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## Makeup Examination – Sept. 2023 II Semester Diploma Examination

### PROJECT MANAGEMENT SKILLS (20PM01T)

Exam Date / Time: 21<sup>st</sup> Sep. 2023 / 2.00 PM

Time: 3 Hours

Max.Marks: 100

- Instructions:** (1) Answer **one** full question from each section.  
(2) One full question carries **20** marks.

#### SECTION – I

- |  |   |
|--|---|
| 1). (a) Define project and mention any 4 projects you see in daily life. | 6 |
| (b) Explain the role of project manager.                                 | 4 |
| (c) Define IOT   | 3 |
| (d) Discuss the applications of IOT in project management.               | 7 |
|  |   |
| 2). (a) List the features of a project.                                  | 5 |
| (b) Describe the project management process.                             | 5 |
| (c) Discuss the application of Augmented reality and Virtual reality.    | 5 |
| (d) Differentiate Augmented reality and Virtual reality.                 | 5 |

#### SECTION – II

- |   |   |
|---|---|
| 3. a) List the Tools used for effective project administration. Explain any one   | 7 |
| b) Construct a Work Breakdown Structure of Cultural and Sports Day Event of your Institution                                    | 7 |
| c) Examine the importance of the following in Project administration:<br>i) Project Dairy ii) Project Coordination              | 6 |
|   |   |
| 4. a) List the types of Project team. Explain any one   | 7 |
| b) Explain the steps involved in Project Direction  | 7 |
| c) Examine the importance of the following in Project administration:<br>i) Project Execution Plan ii) Project Procedure Manual | 6 |

#### SECTION – III

- |  |   |
|--|---|
| 5. a) Explain Simulation analysis with example   | 5 |
| b) What do you mean by Risk? State any 3 types of risks  | 5 |
| c) Discuss the phases of Project Life Cycle management   | 5 |
| d) An IT Park establishment project was planned with estimated time duration of 18 months. However, the project took 22 months for its completion. Analyse the possible reasons for the delay in completion of project | 5 |

Register No. :

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QP-Code : 20PM01T

6. a) Explain Project Execution phase of PLC 5  
 b) List any two Risk Assessment Techniques. Explain any one 5  
 c) Write a short note i) Quality plan and ii) Acceptance Plan 5  
 d) An office complex construction was planned with an estimated budget of 65 crores. However, after the completion of the project, it was found that the total cost of the project was 80 crores. Examine the possible reason for the increase in cost of the project 5

## SECTION – IV

7. a) State any four functions of Project planning. 5  
 b) List the reasons for project evaluation. 5  
 c) Analyze the importance of project objectives and policies. 5  
 d) Describe the application of Gantt chart for project planning. 5
8. a) List any five time monitoring efforts. 5  
 b)  $t_o$  (optimistic time),  $t_m$  (most likely time) and  $t_p$  (pessimistic time) for completing a project is as tabulated below. Calculate expected time for each activity. 5

ACTIVITY	$t_o$	$t_m$	$t_p$
1-2	9	12	21
1-3	6	12	18
2-4	1	1.5	5
3-4	4	8.5	10
4-5	10	14	24

- c) Analyze "SMART" tool for setting goals and objectives. 5  
 d) Describe the situation analysis and mention any six techniques to collect the information to conduct situation analysis. 5

## SECTION – V

9. a) List any five purposes of project control. 5  
 b) Analyze functions of project auditor. 5  
 c) Explain any five applications of Critical Path Method in project management. 5  
 d) Analyse the steps in project audit program. 5
10. a) List any five uses of network techniques. 5  
 b) Discuss the objectives of project audit. 5  
 c) Explain any five applications of Program Evaluation and Review Technique in project management. 5  
 d) Discuss any five reasons for initial review in a project. 5

# I Semester Diploma Make-Up Examinations, September-2023

## PROJECT MANAGEMENT SKILLS (20PM01T)

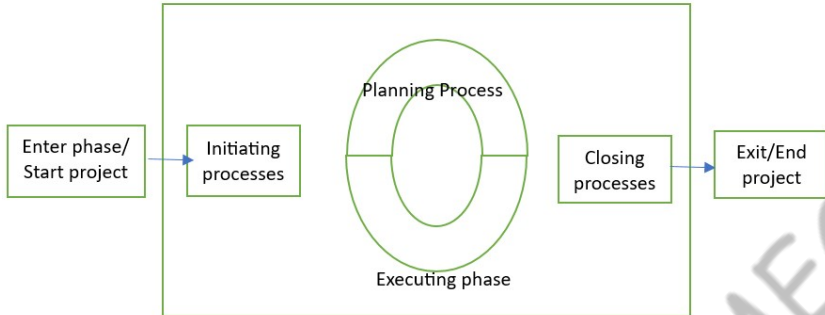
### Scheme of Valuation

- Instructions:** 1. Answer one full question from each section  
2. One full question carries 20 marks

