Construction Planning, Scheduling & Mgt.
(1010)

P. Pages : 2

Time : Three Hours   Max. Marks : 100

Instructions to Candidates :
1. Do not write anything on question paper except Seat No.
2. Answersheet should be written with blue ink only. Graph or diagram should be drawn with the same pen being used for writing paper or black HB pencil.
3. Students should note, no supplement will be provided.
4. Solve **any five** questions.
5. Assume suitable data if required.
6. Figures to right indicate full marks.
7. Use of pocket calculator is allowed.
8. Use of probability table is allowed.

1. Explain the following methods of scheduling.   20

    a) Gantt chart.   b) Repetitive project modelling.

    c) P. E. R. T.   d) L. O. B. technique
        with the help of examples from construction projects.

2. Determine :   10
    i)   EFT (i, j)   ii) LST (i, j)
    iii) TF (i, j) for the following activities

Activity	D (i, j) days
A (1, 3)	7
B (1, 2)	3
C (3, 5)	6
D (2, 6)	3
E (6, 7)	3
F (4, 6)	2
G (5, 7)	3
H (7, 8)	2

    Also determine critical path

    b) Discuss advantages and limitations of network techniques over other
        scheduling methods.   10

3. For the activity table given below, find the expected time of completion of
    project with 84.1% probability   **20**

Activity	Estimated activity duration.		
	T_o (days)	T_m (days)	T_p (days)
(1, 2)	3	6	15
(1, 6)	2	5	14
(2, 3)	6	12	30
(2, 4)	2	5	8
(3, 5)	5	11	17
(4, 5)	3	6	15
(6, 7)	3	9	27
(5, 8)	1	4	7
(7, 8)	4	19	28

4. Explain the procedure for step by step compression of a CPM network with
    an example. Why project crashing is done ? Whenever multiple critical paths
    get created during the crashing process what strategy is adopted ? Why?   **20**

5. a) Explain concept of resource levelling with an example.   **10**

    b) Discuss the various objectives of cost control in construction.   **10**

6. a) Explain with examples the following relationships.   **8**

    i)   Finish to finish (FF).   ii)   Finish to start (FS).

    iii) Start to start (SS).   iv)   Start to finish (SF).

    b) Compare advantages of A. O. N. networks over A. O. A. networks.   **4**

    c) Define different types of floats and explain their practical utility with examples.   **8**

7. Explain the following.   **20**

    i)   Linear programming.   ii)   WBS.

    iii) Project updating.   iv)   Cost control techniques.

    v)   Site layout planning.

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