

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -3 EXAMINATION

M.Tech. (CM) I<sup>st</sup> Semester

COURSE CODE: 10M11CE113

MAX. MARKS: 35

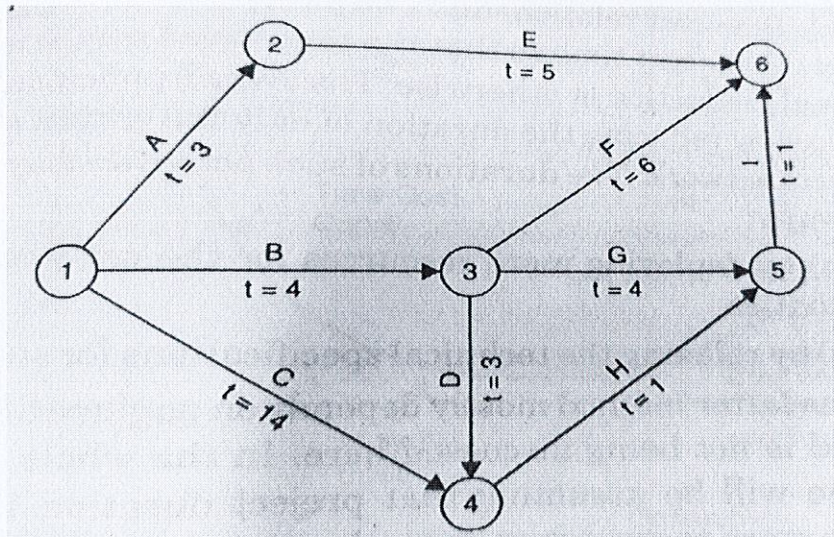
COURSE NAME: Construction Planning and Control

COURSE CREDITS: 03

MAX. TIME: 2 Hours

*Note: All questions are compulsory. Carrying of mobile phone during examinations will be treated as case of unfair means.*

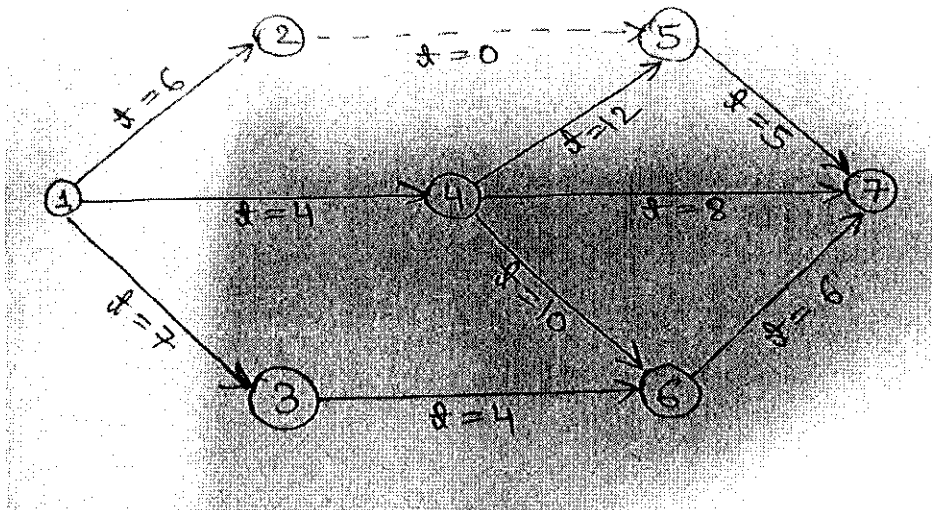
- Q.1 (a) What do you understand by updating? Why is it essential? (2 marks)  
(b) The network shown in figure has the estimated duration for each activity marked. Determine the total float for each activity and establish the critical path. Also determine free float and independent float for each activity. (8 marks)



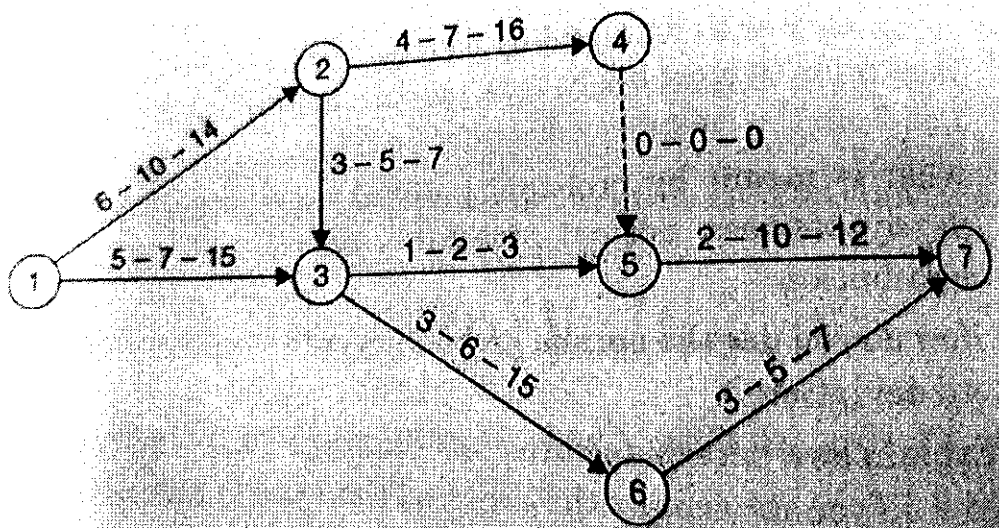
- Q.2 A network for a project is shown in figure below. The network is to be updated after 10 days of its execution. The following conditions exist at the end of 10 days – (8 marks)
- Activity 1-2, 1-3 and 1-4 have been completed as originally scheduled.
  - Activity 4-5 is in progress and will require 6 more days for completion.
  - Activity 4-6 is in progress and will require 6 more days for completion.
  - Activity 3-6 is in progress and will be completed in one day.
  - Other activities have not been commenced and their original predicted durations will hold good, except for activity 5-7 which will require only three days instead of 54 days originally planned.

Update the network and determine critical path of updated network. What is the total increase in the project duration?





- Q.3 a) Discuss in brief resources allocation problem. What are the methods of solving the problem? (2 marks)
- b) The network for a certain project is shown in figure. Determine the expected time for each path. Which path is critical? (7 marks)



The project consists of eight events having predecessor relationship as under-

Event	Immediate Predecessor	Event	Immediate Predecessor
1	-	5	3,4
2	1	6	3,5
3	1	7	6
4	2,3	8	4,7

Q.4 For the network shown in figure, determine the slack for various events, if the scheduled date of completion of the project is 36 days. Present the computations in tabular form. (8 marks)