Q No	Scheme breakup	Marks
<b>SECTION-1</b>		
1. a	Definition (2 Marks) and any 4 examples of project (4 Marks)	6
1.b	Any 4 points on role of project manager (4x1 =4 Marks)	4
1.c	Definition of IOT (3 Marks)	3
1. d	Any 7 applications of IOT (7x1= 7 Marks)	7
<b>OR</b>		
2.a	Any 5 points on features of project (5x1 = 5 Marks)	5
2.b	Brief description (3 Marks) and block diagram (2 Marks)	5
2.c	Any 5 applications of AR and VR (5x1=5 Marks)	5
2.d	Any 5 difference between AR and VR (5x1 = 5 Marks)	5
<b>SECTION-2</b>		
3.a	Listing any 3 Tools (3 marks) + Explanation of any one tool (4 Marks)	7
3.b	Construction of WBS with all stages (7 Marks)	7
3.c	Importance of Project Dairy (3 Marks) + Importance of Project Coordination (3Marks)	6
<b>OR</b>		
4.a	Naming of any 4 Project teams (4 Marks) + Explanation of any one (3 Marks)	7
4.b	Listing of steps (4 marks) + Explanation (3 Marks)	7
4.c	Importance of Project Execution Plan (3 Marks) + Importance of Project Procedure Manual (3 Marks)	6
<b>SECTION-3</b>		
5.a	Explanation of Simulation analysis (4 Marks) + Examples (1 Marks)	5
5.b	Definition of Risk (2 Marks) + Listing any 3 types of risks (3 Marks)	5
5.c	Listing 4 phases of the Project Life Cycle (4 Marks)+ Sketch (1Marks)	5
5.d	Any 5reasons for time overrun (5 Marks)	5
<b>OR</b>		
6.a	Explanation of Project Execution Phase (5 Marks)	5
6.b	Listing 2 Risk assessment Techniques (2 x 2 = 4 Marks) + Explanation (1 Marks)	5
6.c	Explanation of Quality Plan (3 Marks) + Acceptance plan (2 Marks)	5
6.d	Any 5 reasons for Cost overrun (5 Marks)	5
<b>SECTION-4</b>		
7.a	Any Five functions. (5X1=5marks)	5
7.b	Any Five reasons (5X1=5marks)	5
7.c	Any Five points (5X1=5marks)	5
7.d	Description by five sentences (5X1=5marks)	5
<b>OR</b>		
8.a	Any Five statements. (5X1=5marks)	5
8.b	Solution for Expected Time.	5
8.c	Expand term 'SMART' (5X1=5marks)	5
8.d	Description of situation analysis (any 2 sentences = 2 marks) + any 6 Techniques (3 Marks).	5
<b>SECTION-5</b>		
9.a	Any Five purposes (5X1=5marks)	5
9.b	Any Five functions (5X1=5marks)	5
9.c	Note about CPM.	5
9.d	Step 1, Step2, Step3. (2+2+1= 5 Marks)	5
<b>OR</b>		
10.a	Any Five uses. (5X1=5marks)	5
10.b	Any Five objectives. (5X1=5marks)	5
10.c	Note about PERT.	5
10.d	Any Five reasons. (5X1=5marks)	5

## Scheme of Answers

Q No	Question and Answer	Marks
<b>SECTION-1</b>		
1. a	<p><b>Define project and mention any 4 projects you see in daily life.</b></p> <p>A project is a temporary, unique and progressive sequence of tasks that must be completed on time to attain certain outcome.</p> <p style="text-align: center;"><b>OR</b></p> <p>A project is a temporary endeavour undertaken to create a unique product or service.</p> <p style="text-align: center;"><b>OR</b></p> <p>A project is a one-shot, time limited goal directed, major undertaking requiring commitment of varied skills and requirements.</p> <p><b>Projects seen in are daily life:</b></p> <ul style="list-style-type: none"> <li>• Construction projects</li> <li>• Railway project</li> <li>• Highway project</li> <li>• Manufacturing project</li> <li>• Health project</li> <li>• Education project</li> <li>• Software project</li> <li>• Information project</li> <li>• Power Project.</li> <li>• Metro Project</li> <li>• Information technology project etc.</li> </ul>	6
1.b	<p><b>Explain the role of project manager.</b></p> <p>The role of project manager is as follows:</p> <ul style="list-style-type: none"> <li>• Project manager plays a vital role in the entire project team and accelerates its activities.</li> <li>• He holds the overall control of the project and is responsible for its execution and performance.</li> <li>• He is involved in planning of the work, monitoring, directing and leading the team members and seeks to reach the project goal in time-cost-quality challenge.</li> <li>• He should maintain a project diary to record the activities and progress of the project.</li> <li>• He should ensure timely availability of the resources and take necessary action to reduce the wastage of the resources.</li> </ul>	4
1.c	<p><b>Define IOT</b></p> <p>Internet of things refers to the process of connecting every day physical objects to the internet from common household objects like light bulbs to healthcare assets like medical devices to wearable, smart devices and even smart cities.</p>	3
1.d	<p><b>Discuss the applications of IOT in project management.</b></p> <ul style="list-style-type: none"> <li>• Internet of things and sensors are used to get real time information from various connected devices and predict the outcome.</li> <li>• IOT technology will alter the speed of project execution in project management.</li> <li>• IOT helps project management from team collaboration to data collection.</li> <li>• The devices can automatically sense and respond to what is happening around them, reducing the need for human intervention, lowering operating costs and increasing response time and minimizing errors.</li> <li>• The organization that adopts IOT will complete the project in speedy manner.</li> <li>• Smart cities-to assist the infrastructure planning of an entire smart city, air quality monitoring, earth quake detecting.</li> <li>• Smart Building-Reducing energy consumption.</li> <li>• Agriculture for weather monitoring and soil and water monitoring.</li> <li>• Smart homes/Home Automation.</li> </ul>	7

