

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 cost estimation technique that involves using project characteristics (parameters) in a mathematical model to predict project costs.	01
1.2	List any one of the outputs from Quality Planning.	01
1.3	What is the purpose of a pareto diagram?	01
1.4	What is a Responsibility Assignment Matrix (RAM)?	01
1.5	What is a Earned Value Analysis?	01
1.6	What are the two aspects of risk analysis as part of project risk management?	01
1.7	Define cost reimbursable contracts.	01
1.8	What are the two dimensions of risk impact matrix?	01
1.9	What is the purpose of a Reward and recognition systems?	01
1.10	Define Quality Assurance.	01
	Part B (Short Answers) (Answer any Six from the Following) Each question carries 5 Marks.	30
2	Analogous estimating also called top-down estimating means using the actual cost of previous, similar projects as the basis for estimating the cost of the current	05

INDIAN STATISTICAL INSTITUTE

Bangalore Centre

Program:-MS (Quality Management systems)

Course:-Project Management

END SEMESTER EXAMINATION

MAX MARKS: 100

	project. Highlight the working method of this estimating technique.																												
3.	A quality audit is a structured review of other quality management activities. How do you carry out a quality audit?	05																											
4.	An organization chart is a any graphic display of project reporting relationship. Write down the structure of matrix type organization and mention any two of its characteristics.	05																											
5.	Define the terms Delegating, Motivating, Coaching and Mentoring.	05																											
6.	Communication skills are used to exchange information. Mention any 5 dimension of communications covering types of communication, flows and the people involved.	05																											
7.	Risk identification consists of determining which risks are likely to affect the projects and determining the characteristics of each. Explain briefly the process of risk identification.	05																											
8.	Explain briefly the management technique of Make-or-buy analysis.	05																											
9.	Bring out any two of the features of Fixed price or Lump sum contracts, Cost reimbursable contacts and unit price contacts.	05																											
10.	Write briefly on statistical sampling.	05																											
11	There are five phases of a project namely Requirements, Functional, Design, Development & Testing, There are Six persons in the project. Using P-Participant, A-Accountable, R-Review required, I-Input required and S-Sign off required as keys for the type of involvement of the persons. Develop the Responsibility Assignment Structure.	05																											
	Part C (Answer any Four full questions)	40																											
12	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.	10																											
13.	Consider a project consisting of nine jobs (A,B,C,.....I) with the following precedence relations and time estimates:	10																											
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 25%;">Job</th> <th style="width: 45%;">Predecessors</th> <th style="width: 30%;">Time (Days)</th> </tr> </thead> <tbody> <tr> <td>A</td> <td style="text-align: center;">-</td> <td style="text-align: center;">15</td> </tr> <tr> <td>B</td> <td style="text-align: center;">-</td> <td style="text-align: center;">10</td> </tr> <tr> <td>C</td> <td style="text-align: center;">A,B</td> <td style="text-align: center;">10</td> </tr> <tr> <td>D</td> <td style="text-align: center;">A,B</td> <td style="text-align: center;">10</td> </tr> <tr> <td>E</td> <td style="text-align: center;">B</td> <td style="text-align: center;">5</td> </tr> <tr> <td>F</td> <td style="text-align: center;">D,E</td> <td style="text-align: center;">5</td> </tr> <tr> <td>G</td> <td style="text-align: center;">C,F</td> <td style="text-align: center;">20</td> </tr> <tr> <td>H</td> <td style="text-align: center;">D,E</td> <td style="text-align: center;">10</td> </tr> </tbody> </table>	Job	Predecessors	Time (Days)	A	-	15	B	-	10	C	A,B	10	D	A,B	10	E	B	5	F	D,E	5	G	C,F	20	H	D,E	10	
Job	Predecessors	Time (Days)																											
A	-	15																											
B	-	10																											
C	A,B	10																											
D	A,B	10																											
E	B	5																											
F	D,E	5																											
G	C,F	20																											
H	D,E	10																											

INDIAN STATISTICAL INSTITUTE

Bangalore Centre

Program:-MS (Quality Management systems)

