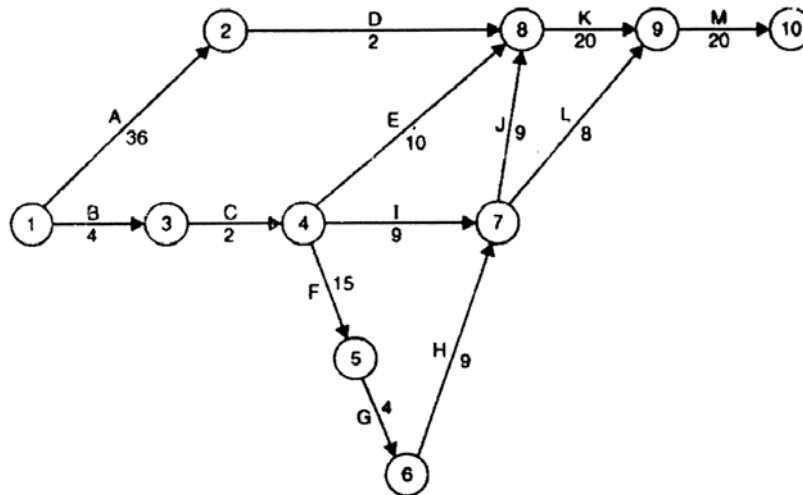
(Long Answer Type Questions)

Answer any *three* of the following. $3 \times 15 = 45$

7. a) State different kinds of arbitration as per Arbitration Act, 1940.
 - b) Illustrate the procedure for settlement of disputes by arbitration. $3 + 12$
8. a) Explain tender and tender notice. $3 + 3$
 - b) State the types of tenders and describe them clearly. $1 + 8$

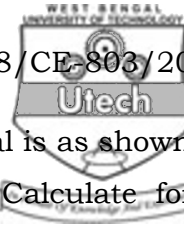


9. The network for a certain project is shown along with the estimated time of completion of each activity marked. Compute the activity times and total float, free float and independent float for each activity. Locate the critical path on the network.



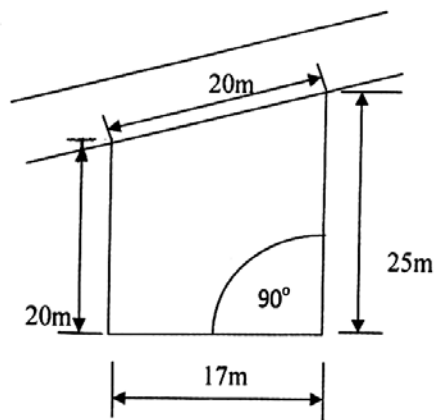
10. Draw the network diagram and find out ES,EF, LS, LF and Total float.

Activity No.	T-Optimistic	T-Most likely	T-Pessimistic
1-3	3	12	21
3-5	6	15	30
1-2	2	5	14
2-4	5	14	17
3-4	2	5	8
4-5	1	4	7



11. A plot of land in a municipality of West Bengal is as shown in figure with a frontage road of 9 m wide. Calculate for a residential building on the plot (i) maximum ground coverage area, (ii) maximum height of a residential building, (iii) F.A.R. (iv) number of flats, if each flat has maximum covered area of 110 m^2 .

6 + 3 + 3 + 3



12. Classify buildings based on Fire Protection. Describe Dry riser and Wet riser. Explain Emergency lighting and Escape lighting.

5 + 5 + 5

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