2.a	<b>List the features of a project.</b> <ul style="list-style-type: none"> <li>• Unique in nature</li> <li>• Have definite goals to achieve</li> <li>• Require set of resources</li> <li>• Have a specific time frame for completion</li> <li>• Have a definite start and finish</li> <li>• Project has a life cycle reflected by start, growth, maturity and decline</li> <li>• Project involves risk and uncertainty</li> </ul>	5									
2.b	<b>Describe the project management process.</b>  <p>It's the application of knowledge, skill, tools and techniques to project activities to meet the project objectives.</p> <p>This involves the application and integration of five management process such as initiating, planning, executing, monitoring and controlling and closing.</p> <p>The project manager is the person responsible for accomplishing project objectives</p>	5									
2.c	<b>Discuss the application of Augmented reality and Virtual reality.</b> <ul style="list-style-type: none"> <li>• <b>Architecture, civil engineering, construction and real estate:</b> Instead of standard 2D format of the drawings of their future buildings, flats and business places, both from the outside and the inside.</li> <li>• <b>Marketing and sales:</b> Many companies have recognized additional values for both marketers and customers for instance using app helps customers in fast decision making.</li> <li>• <b>Education:</b> AR/VR technologies offer great opportunities and diversity in education</li> <li>• <b>Visual industries:</b> There are many examples of using AR/VR and related projects in this field: Game industry, fashion industry, entertainment industry, cinema, travelling, exhibitions etc.</li> <li>• <b>Automotive:</b> AR/VR solutions are used for test drives, car elements testing, car dealership experience etc.</li> <li>• <b>Manufacturing:</b> in complex manufacturing process, AR is useful in delivering the right information at the right moment to factory workers on assembly lines.</li> <li>• <b>Healthcare:</b> Training of surgeons is one of the most important fields of application of AR/VR technologies.</li> <li>• <b>Defence:</b> Projects uses different approaches allowing remote connections of AR/VR systems to geolocation and other tools, involving 3D modelling, photogrammetric, drones and many other state-of -the-art-technologies</li> <li>• <b>Service support:</b> remote technical and export support visualized instructions, remote repairing, knowledge, exchange etc with the AR/VR technologies, maintaining and repairing at remote locations is possible.</li> </ul>	5									
2.d	<b>Differentiate Augmented reality and Virtual reality.</b> <table border="1"> <thead> <tr> <th>SL. No.</th><th>Augmented reality</th><th>Virtual reality</th></tr> </thead> <tbody> <tr> <td>1</td><td>Combination of digital and real world</td><td>Totally artificial digital world</td></tr> <tr> <td>2</td><td>User experience is partially immersed</td><td>Complete sense of immersion</td></tr> </tbody> </table>	SL. No.	Augmented reality	Virtual reality	1	Combination of digital and real world	Totally artificial digital world	2	User experience is partially immersed	Complete sense of immersion	5
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1	Combination of digital and real world	Totally artificial digital world									
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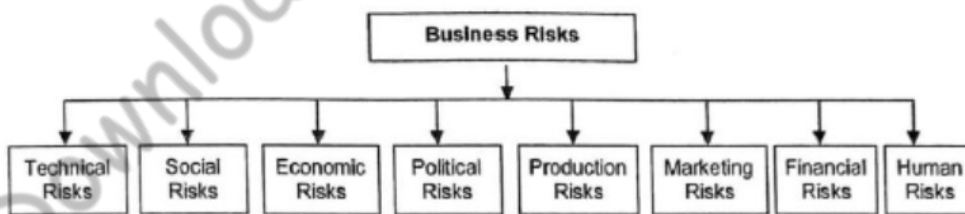
	3	Camera-Enable devices such as smartphone, tablet, smart glasses are required. Desktop and laptop are not suitable.	Special hardware equipment is required (Microsoft hololens, HTC vive, oculus rift, google daydream etc.)	
	4	Latest version of common operating systems are good enough(android, IOS, Windows)	Special software is required	
	5	Initial cost is lower than VR	Initial cost is higher than AR	

