GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-V- EXAMINATION - SUMMER 2016

Subject Code: 152505 Date: 17/05/2016

Subject Name: Project Management (Institute Elective - II)

Time: 02:30 PM to 05:00 PM **Total Marks: 70**

Instructions:

- 1. Attempt all questions.
- 2. Make suitable assumptions wherever necessary.
- 3. Figures to the right indicate full marks.
- **Q.1** Define a Project? Explain Scope Triangle with Suitable Example. 07
 - What is Project Management? Explain the phases of Project Management in details. 07
- What do you mean by Risk Management? Also explain Risk Analysis in project **Q.2** (a) **07** Management.
 - **(b)** What is Work Breakdown Structure (WBS)? Explain various approaches to building the **07** WBS.

OR

- With reference to Project Overview Statement explain 'Assumptions', 'Risk' and 07 'Obstacles'.
- **Explain Following Terms** 07 Q.3 (a)
- - 1. Sequence of Activity
 - 2. Complex Activity
 - 3. Unique Activity
 - 4. Connected Activity
 - Define Quality Management? Explain continuous quality management model.

- What is the essential difference between resource leveling and resource smoothing? 0.3 07 Explain with the help of example.
 - Explain resource smoothing methods with suitable example. **(b) 07**
- Define Predecessor Activity and Draw a Network for the project of erection of a steel 07 **Q.4** warehouse. The various activities involved in the erection of the steel ware house along with the predecessor relationship are outlined in following table.

Activity	Description	Predecessor Activity
A	Erect site office	-
В	Construct boundary	-
С	Preparatory work for erection	A
D	Begin piling work	В
Е	Fabrication of piping	A
F	Install main beams	В
G	Construct pillars	C,D
Н	Reinforce Foundation	G,F
I	Erect fabrication work	Е
J	Finish the structure	H,I
K	Paint the structure	J

- With reference to Project Network Analysis, answer following:
 - (i) Define 'dummy activity'. When it is introduced in the network?
 - (ii) Define 'slack'. Explain practical significance of slack.

07

07

Q.4 (a) Following table shows the information related to a project that involves the merger of two marketing firms (in days).

Activity	Immediate Predecessor(s)	Estimated Duration (Days)	
A	-	10	
В	-	15	
С	A	5	
D	В	12	
E	C,D	14	
F	В	8	
G	D,F	15	
Н	Е	10	
I	E,G	6	
J	F,I	9	

- a. Draw the project network.
- b. Develop the project schedule (EST, EFT, LST, LFT).
- c. What are the critical activities?
- d. What is the project completion duration?
- e. If there is an option to delay one activity without delaying the entire merge project, which activity would you delay and why?
- **(b)** Enlist & explain briefly various methods to estimate activity duration.

07

- Q.5 (a) Differentiate CPM and PERT. Explain Applications of CPM and PERT based on type of project.
 - (b) Following table lists down the activities from one event to the other along with the three time estimates in days.
 - a. Develop the project network
 - b. What are the critical activities
 - c. Find out project completion duration.

Activity	$\mathbf{t_o}$	$\mathbf{t_p}$	$\mathbf{t_m}$
1-2	3	6	15
1-6	2	5	14
2-3	6	12	30
2-4	2	5	8
3-5 4-5	5	11	17
4-5	3	6	15
6-7	3	9	27
5-8	1	4	7
7-8	4	19	28

OR

Q.5 (a) Explain Network Crashing. With suitable example describe the procedure for network crashing.

(b) A new pharmaceutical product is to be released on a deadline for which 44 days are left. The activities involved in the product lunch with their interdependencies and probabilistic times for completion in days are given in following table. Draw a project network and find the standard normal variate.

Activity	Predecessor	Optimistic	Most Likely	Pessimistic
A	-	6	10	14
В	A	1	2	3
С	A	16	20	30
D	В	3	5	7
Е	D	2	3	4
F	С	7	10	13
G	D	1	2	3
Н	G	1	3	5
I	C,G	2	2	2
J	I	2	3	4
K	Н	1	1	1
L	J,K	1	2	3
