

Karshel Kumar

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT
TEST -2 EXAMINATION- Oct 2017
B.Tech 5th Semester

COURSE CODE:10B11CE515

MAX. MARKS:35

COURSE NAME: Construction Technology and Management

COURSE CREDITS: 4

MAX. TIME: 2 Hr

Note: All questions are compulsory. Carrying of mobile phone or sharing of materials during examinations will be treated as case of unfair means. Use Graph Paper whenever required.

- 1 (a). What are the differences between **Earnest Money** and **Security Deposit** in the process of bidding of any project?
- (b). Write a short note on any one dewatering technique in construction sites.
- (c). Define Sinking Fund Factor (SFF) and find A(single payment in a series of n equal payments), if SFF is 0.02 and Future sum of money is Rs. 10000 . [2+2+2 = 6 Marks]

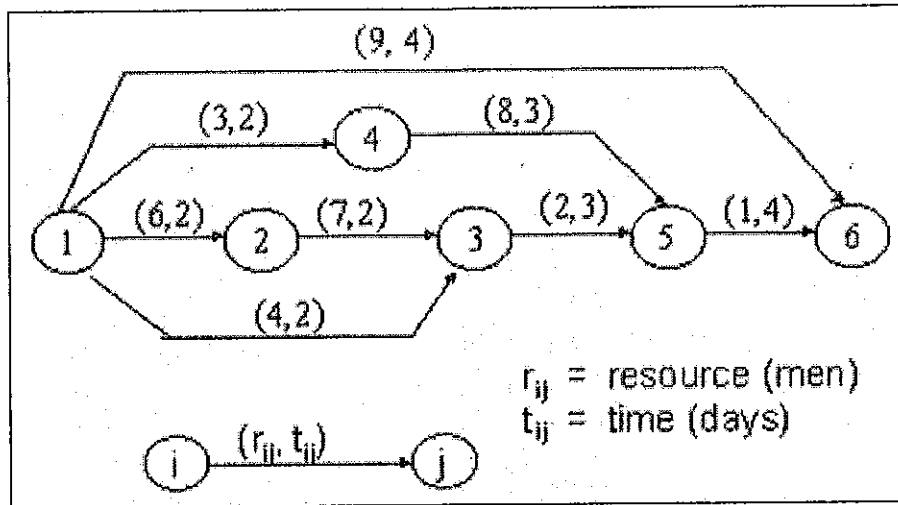
2. Draw the network for the following data: [4 Marks]

- i. A and B can be carried out at the same time. v. C and E follow A and can be performed concurrently.
- ii. D follows C. vi. E must be carried out before G.
- iii. F depends on E and D. vii. J depends on the completion of I and K
- iv. Neither I nor K can be started before B is completed but they can be concurrently performed. viii. H can be started when J, F and G are completed.
- ix. H is the last activity.

3. A contractor intends to bid for a small- size civil engineering project consisting of the following activities and corresponding different time limits (in weeks). Work out
- a) Critical Path and standard deviation for the whole network
- b) Z- factor for completing the project in 42 weeks
- c) Completion time duration for which the contractor should bid considering 93% probability assuming Z-factor as 1.5
- d) Total Float, Free Float and Independent Float [7 Marks]

Activity	Optimistic time	Pessimistic time	Most Likely time
1-2	1	5	3
1-3	3	15	6
2-3	2	14	5
2-4	5	9	7
3-4	2	12	4
2-5	6	18	9
4-5	1	3	2
3-8	3	15	12
4-6	4	8	6
5-7	1	7	2.5
6-8	3	5	4
6-7	0	0	0
7-9	1	9	8
9-10	1	5	3
8-10	0	0	0
8-11	1	11	9
10-11	3	9	4.5
9-11	4	20	9

4. Consider the network diagram shown below. Level out the requirement of the resources, if the maximum number of labour, on any day, has to be limited to 10. Draw the allocation of resources before and after Leveling operation on *Graph Paper*. [8 Marks]



5. With the help of a neat sketch, discuss various parts and operation of any one of three
 (a) Power Shovels (b) Hoes (c) Clamshells [4 Marks]
6. What are various uses of scaffold, In Scaffold elements, define any two
 (a) Putlog (b) Ledger (c) Transom (d) Split joint pin [3 Marks]
7. Answer any one of the three.
 (a) What are different types of formwork? Which kind of formwork can be used for casting of roofslab?
 (b) Discuss various types of fabrication of steel structure
 (c) What is shotcrete? How is shotcrete different from concrete? [3 Marks]