

# 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 one sentence answer 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 10 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 & 40 marks respectively. The total marks for section B & C Put together is 70 marks. Part D is a case Study problem which is compulsory. The case study carries 20 Marks.

Question Number	Part A	Marks
	Write the answers in one line.	
1.1	Define Quality Assurance.	01
1.2	What is parameter estimation in project cost management?	01
1.3	What is the purpose of pareto diagram?	01
1.4	List the four types of risk response strategies that are normally used in the context of project management.	01
1.5	Mention any point to highlight the importance of Source Selection in Procurement Management.	01
1.6	What is the importance of listening in communication?	01
1.7	Mention any two aspects of talent acquisition process?	01
1.8	Mention any two aspects of building effective teams.	01
1.9	Define the term project scheduling.	01
1.10	Highlight the importance of Quality Control.	01
	<b>Part B (Short Answers)</b> <b>(Answer any Six from the Following) Each question carries 5 Marks.</b>	
2	Describe the process of estimation using the Analogous estimation techniques.	05
3	What is the purpose of Quality audit? Discuss the process of conducting a Quality Audit?	05
4	Mention the commonly identified types of contracts in project procurement management. Discuss any one of these types highlighting their characteristics.	05

5	Define the terms Delegating, Motivating, Coaching and Mentoring	<b>05</b>																																								
6	Risk identification consists of determining which risks are likely to affect the projects and determining the characteristics of each. Explain briefly the process involved for identifying risks in projects.	<b>05</b>																																								
7	Briefly explain the process of risk quantification using simulation. Discuss Montecarlo simulation technique.	<b>05</b>																																								
8	List the critical outputs from the quality planning aspect of Project Quality Management. What are the contents of a typical Quality management plan document?	<b>05</b>																																								
<b>Part C (Answer any four full questions) Each question carries 10 Marks</b>																																										
9	<p>The following table gives the activity time data of a certain project together with immediate predecessor requirement:-</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Activity</th> <th>Immediate Predecessor</th> <th>Time in Days</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>-</td> <td>3</td> </tr> <tr> <td>B</td> <td>-</td> <td>4</td> </tr> <tr> <td>C</td> <td>A</td> <td>2</td> </tr> <tr> <td>D</td> <td>B</td> <td>3</td> </tr> <tr> <td>E</td> <td>A,B</td> <td>5</td> </tr> <tr> <td>F</td> <td>C,D</td> <td>3</td> </tr> <tr> <td>G</td> <td>E</td> <td>4</td> </tr> <tr> <td>I</td> <td>F,G</td> <td>2</td> </tr> </tbody> </table> <p>Construct the network for the project and find the critical path and hence the time required to complete the project</p>	Activity	Immediate Predecessor	Time in Days	A	-	3	B	-	4	C	A	2	D	B	3	E	A,B	5	F	C,D	3	G	E	4	I	F,G	2	<b>10</b>													
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10	<p>The below table shows the jobs of a network along with their time estimates (days).</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Jobs</th> <th>1-2</th> <th>1-6</th> <th>2-3</th> <th>2-4</th> <th>3-5</th> <th>4-5</th> <th>5-8</th> <th>6-7</th> <th>7-8</th> </tr> </thead> <tbody> <tr> <td>Most likely</td> <td>3</td> <td>2</td> <td>6</td> <td>2</td> <td>5</td> <td>3</td> <td>1</td> <td>3</td> <td>4</td> </tr> <tr> <td>Optimistic Time</td> <td>6</td> <td>5</td> <td>12</td> <td>5</td> <td>11</td> <td>6</td> <td>4</td> <td>9</td> <td>19</td> </tr> <tr> <td>Pessimistic Time</td> <td>15</td> <td>14</td> <td>30</td> <td>8</td> <td>17</td> <td>15</td> <td>7</td> <td>27</td> <td>27</td> </tr> </tbody> </table> <p>i. Draw the project network  ii. Find the critical path  iii. Find the probability that the project is completed in 31 days in terms of Z variate.</p>	Jobs	1-2	1-6	2-3	2-4	3-5	4-5	5-8	6-7	7-8	Most likely	3	2	6	2	5	3	1	3	4	Optimistic Time	6	5	12	5	11	6	4	9	19	Pessimistic Time	15	14	30	8	17	15	7	27	27	<b>10</b>
