INDIAN STATISTICAL INSTITUTE

Bangalore Centre

Program: -MS (Quality Management systems)

Course: -Project Management

END SEMESTER EXAMINATION

MAX MARKS: 100

Instructions to the Candidates:

The question paper Consists of Four Parts. Part –A is short answer type question and fill in the blanks type questions meant to test your conceptual understanding of the subject taught to you. Each Question carries 1 Marks. This section is compulsory. Part B and Part C Consists of five marks questions and ten marks questions to test your ability to get into the subject in detail. Part D Consists of questions on the basis of a case study- this tests your ability to apply the knowledge to real world problem situations and scenario's.

Part A has a weight age of 20 marks and is compulsory. Part B & C Consists of questions with allocation of 5 marks and 10 marks each with a total allocation of 30 & 30 marks respectively. The total marks for section B & C Put together is 60 marks. Part D is a case study problem which is compulsory. The case study carries 20 Marks.

PART A

Short Answer Questions 1*10=10 Marks) (1 Mark each)

1. What is the purpose of a Responsibility Assignment Matrix (RAM) in project management?

2. Name one common method used to identify project risks.

3. In Project Communication Management, what is an example of a communication medium used for formal communication?

4. What does the acronym "RFP" stand for in Project Procurement Management?

5. Which process in Project Human Resource Management involves developing individual and team skills to enhance project performance?

6. Define "risk mitigation" in the context of Project Risk Management.

7. In Project Communication Management, what is the purpose of a stakeholder analysis?

8. What is the main objective of the "Conduct Procurement" process?

9. Name one advantage of using interactive communication over passive communication in Project Communication Management.

10. What is the primary objective of Project Cost Management?

Fill in the Blanks (1*10=10 Marks) (1 Mark each)

1. In Project Communication Management, the _____ is a document that outlines how, when, and who will communicate project information.

2. The _____ model in Project Communication Management helps determine the number of communication channels within a project.

3. _____ is the process of identifying and documenting project roles, responsibilities, and required skills.

4. The main objective of _____ is to ensure that project resources are used effectively and efficiently.

5. In Project Procurement Management, _____ involves obtaining seller responses, selecting a seller, and awarding a contract.

6. _____ analysis is used in Project Risk Management to assess the impact of identified risks.

7. The _____ strategy involves transferring the impact of a risk to a third party, such as through insurance.

8. _____ is a document that lists all project requirements and is used to solicit bids from potential suppliers.

9. In Project Risk Management, _____ involves monitoring risk response plans and assessing their effectiveness.

10. The process of monitoring and controlling project costs to keep the project within the approved budget is known as _____.

PART B (5 *6=30 Marks) (Answer any six out of the eight questions each question carries 5 marks each)

1. Explain the main components of a project communication plan and how each component contributes to effective project communication.

2.Discuss the importance of role clarity within a project team and how a RACI matrix can help ensure clear roles and responsibilities.

3.Describe the different types of procurement contracts and provide an example of when each type might be suitable in a project.

4. Explain the key processes involved in Project Cost Management. How do these processes ensure that a project is completed within its approved budget?

5. Explain the difference between qualitative and quantitative risk analysis in project risk management.

6. Discuss the main processes involved in Project Human Resource Management according to the PMBOK.

7. Discuss the role of a Request for Proposal (RFP) in project procurement and how it differs from an Invitation to Bid (ITB).

8. What are the main barriers to effective communication in projects, and how can they be overcome?

PART C (3*10 Marks each) (Answer any 3 from the 6 each question carries 10 Marks)

1. Describe the processes involved in project human resource management. Explain the role of project team formation, motivation, and conflict resolution in ensuring effective project execution.

2. Explain the steps involved in the project procurement process. How do procurement management practices affect project cost, schedule, and quality?

3. Discuss the process of risk identification, analysis, and mitigation in project management. Illustrate the importance of a risk management plan with examples.

4. Discuss the importance of accurate cost estimation in Project Cost Management. Explain the different types of cost estimation techniques (such as analogous, parametric, bottom-up, and three-point estimation) and their applications in managing project budgets effectively

5. The Following information pertaining to a Project is given to you.

Activity Code	Immediate Predecessors	Time
A	**-**	**2**
B	**-**	**4**
C	**A**	**10**
D	**A, B**	**3**
E	**A,B**	**2**
F	**C**	**4**
G	**D,F**	**6**
H	**E,G**	**8**

i. Develop the project network.
ii. Compute the EST, EFT, LST, LFT and identify the critical path.
iii. What is the project duration?
iv. Determine the Total Float for each of the activity.

6.An R & D project has a list of tasks to be performed whose time estimates are given in the table as follows.

		Time in Days		
Activity	Activity Name	to	tm	tp
1-2	A	4	6	8
1-3	B	2	3	10
1-4	C	6	8	16
2-4	D	1	2	3
3-4	E	6	7	8
3-5	F	6	7	14
4-6	G	3	5	7
4-7	H	4	11	12
5-7	I	2	4	6
6-7	J	2	9	10

i. Draw the project network.

ii. Find the critical path.

iii. Find the probability that the project is completed in 19 days.

PART D (Case Study) (20 Marks)

Case Study: The Phoenix Software Project

Background: Phoenix Technologies, a mid-sized software development company, embarked on a high-profile project to develop a new customer relationship management (CRM) system for a major client. The project, named Phoenix, was scheduled to be completed in 12 months with a budget of $2 million. The CRM system was intended to streamline client interactions, enhance customer service, and improve data management.

Challenges: Three months into the project, the development team encountered several risks:

1. **Scope Creep:** The client frequently requested additional features that were not part of the original project scope.
2. **Resource Allocation:** Key developers were often pulled into other urgent projects, leading to delays.
3. **Technical Complexity:** The integration of the CRM system with the client's existing IT infrastructure proved more complex than initially anticipated.

Mitigation Strategies:

1. **Scope Creep:** The project manager established a clear change management process. Any new requests were assessed for feasibility, cost, and impact on the timeline before being approved.
2. **Resource Allocation:** The team implemented a resource management plan to ensure key developers were dedicated exclusively to the PhoenixCRM project.
3. **Technical Complexity:** The project team engaged external experts with experience in similar integrations to assist with the complex technical aspects.

Outcome: Despite the challenges, the PhoenixCRM project was completed successfully within 14 months with a budget overrun of 10%. The client was satisfied with the end product, and the additional features added significant value to their operations.

Discussion Questions:

1. What could the project manager have done differently at the beginning of the project to better manage scope creep?
2. How effective were the resource allocation strategies, and what improvements could be made for future projects?
3. In what ways could the team have better anticipated and mitigated the technical complexities?
4. What additional risk management practices could have been implemented to keep the project within the original budget and timeline?