## SECTION-2

3. a	<p><b>List the Tools used for effective project administration. Explain any one.</b></p> <p>Ans: Tools used for effective project administration are as follows.</p> <ul style="list-style-type: none"> <li>• Project Execution Plan (PEP)</li> <li>• Work Breakdown Structure (WBS)</li> <li>• Project Procedure Manual (PPM)</li> </ul> <p><b>Work Breakdown Structure (WBS):</b>  Work breakdown structure, WBS in short, is a technique which breaks down a work into its components and at the same time establishes the connections between the components.  It is constructed by dividing the project into its major parts, with each of these being further divided into sub-parts. This is continued till a breakdown is done in terms of manageable units of work for which responsibility can be defined.  The work breakdown structure defines what work is to be done in a detailed manner. To assign responsibility for the tasks to be done, the work breakdown structure has to be integrated with the project organisation structure.  Work breakdown through the hardware approach is the only natural and permanent way of breaking work. Performance target, schedule, budget and accountability can similarly be fixed for any hardware element.</p> <p style="text-align: center;"><b>OR</b></p> <p><b>Project Execution Plan (PEP)</b>  The Project Execution Plan is the governing document that establishes the means to execute, monitor, and control projects. Project execution plan includes four sub-plans. These are:</p> <ul style="list-style-type: none"> <li>• Contracting Plan</li> <li>• Work Packing Plan</li> <li>• Organisation Plan</li> <li>• Systems and Procedure Plan</li> </ul> <p style="text-align: center;"><b>OR</b></p> <p><b>Project Procedure Manual (PPM)</b></p> <ul style="list-style-type: none"> <li>• The project procedure manual gives a complete picture about the system.</li> <li>• It is intended to guide project managers.</li> <li>• A project procedure manual is to be prepared in such a way that the interacting agencies are able to see their roles and mutual relationships in achieving the common goal.</li> <li>• Preparation of a project procedure manual should start with each project management sub system.</li> <li>• It contains the instruction for handling the project in accordance with the terms of the contract.</li> </ul>	7
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3.b	<p><b>Construct a Work Breakdown Structure of Cultural and Sports Day Event of your Institution</b></p> <pre> graph TD     A[Sports and Cultural Event] --&gt; B[Decide Place]     A --&gt; C[Invitation]     A --&gt; D[Conduction of Cultural and Sports events]     A --&gt; E[Prize Distribution]     B --&gt; B1[Venue for Sports and Cultural activities]     B1 --&gt; B2[Visit and Check]     B1 --&gt; B3[Reserve the venue]     C --&gt; C1[Parameters to be Included]     C1 --&gt; C2[Guests list]     C1 --&gt; C3[Intimation]     C2 --&gt; C4[Invite Guests]     C3 --&gt; C5[Invite referees and students]     D --&gt; D1[Activities]     D1 --&gt; D2[Sports]     D1 --&gt; D3[Cultural activities]     D2 --&gt; D4[Athletics, Field Games etc]     D3 --&gt; D5[Music, Dance, etc..]     E --&gt; E1[Prize distribution]     E1 --&gt; E2[National anthem]     E1 --&gt; E3[Cleaning the Venue] </pre>	7
3.c	<p><b>Examine the importance of the following in Project administration:</b>  <b>i) Project Dairy    ii) Project Coordination</b></p> <p><b>Project Dairy:</b> The Project Diary is a summation of all of the daily activities on a project. This diary should be written so that it will represent the status of the project each day to anyone reviewing it in future years.  A project manager would be holding several meetings with vendors, contractors etc, many decisions are taken in these meetings and many commitments are made. Information derived on these meetings; decisions taken have to be properly recorded in the project diary. Information noted in the diary will help to justify the decisions at later date. All project managers have to maintain project diaries, for efficient management of project.</p> <p><b>Project Coordination:</b> Project coordination is the day-to-day management of tasks within the department. The purpose of coordinating projects is to streamline the workflow of the tasks. A project manager informs employees about who is responsible for each section of a project and its deadlines.  Co-ordination in a project is important because of the need for simultaneous working of number of activities. Therefore, one cannot proceed simply, with the execution of a project without proper co-ordination.</p> <p><b>Project Co-ordination Procedure:</b>  Co-ordination basically addresses itself to two aspects of work.</p> <ol style="list-style-type: none"> <li><b>Physical aspect</b> would refer to what work is to be done, how much work is to be done and who will do the work.</li> <li><b>Timing aspect</b> would refer to when the work will be done.</li> </ol>	6
4.a	<p><b>List the types of Project team. Explain any one</b></p> <p>The following are different types of a project teams.</p> <ol style="list-style-type: none"> <li>Initial Project team</li> <li>Core Project team</li> <li>Full Project team</li> <li>Project Advisors</li> <li>Project stakeholders</li> <li>Project facilitators</li> </ol> <p>• <b>Initial project team:</b> The initial project team consists of specific people who initially conceive the idea of starting a project. The team members are responsible for the planning and execution of the project. One of the team members will be designated as the project manager. The project manager will be responsible for coordinating the</p>	7

	<p>activities amongst the team members.</p> <p style="text-align: center;"><b>OR</b></p> <ul style="list-style-type: none"> <li>• <b>Core project team:</b> The core project team is a small group of people, typically 3 to 8 people who are ultimately responsible for designing and managing a project. This team consists of sponsor, client leader, expert and internal auditor.</li> </ul> <p style="text-align: center;"><b>OR</b></p> <ul style="list-style-type: none"> <li>• <b>Full project team:</b> This team consists of complete group of people involved in designing, implementing, monitoring and controlling a project. This team includes managers, stakeholders, researchers and other key implementers of the project.</li> </ul> <p style="text-align: center;"><b>OR</b></p> <ul style="list-style-type: none"> <li>• <b>Project advisors:</b> Project advisors are the people who are not in the project team, but finally to whom the team members can depend for honest feedback and counselling. Project advisor is a person who anchor the cause of the project.</li> </ul> <p style="text-align: center;"><b>OR</b></p> <ul style="list-style-type: none"> <li>• <b>Project stakeholders:</b> Project stakeholders are the individuals, groups or institutions who have a special interest in the natural resources of the project area.</li> </ul> <p style="text-align: center;"><b>OR</b></p> <ul style="list-style-type: none"> <li>• <b>Process facilitators:</b> A Process facilitator is a person who can help the project team through the planning process. The process facilitator understands the key elements of the process and has good facilitation skills.</li> </ul>	
4.b	<p><b>Explain the steps involved in Project Direction</b></p> <p>Project Direction involves steps as follows.</p> <ol style="list-style-type: none"> <li>1. <b>Staffing</b> — Seeing that a professional person is chosen for every position.</li> <li>2. <b>Training</b> — Training individuals and groups on how to fulfil their duties and responsibilities.</li> <li>3. <b>Supervising</b> — Giving day-to-day instructions, guidance and discipline as required so that they can fulfil their duties and responsibilities.</li> <li>4. <b>Delegating</b> — Assigning work, responsibility, and authority so that others can make maximum utilization of their abilities.</li> <li>5. <b>Motivating</b> — Encouraging others to put more effort into the successful completion of the projects.</li> <li>6. <b>Counselling</b> — Solve the personal problems and holding private discussions about how he might do better work.</li> <li>7. <b>Coordinating</b> — Bring synchronization between different activities.</li> </ol>	6
4.c	<p><b>Examine the importance of the following in Project administration: i) Project Execution Plan ii) Project Procedure Manual.</b></p> <p><b>i) Project Execution Plan:</b></p> <p>The Project Execution Plan is the governing document that establishes the means to execute, monitor, and control projects. Project execution plan includes four sub-plans. These are:</p> <ul style="list-style-type: none"> <li>• Contracting Plan</li> <li>• Work Packing Plan</li> <li>• Organisation Plan</li> <li>• Systems and Procedure Plan</li> </ul> <p><b>ii) Project Procedure Manual:</b></p> <ul style="list-style-type: none"> <li>• The project procedure manual gives a complete picture about the system.</li> <li>• It is intended to guide project managers.</li> <li>• A project procedure manual is to be prepared in such a way that the interacting agencies are able to see their roles and mutual relationships in achieving the common goal.</li> <li>• Preparation of a project procedure manual should start with each project management sub system.</li> </ul>	6

