No. of Printed Pages : **3**

Sl. No.

CE1.4-R4 : PROJECT MANAGEMENT

NOTE :

1. **Answer question 1 and any FOUR from questions 2 to 7.**
2. **Parts of the same question should be answered together and in the same sequence.**

Time: 3 Hours Total Marks: 100

1. (a) Identify the role of the project manager in the software project planning process.

(b) Which characteristics are used by Project Manager for doing resource allocation, monitoring and controlling the progress of the system ?

(c) Software project planning entails what activities? What are the difficulties faced in measuring the software costs ?

(d) How will you prioritize Risks? Identify the personnel that must be involved in the risk analysis of a project and describe their duties.

(e) What are some project related cost factors of a software cost estimation model ?

(f) Quality, Reliability and Safety are related concepts, but how they are fundamentally different ? Discuss.

(g) What are critical paths? Discuss how they are useful ? **(7x4)**

2. (a) Project Closing is important phase of Project Management Life cycle. Describe the key processes and outputs of the project closing process.

(b) How the projects are planned, monitored and controlled in cycle process ?

(c) Which are various stake holders of any Project ? How they are related to Project? Enlist stake holders for Construction of Bridge Project. **(6+6+6)**

3. (a) What is Project Scope ? Compare or differentiate Product Scope vs. Project Scope. Which are various activities carried out under Project Scope management ?

(b) What are different categories of Software development projects according to COCOMO estimation model? Give example of software product development projects belonging to each of these categories. How to find effort and time of development for each category ?

(c) How Function point is better compare to LOC? Compute the Function Point value for a software project with the following details : User Input: 15; User Outputs: 25; Number of Files: 8; Inquiries: 12; External Interfaces: 03. Assume the multipliers at their average values and all the complexity adjustment factors at their moderate to average values. **(6+6+6)**

4. (a) Explain in brief the difference between PERT and CPM. Explain the circumstances under which one is preferred to other. Draw Network and Gantt diagrams from the relationship given in the table.

TABLE	
Activity	Immediate Predecessor
P	-
Q	P
R	P, Q
S	-
T	P, S

(b) Why we required to do Contract Management in Project? Which are types of Contract? Explain stages in contract placement. What is significance of Terms and Condition of Contract.

(c) What is difference between Quality Control and Quality Assurance? List and Explain umbrella activities of Software Quality Assurance. **(6+7+5)**

5. (a) How Change Management is related with Source and Version Control ? What are various activities performed during Integrated Change Control Process? Explain various reasons to Changes in Project ? Who is responsible to approve Change Request and based on what factor ?

(b) The project information for the custom order process of the Air Control Company is presented here. There are total eight activities are required for the project. The activities, their predecessors and the estimated time required for the completion of each activity are given in the following table. Based on this information, develop the PERT and Gantt chart diagram for the project.

ID	Activity	Predecessor	Time (days)
A	Order Review	None	2
B	Order Standard Parts	A	15
C	Produce Standard Parts	A	10
D	Design Custom Parts	A	13
E	Software Development	B	18
F	Manufacture Custom Hardware	C,D	15
G	Assemble	E	10
H	Test	G,F	5

(9+9)

6. (a) CMM and ISO are Software Quality Assurance Standard. Explain CMM and ISO 9001. What is difference between CMM and ISO 9001.

(b) What is Resource in Project? What are the different types of resource for a project? Explain the allocation and scheduling of these resources.

(c) What is Organizational Structure? Explain type of Organizational structure and Team Structure with their relevant example in your field of Software. Discuss merit and demerits of each in brief. **(6+6+6)**

7. (a) What is Risk? Which are various types of Risk in Engineering Project? Give example of each. How to manage Risk of any Project ?

(b) Discuss reasons of Project's failure or success. Give your view point on any construction industry project failure. Give any case study of your field to explain your view.

(c) What is Critical task/activity and Critical path in Planning? How Critical Path Management (CPM) techniques are performed in planning phase? Write Steps in CPM planning. **(6+6+6)**

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