

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.

Q.No.	Part A	Marks
	Write the answers to the following in one line.	10
1.1	Mention the underlying logic in Bottom-Up estimating.	01
1.2	What is the method of working of expert judgment?	01
1.3	What are the four main activities of continuous improvements through PDCA Cycle?	01
1.4	“Requirements documentation captures the requirements that the project shall meet pertaining to stakeholder expectations”. Mention the role of this in Quality planning.	01
1.5	What is the meaning of RACI matrix?	01
1.6	“Virtual teams can be defined as groups of people with a shared goal who fulfill their roles with little or no time spent meeting face to face. The availability of communication technology such as e-mail, audio conferencing, social media, web-based meetings and video conferencing has made virtual teams feasible”. What are the cost implications of such virtual teams?	01
1.7	What is the meaning of Interactive communication?	01
1.8	The primary output from Identify Risks is the initial entry into the risk register. What is a risk register?	01
1.9	Risk avoidance is a risk response strategy whereby the project team acts to eliminate the threat or protect the project from its impact. Give an example for risk avoidance as a risk response strategy.	01

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1.10	List the features of the contract type known as Fixed Price Incentive Fee Contracts (FPIF).	01
	Part B (Short Answers) (Answer any Six from the Following) Each question carries 5 Marks.	30
2	Briefly outline the methodology involved in Cost Estimating using Analogous estimating.	05
3.	The accuracy of single-point activity cost estimates may be improved by considering estimation uncertainty and risk and using three estimates to define an approximate range for an activity's cost. Outline the process of three-point estimating.	05
4.	Write briefly on the Costs of quality.	05
5.	Perform Quality Assurance is the process of auditing the quality requirements and the results from quality control measurements to ensure that appropriate quality standards and operational definitions are used. What are the key aspects involved in quality assurance?	05
6.	What are the features of the Matrix-based Organizational Structures & charts? What is RAM?	05
7.	“Team-building activities can vary from a 5-minute agenda item in a status review meeting to an off-site, professionally facilitated experience designed to improve interpersonal relationships.” What is the objective and models involved in team building?	05
8.	Draw the Block Diagram of a Basic communication Model and Highlight the components of Basic Communication model.	05
9.	A probability and impact matrix is a grid for mapping the probability of each risk occurrence and its impact on project objectives if that risk occurs. Write down the typical structure of the probability and impact matrix.	05
10.	What is a Bid? How do you conduct a Bidder conference?	05
11	Control Procurements is the process of managing procurement relationships, monitoring contract performance, and making changes and corrections to contracts as appropriate. List any five tools & techniques used for the control procurement process of project procurement management.	05
	Part C (Answer any Four full questions)	40
12	The determine budget is defined as the process of aggregating the estimated costs of individual activities or work packages to establish an authorized cost baseline. Discuss in detail the inputs, tools & technique and outputs in the process of determining the budget for projects.	10
13.	The Plan Human Resource Management is defined as the process of identifying and documenting project roles, responsibilities, required skills, reporting relationships, and creating a staffing management plan. .Discuss the inputs, Tools & Techniques & Outputs of the plan human resource management.	10