	<ul style="list-style-type: none"> <li>It contains the instruction for handling the project in accordance with the terms of the contract.</li> </ul>	
<b>SECTION-3</b>		
5.a	<p><b>Explain Simulation analysis with example</b></p> <p>The Simulation Analysis is a method, wherein the infinite calculations are made to obtain the possible outcomes and probabilities for any choice of action. The role of simulation analysis is to summarize and analyse the results, in a way that will yield maximum insight and help with decision-making.</p> <p><b>Procedure:</b></p> <p>The steps involved in simulation analysis are as follow:</p> <ol style="list-style-type: none"> <li>1. Model the project showing how the net present value is related to the parameters and the exogenous (originating outside) variables.</li> <li>2. Specify the values of the parameters and the probability distributions of the exogenous variables.</li> <li>3. Select a value, at random, from the probability distributions of each of the exogenous variables.</li> <li>4. Determine the net present value corresponding to the randomly generated values of the exogenous variables</li> <li>5. Repeat steps (3) and (4) a number of times to get a large number of simulated net present values</li> <li>6. Plot the frequency distribution of the net present value.</li> </ol> <p><b>Illustration:</b></p> <p>In real life situations, simulation is done only on the computer because of the tedious computations involved.</p>	5
5.b	<p><b>What do you mean by Risk? State any 3 types of risks</b></p> <p>Risk is defined as the possibility of an outcome being different from the expected outcome. It refers to the possibility of adverse results flowing from the uncertainty involved in carrying out the activities.</p> <p>Figure below shows the types of risks in a project.</p>  <pre> graph TD     BR[Business Risks] --&gt; TR[Technical Risks]     BR --&gt; SR[Social Risks]     BR --&gt; ER[Economic Risks]     BR --&gt; PR[Political Risks]     BR --&gt; ProR[Production Risks]     BR --&gt; MR[Marketing Risks]     BR --&gt; FR[Financial Risks]     BR --&gt; HR[Human Risks] </pre>	5
5.c	<p><b>Discuss the phases of Project Life Cycle management</b></p> <p>The four phases of Project Life Cycle are:</p> <ul style="list-style-type: none"> <li>Initiation</li> <li>Planning</li> <li>Execution</li> <li>Closure or Termination</li> </ul>	5

5.d	<p><b>An IT Park establishment project was planned with estimated time duration of 18 months. However, the project took 22 months for its completion. Analyse the possible reasons for the delay in completion of project</b></p> <p>The possible reasons for the given project time overruns:</p> <ul style="list-style-type: none"> <li>• A change in the scope of the project.</li> <li>• Ineffective project time management.</li> <li>• Delays in starting and executing some of the project activities.</li> <li>• A delay in one project, results in delays in subsequent projects.</li> <li>• Use of outdated technology.</li> <li>• Political interference.</li> <li>• Poor administration.</li> </ul>	5
6. a	<p><b>Explain Project Execution phase of PLC:</b></p> <p>In the execution phase, project plan is executed and planning gets turned into action. The project manager directs and manages project work, and the project team carries out the work. The project deliverables are produced and delivered.</p> <p>Key project management steps for executing a project:</p> <ol style="list-style-type: none"> <li><b>1. Team Leadership</b> — Set a vision for success and enable the team to deliver on it.</li> <li><b>2. Creating Tasks</b> — Clearly define what needs to be done and the criteria for the task.</li> <li><b>3. Task Briefing</b> — Ensuring the team is clear about what they need to do, by when.</li> <li><b>4. Client Management</b> — Working with the client to ensure deliverables are acceptable.</li> <li><b>5. Communications</b> — Ensure you are informing and updating the right people at the right time through the right channel.</li> </ol>	5
6.b	<p><b>List any two Risk Assessment Techniques. Explain any one</b></p> <p>The two Risk Assessment Techniques are,</p> <ol style="list-style-type: none"> <li>1. Severity x frequency x number of people affected</li> <li>2. The Risk Assessment Matrix</li> </ol> <p><b>1. Severity x frequency x number of people affected:</b></p> <p>“Rodney Turner” suggests a method for prioritising risk which assesses the loss severity of a risk with the frequency at which it could occur and the number of persons who could be affected. The result is the Risk Potential which can be used to prioritise risks and guide decisions on mitigating actions and contingency plans.</p> <div style="text-align: center;"> <math display="block">R = S \times (F \times N)</math> <p> <small>Risk potential</small>      <small>Est. frequency of loss</small>  <small>Loss severity</small>      <small>Number of persons affected</small> </p> </div> <p><b>OR</b></p>	5

