

PARUL UNIVERSITY
FACULTY OF ENGINEERING & TECHNOLOGY
M.Tech., Winter 2017-18 Examination

Semester: I
Subject Code: 03216101
Subject Name: Project Management

Date: 26/12/2017
Time: 2:00pm to 4:30pm
Total Marks: 60

Instructions:

1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Make suitable assumptions wherever necessary.
4. Start new question on new page.

Q.1 A) Write short note on Construction Quality Management. (05)

B) A construction project having activities as: (05)

Activity Node	1-2	2-3	2-4	3-4	3-5	4-5	4-6	5-6
T_0	3	2	6	1	5	2	4	1
T_m	12	5	15	2	14	5	5	4
T_p	21	14	30	3	17	14	12	7

Draw the network diagram and calculate the early occurrence time, late occurrence time and slack for each activity. Identify the critical path. Also calculate the standard deviation and variance for each activity.

C) What are the challenges in construction industry? Explain the role, responsibilities and competencies of a construction project manager. (05)

Q.2 Answer the following questions. (Attempt any three) (Each five mark) (15)

- A) Explain in detail the aim, function and component of PMIS.
- B) Explain in detail BCWS, BCWP, ACWP, SPI, CPI, CV and SV through S curve.
- C) Explain risk identification and its mitigation process in construction projects.
- D) Write short note on Construction Equipment Management.

Q.3 A) Explain in detail: (i) Major functions of monitoring system and (ii) Role of Project Manager in developing WBS (07)

B) For a township of 120 bungalows to be completed in 10 months, the data is available from planning department as given below: (08)

Activity	Month	1	2	3	4	5	6	7	8	9	10
Super structure		10	10	20	20	20	20	20	-	-	-
Plasterwork		-	10	20	20	20	20	20	10	-	-
Flooring, Painting		-	-	20	20	15	15	30	20	-	-
Finishing & Hand over		-	-	-	-	10	20	20	20	30	20

Numbers shown in table shows activity completion at the end of each month for given bungalows.

Following is the information of actual progress at various stages of the project. Draw LOB cyclograph and control chart, and give your comment on progress. Give your suggestions for masons' deployment for plastering, flooring and finishing works if you are reviewing the status on the 8th month. What is probable delay?

Activity	Month	2 nd	4 th	6 th	8 th
Super structure		15	50	100	120
Plasterwork		05	40	90	100
Flooring, Painting		-	10	65	95
Finishing & Hand over		-	-	45	80

OR

B) The details of a project are mentioned in table below: (08)

Activity	Predecessor	Normal		Crash	
		Time (weeks)	Cost (Rs in thousands)	Time (weeks)	Cost (Rs in thousands)
A	-	4	60	3	90
B	-	6	150	4	250
C	-	2	38	1	60

D	A	5	150	3	250
E	C	2	100	2	100
F	A	7	115	5	175
G	D,B,E	4	100	2	240

Indirect cost of the project vary as follow:

Day	15	14	13	12	11	10	9	8	7	6
Cost (Rs.)	600	500	400	250	175	100	75	50	35	25

Find the optimum duration and the associated minimum project cost by performing network crashing process.

- Q.4** A) Discuss the importance and benefits of planning, scheduling and controlling for the success of a construction project. **(07)**

OR

- A) Explain in detail: (i) Matrix organization and (ii) Controlling parameters of Project control system. **(07)**
- B) Explain the effect of workforce motivation and human factors in construction projects. **(08)**