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11.	<p>The table presented is a decision table.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th rowspan="2">Decision Alternatives</th> <th colspan="3">Market</th> </tr> <tr> <th>Good</th> <th>Fair</th> <th>Poor</th> </tr> </thead> <tbody> <tr> <td>Small</td> <td>50,000</td> <td>20,000</td> <td>-10,000</td> </tr> <tr> <td>Medium</td> <td>80,000</td> <td>30,000</td> <td>-20,000</td> </tr> <tr> <td>Large</td> <td>100,000</td> <td>30,000</td> <td>-40,000</td> </tr> <tr> <td>Very Large</td> <td>300,00</td> <td>25,000</td> <td>-160,000</td> </tr> </tbody> </table> <p>Solve the Decision Problem using the following Criteria</p>	Decision Alternatives	Market			Good	Fair	Poor	Small	50,000	20,000	-10,000	Medium	80,000	30,000	-20,000	Large	100,000	30,000	-40,000	Very Large	300,00	25,000	-160,000	<b>10</b>																	
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	<p>a) Maximax.  b) Maximin.  c) Equally Likely.  d) Criteria of realism.  e) Mini-max Regret Decision</p>	
12	<p>The project procurement management includes the processes such as Procurement planning, Solicitation planning, Solicitation, Source selection Contract administration, Contract close-out. Provide an overview of the activities under each of the process in Project Procurement Management.</p>	10
13	<div data-bbox="397 590 1230 1039" data-label="Diagram"> <pre> graph TD     Project[Project] --&gt; Technical[Technical]     Project --&gt; External[External]     Project --&gt; Infra[Infra]     Project --&gt; Client[Client]     Project --&gt; Management[Management]     Technical --&gt; Requirement[Requirement]     Technical --&gt; Design[Design]     Technical --&gt; Quality[Quality]     Technical --&gt; Performance[Performance]     External --&gt; Contract[Contract]     External --&gt; Funding[External Funding]     Infra --&gt; Server[Server]     Infra --&gt; Application[Application]     Client --&gt; Targets[Targets]     Client --&gt; Tactics[Tactics]     Client --&gt; Funding[Client Funding]     Management --&gt; Resources[Resources]     Management --&gt; Corporate[Corporate]     Management --&gt; Stakeholder[Stakeholder] </pre> </div> <p>Given above is a typical risk breakdown structure (RBS). Explain in detail on how the risk in this project is to be assessed based on the risks identified herein. Assume you are required to carry out a Qualitative risk analysis of the project.</p>	10
14	<p>A government committee is considering the economic benefits of a program of preventative flu vaccinations. If vaccinations are not introduced then the estimated cost to the government if flu strikes in the next year is £7m with probability 0.1, £10m with probability 0.3 and £15m with probability 0.6. It is estimated that such a program will cost £7m and that the probability of flu striking in the next year is 0.75. One alternative open to the committee is to institute an "early-warning" monitoring scheme (costing £3m) which will enable it to detect an outbreak of flu early and hence institute a rush vaccination program (costing £10m because of the need to vaccinate quickly before the outbreak spreads). What recommendations should the committee make to the government if their objective is to maximise expected monetary value (EMV)? The committee has also been informed that there are alternatives to using EMV. What are these alternatives and would they be appropriate in this case? (Use Decision Tree Approach)</p>	10
	<p><b>PART-D (CASE STUDY)</b></p>	

15	<p>Considering the case example of a project as one of developing a security systems for a software product such as Enterprise Resource Planning Package or alternatively constructing a indoor sports stadium as a facility in a sprawling university campus. Discuss the importance of the following points given below in the checklist below:-</p> <ul style="list-style-type: none"><li>a) Preparing the detailed project management plan Identifying risks and planning their management/mitigation;</li><li>b) Monitoring performance against the plan;</li><li>c) Completing the project milestone reports prior to meeting with the independent reviewer at key milestones;</li><li>d) Ensuring appropriate communication between the members of the project team and other project stakeholders including, where appropriate, the end users;</li></ul>	<b>20</b>
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