	<p><b>2. The Risk Assessment Matrix:</b></p> <div><div><div>Likelihood</div><div><div>1</div><div>2</div><div>3</div></div><div><div>1</div><div>2</div><div>3</div></div><div>Severity</div></div><table><tr><td>1</td><td>Low</td><td>Low</td><td>Medium</td></tr><tr><td>2</td><td>Low</td><td>Medium</td><td>High</td></tr><tr><td>3</td><td>Medium</td><td>High</td><td>High</td></tr></table><p>“Cooke” and “Williams” describe a simpler risk assessment calculation: Severity × Likelihood. Both severity and likelihood can be rated on a scale of 1 to 3 giving a priority.</p></div>	1	Low	Low	Medium	2	Low	Medium	High	3	Medium	High	High	
1	Low	Low	Medium											
2	Low	Medium	High											
3	Medium	High	High											
6. c	<p><b>Write a short note i) Quality plan and ii) Acceptance Plan</b></p> <p><b>Quality Plan:</b></p> <ul style="list-style-type: none"><li>Quality management planning will help the project team to create a quality control plan and quality assurance plan.</li><li>This step will help to set quality targets for the project to ensure that the deliverables are produced and are meeting the needs of the customer.</li><li>Also, this step will help the team to schedule quality control planning and quality assurance planning activities mainly to assure the customer that the quality targets agreed, will be met.</li><li>The steps of quality planning are classified into setting the quality targets and monitoring and controlling the quality.</li><li></li></ul> <p><b>Acceptance Plan:</b></p> <p>Acceptance plan will help the team to gain the acceptance of the customers for the deliverables produced by the project. The use of acceptance planning for the projects will increase the chance of success because the deliverables are constantly produced which will meet the customer's requirements.</p> <p>The steps of the acceptance plans are as listed below:</p> <ul style="list-style-type: none"><li>Identifying the acceptance milestones of the project plan</li><li>Creating a full list of all project deliverables</li><li>Listing the criteria for gaining customer's acceptance</li><li>Putting the acceptance standards in place</li><li>Identifying the acceptance testing methods</li><li>Allocating acceptance testing resources</li><li>Scheduling acceptance reviews with the customer</li><li>Gaining customer's acceptance of the deliverables</li></ul>	5												
6.d	<p><b>An office complex construction was planned with an estimated budget of 65 crores. However, after the completion of the project, it was found that the total cost of the project was 80 crores. Examine the possible reason for the increase in cost of the project</b></p> <p>Reasons for Project Cost Overruns:</p> <ol style="list-style-type: none"><li>Unplanned expansion of the project scope.</li><li>Inaccurate initial cost estimation.</li><li>Failures in project performance.</li><li>Errors in project design.</li><li>Improper risk management.</li><li>Improper project team building.</li><li>Wrong choice of equipment.</li><li>Incompetent material suppliers.</li></ol>	5												
SECTION-4														
7. a	<p><b>State the functions of Project planning.</b></p>	5												

	<p>Following are the functions of project planning:</p> <ul style="list-style-type: none"> <li>➤ It should provide a basis for organizing the work on the project</li> <li>➤ It allocates the responsibilities to individuals.</li> <li>➤ It is a means of communication and coordination between all those involved in the project.</li> <li>➤ It induces the people to look ahead.</li> <li>➤ It gives a sense of urgency and time consciousness</li> <li>➤ It establishes the basis for monitoring and controlling.</li> </ul>	
7.b	<p><b>List the reasons for project evaluation</b></p> <p><b>Reasons of project evaluation are:</b></p> <ul style="list-style-type: none"> <li>➤ Effective and efficient use of resources.</li> <li>➤ Desired output achieved.</li> <li>➤ Improvements to be made for better outcome.</li> <li>➤ Success factors.</li> <li>➤ Whether the results justify the input etc.</li> <li>➤ Prepare mid-term or final project reports.</li> <li>➤ Plan project sustainability.</li> <li>➤ Inform about project progress to the stakeholders.</li> <li>➤ Compare between different projects to plan their future.</li> <li>➤ To facilitate changes in the project plan.</li> <li>➤ Provide awareness about the project environment.</li> </ul>	5
7.c	<p><b>Analyse the importance of project objectives and policies.</b></p> <ul style="list-style-type: none"> <li>➤ The objectives and policies are very important while planning the project.</li> <li>➤ If the project team lacks a clear goal even excellence skills and the best equipment will not enable the team to do a good job.</li> <li>➤ Well defined objectives and policies serve as the framework for the decisions to be made by the project manager.</li> <li>➤ The objectives of the project may be technical objectives, performance objectives, time and cost goals.</li> <li>➤ Policies are the general guide for decision making on individual actions.</li> <li>➤ Some of the policies of the project are extent of work given to outside contractors, number of contracts to be employed, terms of the contract, etc.</li> </ul>	5
7.d	<p><b>Describe the application of Gantt chart for project planning.</b></p> <ul style="list-style-type: none"> <li>➤ In a Gantt chart, the activities of a project are broken down into a series of well-defined jobs of short duration whose cost and time can be estimated.</li> <li>➤ It is a tool in which the activities or jobs are represented by horizontal bars in the time axis.</li> <li>➤ The length of the bar indicates the estimated time for the job.</li> <li>➤ The left end of the bar shows the beginning time and the right end shows the end time.</li> <li>➤ The manpower required for the activity is shown by the number on the bar.</li> <li>➤ The project review dates are indicated by a vertical dotted line and at this time a horizontal line is drawn below each bar to indicate the progress actually made up to the date.</li> <li>➤ The length of the progress line is then drawn to represent the percentage of the job that has been completed at the review date.</li> </ul>	5
8.a	<p><b>List any five time monitoring efforts</b></p> <ul style="list-style-type: none"> <li>➤ Conduct appreciation programme for the owner</li> <li>➤ Development of project execution plan and overall implementation schedule</li> <li>➤ Evaluation bid in relation to scheduling and monitoring</li> <li>➤ Review the detail schedule and progress report submitted by vendors and contractors</li> <li>➤ Review with owner, contractors, vendors, and consultants</li> <li>➤ Project audit and corporate review</li> </ul>	5