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14.	<table style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <thead> <tr> <th rowspan="2" style="text-align: left;">Activity</th> <th colspan="3" style="text-align: center;">Time Estimates (weeks)</th> <th rowspan="2" style="text-align: center;">Time <i>t</i></th> <th rowspan="2" style="text-align: center;">Mean Variance <i>v</i></th> </tr> <tr> <th style="text-align: center;"><i>a</i></th> <th style="text-align: center;"><i>m</i></th> <th style="text-align: center;"><i>b</i></th> </tr> </thead> <tbody> <tr><td>1 → 2</td><td style="text-align: center;">6</td><td style="text-align: center;">8</td><td style="text-align: center;">10</td><td style="text-align: center;">8</td><td style="text-align: center;">4/9</td></tr> <tr><td>1 → 3</td><td style="text-align: center;">3</td><td style="text-align: center;">6</td><td style="text-align: center;">9</td><td style="text-align: center;">6</td><td style="text-align: center;">1</td></tr> <tr><td>1 → 4</td><td style="text-align: center;">1</td><td style="text-align: center;">3</td><td style="text-align: center;">5</td><td style="text-align: center;">3</td><td style="text-align: center;">4/9</td></tr> <tr><td>2 → 5</td><td style="text-align: center;">0</td><td style="text-align: center;">0</td><td style="text-align: center;">0</td><td style="text-align: center;">0</td><td style="text-align: center;">0</td></tr> <tr><td>2 → 6</td><td style="text-align: center;">2</td><td style="text-align: center;">4</td><td style="text-align: center;">12</td><td style="text-align: center;">5</td><td style="text-align: center;">25/9</td></tr> <tr><td>3 → 5</td><td style="text-align: center;">2</td><td style="text-align: center;">3</td><td style="text-align: center;">4</td><td style="text-align: center;">3</td><td style="text-align: center;">1/9</td></tr> <tr><td>4 → 5</td><td style="text-align: center;">3</td><td style="text-align: center;">4</td><td style="text-align: center;">5</td><td style="text-align: center;">4</td><td style="text-align: center;">1/9</td></tr> <tr><td>4 → 8</td><td style="text-align: center;">2</td><td style="text-align: center;">2</td><td style="text-align: center;">2</td><td style="text-align: center;">2</td><td style="text-align: center;">0</td></tr> <tr><td>5 → 7</td><td style="text-align: center;">3</td><td style="text-align: center;">7</td><td style="text-align: center;">11</td><td style="text-align: center;">7</td><td style="text-align: center;">16/9</td></tr> <tr><td>5 → 8</td><td style="text-align: center;">2</td><td style="text-align: center;">4</td><td style="text-align: center;">6</td><td style="text-align: center;">4</td><td style="text-align: center;">4/9</td></tr> <tr><td>8 → 7</td><td style="text-align: center;">0</td><td style="text-align: center;">0</td><td style="text-align: center;">0</td><td style="text-align: center;">0</td><td style="text-align: center;">0</td></tr> <tr><td>6 → 9</td><td style="text-align: center;">1</td><td style="text-align: center;">4</td><td style="text-align: center;">7</td><td style="text-align: center;">4</td><td style="text-align: center;">1</td></tr> <tr><td>7 → 9</td><td style="text-align: center;">1</td><td style="text-align: center;">10</td><td style="text-align: center;">13</td><td style="text-align: center;">9</td><td style="text-align: center;">4</td></tr> </tbody> </table> <p>Shown above are the three time estimates of activities of a project. Draw the project network diagram. Determine the expected project completion time. What is the probability of completing the project within 30 weeks?</p>	Activity	Time Estimates (weeks)			Time <i>t</i>	Mean Variance <i>v</i>	<i>a</i>	<i>m</i>	<i>b</i>	1 → 2	6	8	10	8	4/9	1 → 3	3	6	9	6	1	1 → 4	1	3	5	3	4/9	2 → 5	0	0	0	0	0	2 → 6	2	4	12	5	25/9	3 → 5	2	3	4	3	1/9	4 → 5	3	4	5	4	1/9	4 → 8	2	2	2	2	0	5 → 7	3	7	11	7	16/9	5 → 8	2	4	6	4	4/9	8 → 7	0	0	0	0	0	6 → 9	1	4	7	4	1	7 → 9	1	10	13	9	4	10
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16.	The tools & techniques used for quality control are .1 Seven basic quality tools .2 Statistical sampling .3 Inspections .4 Approved change requests review. Discuss the utility of these tools in the activities of quality control related to the knowledge area of Project Quality Management.	10
17.	Discuss very briefly the working of the following tools & techniques used for performing qualitative risk analysis in the context of projects as part of Project risk management. i. Risk probability and impact assessment. ii. Probability and impact matrix. iii. Risk data quality assessment. iv. Risk categorization. v. Risk urgency assessment. vi. Expert judgment.	10
18.	All legal contractual relationships generally fall into one of two broad families: either fixed-price or cost reimbursable. Also, there is a third hybrid type commonly in use called the time and materials contract. Discuss in detail on the operational aspects and legal aspects of all the types of commonly practiced contracts.	10
19.	The three main outputs from the Project Procurement Plan include Procurement management plan, Procurement statement of work and Procurement documents. Discuss importance of these outputs in the context of project procurement management.	10
	PART-D (CASE STUDY)	
20..	The Feasibility study offers the project manager & management students a framework to assess the feasibility of a project against predefined parameters. Consider a Public Private Partnership (PPP) or BOOT (Build Own operate and Transfer) project to (select a project): Consider any one of the following projects i. Constructing a new terminal in the Bangalore International Airport. ii. Developing a rail road in the remote part of the country to improve rail connectivity. iii. Constructing an Agriculture Produce Marketing Cooperation (APMC) for supporting agriculturists. For your selected project (Any one of the three as above), Carry out the following analysis and articulate your ideas clearly in as minimum sentences as possible. I. Identify the major project costs involved and determine their	20

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	<p>influence on the project.</p> <p>II. Identify the client in the project as the key stakeholder, identify their needs and state how the project will fulfill their needs.</p> <p>III. A key function of the feasibility study is to confirm that you can make the product or perform the service. What are the factors to be considered in the project chosen by you.</p> <p>IV. Identify any internal and external constraints that will affect your project.</p> <p>V. The economists say if the “aggregate gains exceed the aggregate losses” then the project passes their test. How can this test be applied to your project?</p>	
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