Course:-Project Management

END SEMESTER EXAMINATION

MAX MARKS: 100

	I	G,H	15																																																														
	Draw the project network for this problem designating the Jobs by arcs and events by nodes. Determine the project schedule.																																																																
14.	One of the major projects in the organization was consistently facing huge rejections and reworks during the execution process of the project. Treating this as the major Quality Problem. Outline how the seven tools could be used for identification of the Quality problem and developing solutions to reduce or eliminate scrap & rework, Systematically Map the tools among the seven basic tools suited for problem identification and tools suited for analysis and problem solving.				10																																																												
15.	An R & D project has a list of tasks to be performed whose time estimates are given in the table as follows. Table 15- Time estimates for R & D project.				10																																																												
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2"></th> <th colspan="3" style="text-align: center;">Time in days</th> </tr> <tr> <th style="text-align: center;">Activity</th> <th style="text-align: center;">Activity Name</th> <th style="text-align: center;">t_o</th> <th style="text-align: center;">t_m</th> <th style="text-align: center;">t_p</th> </tr> </thead> <tbody> <tr><td style="text-align: center;">1-2</td><td style="text-align: center;">A</td><td style="text-align: center;">4</td><td style="text-align: center;">6</td><td style="text-align: center;">8</td></tr> <tr><td style="text-align: center;">1-3</td><td style="text-align: center;">B</td><td style="text-align: center;">2</td><td style="text-align: center;">3</td><td style="text-align: center;">10</td></tr> <tr><td style="text-align: center;">1-4</td><td style="text-align: center;">C</td><td style="text-align: center;">6</td><td style="text-align: center;">8</td><td style="text-align: center;">16</td></tr> <tr><td style="text-align: center;">2-4</td><td style="text-align: center;">D</td><td style="text-align: center;">1</td><td style="text-align: center;">2</td><td style="text-align: center;">3</td></tr> <tr><td style="text-align: center;">3-4</td><td style="text-align: center;">E</td><td style="text-align: center;">6</td><td style="text-align: center;">7</td><td style="text-align: center;">8</td></tr> <tr><td style="text-align: center;">3-5</td><td style="text-align: center;">F</td><td style="text-align: center;">6</td><td style="text-align: center;">7</td><td style="text-align: center;">14</td></tr> <tr><td style="text-align: center;">4-6</td><td style="text-align: center;">G</td><td style="text-align: center;">3</td><td style="text-align: center;">5</td><td style="text-align: center;">7</td></tr> <tr><td style="text-align: center;">4-7</td><td style="text-align: center;">H</td><td style="text-align: center;">4</td><td style="text-align: center;">11</td><td style="text-align: center;">12</td></tr> <tr><td style="text-align: center;">5-7</td><td style="text-align: center;">I</td><td style="text-align: center;">2</td><td style="text-align: center;">4</td><td style="text-align: center;">6</td></tr> <tr><td style="text-align: center;">6-7</td><td style="text-align: center;">J</td><td style="text-align: center;">2</td><td style="text-align: center;">9</td><td style="text-align: center;">10</td></tr> </tbody> </table>							Time in days			Activity	Activity Name	t_o	t_m	t_p	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
		Time in days																																																															
Activity	Activity Name	t_o	t_m	t_p																																																													
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.																																																																
16.	Control Costs is the process of monitoring the status of the project to update the project costs and managing changes to the cost baseline. List out the inputs, tools and techniques, and outputs of this process. Briefly give an idea about Schedule variance, Cost variance, Schedule performance index and Cost performance index.				10																																																												
17.	Plan Quality Management is the process of identifying quality requirements and/or standards for the project and its deliverables, and documenting how the project will demonstrate compliance with relevant quality requirements. Highlight the inputs, tools and techniques, and outputs of this process. Provide a brief overview of Plan Quality Management.				10																																																												

INDIAN STATISTICAL INSTITUTE

Bangalore Centre

Program:-MS (Quality Management systems)

Course:-Project Management

END SEMESTER EXAMINATION

MAX MARKS: 100

18.	Briefly outline the following tools and techniques as part of Develop Project Teams. i. Interpersonal Skills. ii. Training. iii. Team-Building Activities. iv. Ground rules. v. Recognition and rewards.	10
19.	Perform Qualitative Risk Analysis is the process of prioritizing risks for further analysis or action by assessing and combining their probability of occurrence and Impact. Perform Quantitative Risk Analysis is the process of numerically analyzing the effect of identified risks on overall project objectives. Outline any two Qualitative and any two Quantitative risk analysis techniques. The four strategies of dealing with positive risks or opportunities are exploit, share, enhance, and accept. Give a brief about these strategies.	10
	PART-D (CASE STUDY)	
20..	The Bengaluru International Airport Limited (BIAL) the operator of the Kempegowda International Airport (KIAB), has taken a project for constructing the second parallel runway on the south side of the airport. The airport has targeted completion of the new runway in two years. The new runway will be parallel to the existing runway, 4,000 metres long, again like the existing runway, but will be 60 meters wide to accommodate Code-F aircraft like the Airbus A380 superjumbo. There will be a dual parallel cross taxi-way on the east end of the existing runway. The taxiway system on the existing runway will be strengthened as part of the second runway construction. The construction master contract has been bagged by a key construction major. The earthworks have been bagged by another subcontractor and two other companies. The design and engineering drawing shows the large scale leveling involved. The work will be divided into four zones, each with four excavators and about 15 trucks. This project as can be seen involves coordination among different government departments like Ministry of Civil Aviation, Airports authority of India, State Government Departments, Various sib contractors, BIAL as the nodal agency and involves the interest of key stakeholders such as Airline Companies, Airport Board of management, Commuters, Employees, Environmental activists among others. You are appointed as the Project manager of this prestigious project and has been asked develop the Communication Management Plan so as to meet the requirements of both the internal stakeholders and also the external stakeholders. Discuss the	20

INDIAN STATISTICAL INSTITUTE

Bangalore Centre

Program:-MS (Quality Management systems)

Course:-Project Management

END SEMESTER EXAMINATION

MAX MARKS: 100

	<p>following aspects of the communication plan in the context of this project.</p> <ul style="list-style-type: none">i. How will you plan the Communication cycle that covers data capture, processing, dissemination and storage of information?ii. What will be some of the challenges in establishing lines of communication among the key players and stakeholders of the project?iii. What are the processes required for managing handover meetings and progress review meetings.iv. How will you establish a system of document control for this project? <p>Discuss some of the modern tools of communication that can effectively used for setting up the systems for communication among the members of the project team as also with clients and other stakeholders. Highlight the challenges involved in this context in the area of project communication management.</p>	
--	---	--