	<ul style="list-style-type: none"><li>➤ Monthly progress report to the owner</li><li>➤ Installation and operation of an online information system.</li><li>➤ On the job training for ongoing scheduling and monitoring to the monitoring agency</li><li>➤ Preparation special condition of contract for scheduling and monitoring by work package complication.</li></ul>																																		
8.b	<div><p><b>Solution:</b> Time estimate (<math>t_e</math>) can be calculated as follows:</p><table><tr><th rowspan="2">Activity</th><th colspan="3">Time estimate</th><th rowspan="2"><math>t_e = \frac{t_o + 4t_m + t_p}{6}</math></th></tr><tr><th><math>t_o</math></th><th><math>t_m</math></th><th><math>t_p</math></th></tr><tr><td>1 - 2</td><td>9</td><td>12</td><td>21</td><td>13</td></tr><tr><td>1 - 3</td><td>6</td><td>12</td><td>18</td><td>12</td></tr><tr><td>2 - 4</td><td>1</td><td>1.5</td><td>5</td><td>2</td></tr><tr><td>3 - 4</td><td>4</td><td>8.5</td><td>10</td><td>8</td></tr><tr><td>4 - 5</td><td>10</td><td>14</td><td>24</td><td>15</td></tr></table></div>	Activity	Time estimate			$t_e = \frac{t_o + 4t_m + t_p}{6}$	$t_o$	$t_m$	$t_p$	1 - 2	9	12	21	13	1 - 3	6	12	18	12	2 - 4	1	1.5	5	2	3 - 4	4	8.5	10	8	4 - 5	10	14	24	15	5
Activity	Time estimate			$t_e = \frac{t_o + 4t_m + t_p}{6}$																															
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2 - 4	1	1.5	5	2																															
3 - 4	4	8.5	10	8																															
4 - 5	10	14	24	15																															
8.c	<p><b>Analyse “SMART” tool for setting goals and objectives.</b></p> <p><b>"SMART" should be:</b></p> <ul style="list-style-type: none"><li>i. <b>Specific:</b> clear about what, where, when, and how the situation will be changed.</li><li>ii. <b>Measurable:</b> able to quantify the targets and benefits.</li><li>iii. <b>Achievable:</b> able to attain the objectives.</li><li>iv. <b>Realistic:</b> able to obtain the level of change reflected in the objective.</li><li>v. <b>Time bound:</b> stating the time period in which they will each be accomplished.</li></ul>	5																																	
8.d	<p><b>Describe situation analysis and mention at-least six techniques to collect information to conduct situation analysis.</b></p> <ul style="list-style-type: none"><li>➤ Situation analysis is a process through which the general characteristics and problems of a community are identified.</li><li>➤ It involves the identification and definition of the characteristics and problems specific to particular categories of people in the community.</li><li>➤ It is done through collecting information necessary to understand the community as a whole and individuals within the community.</li><li>➤ Information should be collected on what happened in the past, what is currently happening based on the community's experiences.</li><li>➤ Information for Situation analysis should be collected with the involvement of the community members using below mentioned techniques:</li></ul> <p><b>Techniques to collect information to conduct situation analysis.</b></p> <ul style="list-style-type: none"><li>➤ Document's review</li><li>➤ Surveys</li><li>➤ Discussions with individuals, specific groups and the community as a whole.</li><li>➤ Interviews</li><li>➤ Observations</li><li>➤ Brainstorming</li><li>➤ Informal conversations</li><li>➤ Problem tree</li><li>➤ Listening to people</li></ul>	5																																	
SECTION-5																																			
9. a	<p><b>List the purposes of project control.</b></p> <p><b>Purposes of project control:</b></p> <ul style="list-style-type: none"><li>➤ To control the progress of the activities.</li><li>➤ To control the performance of the project activities.</li></ul>	5																																	

	<ul style="list-style-type: none"> <li>➤ To control the project schedule.</li> <li>➤ To have control over the project cost.</li> <li>➤ To have control over the delays in project activities.</li> <li>➤ To motivate project personnel through performance evaluation.</li> <li>➤ To achieve the project goals effectively and efficiently.</li> </ul>	
9.b	<p><b>Analyse the functions of Project auditor.</b></p> <ul style="list-style-type: none"> <li>➤ Providing the actual status of the project from time to time.</li> <li>➤ He has to examine the project methodology and techniques to achieve the project objectives.</li> <li>➤ Identification of factors which may create the quality problems during the project work and giving the recommendations to overcome those problems.</li> <li>➤ Auditor is required to give advice.</li> <li>➤ Auditor should be competent to prepare the action plans.</li> <li>➤ Auditor has to evaluate the contract base lines and give his judgment on their adequacy for achieving the project objectives.</li> <li>➤ Auditor has to measure the present and future state of the project.</li> <li>➤ Timely spotting of different problems relating to the execution of the project and suggesting overcoming the above problems.</li> <li>➤ Establishing a good information base for a proper estimation and costing of the project.</li> <li>➤ Assisting in establishing appropriate standards and systems and recommending suitable work techniques.</li> <li>➤ Identification and recommendations of specific training needed with reference to the project tasks.</li> <li>➤ Investing the underlying records, and the tangible results of work done.</li> <li>➤ Continuous observations over the process and calibre of project management, and get a clear picture of the project organization and controls.</li> </ul>	5
9.c	<p><b>Explain the application of critical path method (CPM) in project management.</b></p> <p><b>Critical Path Method (CPM)-</b></p> <ul style="list-style-type: none"> <li>➤ The Critical Path Method (CPM) is an important tool in production planning and scheduling.</li> <li>➤ CPM is used for Scheduling special projects where the relationship between the different parts of a project-is more complicated than of a simple chain of tasks to be completed one after the other.</li> <li>➤ A CPM is a route between two or more operations which minimizes (or maximizes) some measures of performance.</li> <li>➤ Under CPM, the project is analysed into different operations or activities and their relationships are determined and shown on the network diagram, so, first of all a network diagram is drawn.</li> <li>➤ After this the required Time or some other measure of them combined to develop a schedule which minimizes or maximizes the measure of performance for each operation.</li> <li>➤ Thus, CPM marks critical activities in a project and concentrates on them.</li> </ul>	5
9.d	<p><b>Analyse the steps in project audit program</b></p> <p><b>The detailed audit program involves the following steps:</b></p> <p><b>Step I:</b> Preliminary examination of the project's organization, administration, record keeping, Planning and control and working methods and techniques performed in order to establish project current and future status.</p> <p><b>Step 2:</b> Preparing the statements of project current and future status, giving a detailed list of Completed work as compared with the project's performance baseline, recording the cost and quality aspects, record keeping, working methods and communication aspects.</p> <p><b>Step 3:</b> Conducting preliminary analysis and presenting results in the form of audit report.</p>	5

10. a	<p><b>List any five uses of network technique</b></p> <p>These are the uses of network technique to the management:</p> <ul style="list-style-type: none"> <li>➤ It indicates the start and finish time of each activity of the project.</li> <li>➤ It helps in controlling the project cost</li> <li>➤ It helps in better scheduling, monitoring and control of project activities.</li> <li>➤ It helps in better execution of the project.</li> <li>➤ These techniques can serve as indicators of bottle necks (problems which lead to stop the process).</li> <li>➤ This helps in identifying the problems which stop the progress of the project as per plan</li> <li>➤ This will show the co-ordination required among the designers, contractors and other members of the project team.</li> <li>➤ It helps in identifying the critical path.</li> <li>➤ It helps in identifying the critical tasks and resources that are required to complete the task as per the schedule.</li> <li>➤ It helps in resource allocation such as labour, machines etc.</li> <li>➤ It helps to find the impact of crashing on the cost of the project.</li> <li>➤ Helps to find which activities are to be speeded up.</li> </ul>	5
10. b	<p><b>Discuss the objectives of project audit.</b></p> <p>Following are the objectives of project audit:</p> <ul style="list-style-type: none"> <li>➤ Providing the clear picture of actual status of the project from time to time.</li> <li>➤ Creating awareness among the project staff about the type and magnitude of the problems encountering during the completion of the project and producing the quality products in a planned volume and at competitive costs.</li> <li>➤ Identification of factors which may create the quality problems leading to time and cost overruns.</li> <li>➤ Timely spotting of a variety of generic problems while executing the project and suggestions to overcome these problems.</li> <li>➤ Assisting to establish an appropriate standards and systems and recommending the suitable work techniques</li> <li>➤ Enabling to create the good information system for a proper estimation and costing of the project.</li> <li>➤ Identification of specific training needs with reference to the project tasks.</li> <li>➤ Developing the experience and expertise in project management in order to provide the consultancy services to the other enterprises.</li> </ul>	5
10. c	<p><b>Explain application of Program Evaluation and Review Technique (PERT)</b></p> <ul style="list-style-type: none"> <li>➤ PERT is a time-event network analysis technique designed to watch how the parts of a Programme fit together during passage of time and events.</li> <li>➤ The PERT is used for planning and control of large projects in various industries like defence, chemical and construction industries.</li> <li>➤ Under PERT all individual tasks are shown in a network.</li> <li>➤ All the events are shown by circles and whose completion can be measured at a given time.</li> <li>➤ Each arrow represents an activity, which are the time consuming elements of a program;</li> <li>➤ The activity time is the lapsed time required to accomplish an event.</li> <li>➤ Finally, compute the critical path and the slack time.</li> <li>➤ The critical path is a sequence of activities, which takes the longest time to complete the work and the least slack time.</li> </ul>	5
10.d	<p><b>Discuss any five reasons for initial review in a project.</b></p> <p>Initial project review is carried out for following reasons:</p> <ul style="list-style-type: none"> <li>➤ To examine whether the project is implemented in a specified ways or not.</li> </ul>	5

	<ul style="list-style-type: none"> <li>➤ To ensures that the actual expenditure does not deviate from planned one.</li> <li>➤ To assess the impact of the project.</li> <li>➤ To examine the project efficiency.</li> <li>➤ To measure the quality of the project.</li> <li>➤ To review the safety aspects followed during the project.</li> <li>➤ To examine the methods, process, procedures followed during the project</li> <li>➤ To assess the outcome of the project.</li> </ul>	
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### **Certificate:**

This is to certify that, the model answer prepared by us for the code 20PM01T are from the prescribed text book and model answers and scheme of valuation prepared by us are correct to the best of our Knowledge.

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