# SRM VALLIAMMAI ENGINEERING COLLEGE

**(An Autonomous Institution)**

SRM Nagar, Kattankulathur – 603 203

## DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

## (Common to Department of Information Technology)

## QUESTION BANK


## VII SEMESTER

**1908702 SOFTWARE PROJECT MANAGEMENT**

**Regulation – 2019**

**Academic Year 2022 – 2023 (Odd Semester)**

*Prepared by*

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## QUESTION BANK

**SUBJECT : 1908702 SOFTWARE PROJECT MANAGEMENT**

**SEM/ YEAR : VII / IV**

**UNIT I - PROJECT EVALUATION AND PROJECT PLANNING**

Importance of Software Project Management –Activities Methodologies –Categorization of Software Projects –Setting objectives –Management Principles –Management Control –Project portfolio Management –Cost-benefit evaluation technology –Risk evaluation –Strategic program Management –Stepwise Project Planning.

**PART-A**

| Q.No | Questions | BT Level | Competence |
|---|---|---|---|
| 1 | **Define** software project management. | BTL1 | Remember |
| 2 | **Define** Project and Process? | BTL1 | Remember |
| 3 | **Point out** the characteristics of software project planning. | BTL4 | Analyze |
| 4 | **Which** factor is decided the success of project**?** | BTL4 | Analyze |
| 5 | **List** the elements of product process. | BTL1 | Remember |
| 6 | **Identify** the characteristics which makes software project is different from another project? | BTL3 | Apply |
| 7 | **Differentiate** contract management and technical project management. | BTL4 | Analyze |
| 8 | **Mention** the characteristics of software projects. | BTL1 | Remember |
| 9 | **Compare** program managers and project managers | BTL4 | Analyze |
| 10 | **Differentiate** plans, methods and methodologies. | BTL2 | Understand |
| 11 | **What** are the different stages in classic project life cycle? | BTL1 | Remember |
| 12 | Do you agree that decision trees are helpful in risk handling? **Justify**. | BTL6 | Create |
| 13 | **What** are the three successive processes that bring a new system? | BTL2 | Understand |
| 14 | How would you **classify** the software projects? | BTL3 | Apply |
| 15 | **What** are the problems with software project from manager's point of view? | BTL2 | Understand |
| 16 | **What** do you mean by the characteristics of invisibility, complexity and complexity of Software project management? | BTL2 | Understand |
| 17 | **What** are the things containing product description? | BTL2 | Understand |
| 18 | **Illustrate** the approaches of portfolio Management. | BTL3 | Apply |
| 19 | **What** is PBS? Show hierarchical diagram of a sample PBS. | BTL1 | Remember |
| 20 | **Decide** when net present value is calculated for a project? | BTL5 | Evaluate |
| 21 | **Outline** the need for risk evaluation | BTL5 | Evaluate |
| 22 | **Assess** some problems with software projects. | BTL5 | Evaluate |
| 23 | **Organize** the steps to identify project scope and objectives. | BTL3 | Apply |
| 24 | **Predict** what would be the ROI for the software project development | BTL6 | Create |

| | | | |
|---|---|---|---|
| | if the net profit is $60,000 for 3 years and the total investment is $100,000? | | |
| **PART B** | | | |
| 1 | i) **Describe** narrate the phases of software project management. Illustrate the problems associated with software project. (7)<br>ii)How are infrastructure projects different from software projects? **Describe** the activities involved in management. (6) | BTL1 | Remember |
| 2 | **Explain** the various activities covered by software project management. (13) | BTL2 | Understand |
| 3 | **Discover** the various activities to be performed in "Analyzing the project characteristics". (13) | BTL4 | Analyze |
| 4 | **Organize** the step wise planning of activities for a project with neat diagram. (13) | BTL3 | Apply |
| 5 | **Illustrate** few problems associated with software projects. (13) | BTL5 | Evaluate |
| 6 | **i) Discuss** the different ways of categorizing software project in detail. (6)<br>ii) What is project planning? Explain with diagrammatic illustration of the stepwise project planning activities.(7) | BTL2 | Understand |
| 7 | **Illustrate** the following:<br>i) Setting objective of the project. (6)<br>ii) Principal of project management process. (7) | BTL3 | Apply |
| 8 | i) **Explain** in detail about project control cycle. (6)<br>ii**) Differentiate** traditional and modern Project Management Practices.(7) | BTL4 | Analyze |
| 9 | i) **Explain** project portfolio management in detail. (7)<br>ii) **Summarize** on strategic programme management.(6) | BTL5 | Evaluate |
| 10 | **Develop** the ABC college payroll system for the following<br>i) Identify project scope and objective. (4)<br>ii) Identify project infrastructure. (4)<br>iii) Identify project products and activities involved in management. (5) | BTL6 | Create |
| 11 | **Describe** the cash flow forecasting with different cost benefit evaluation techniques. (13) | BTL1 | Remember |
| 12 | **Describe how** cost- benefits evaluation techniques & its methods with examples. (13) | BTL1 | Remember |
| 13 | **Discuss** the cash flows techniques in project development. (13) | BTL2 | Understand |
| 14 | **Identify** the data that you would collect to ensure that during execution of project things are going according to plan. (13) | BTL2 | Understand |
| 15 | **Illustrate** the various aspects of Risk Evaluation in detail.(13) | BTL3 | Apply |
| 16 | **Explain** various software development life cycle activities as outlined by ISO12207 with neat diagram. (13) | BTL4 | Analyze |
| 17 | i) **L**ist the stepwise planning activities of project plan. (4)<br>ii) **Describe** the stepwise project plan with an example.(9) | BTL1 | Remember |
| **PART-C** | | | |
| 1 | **Assess** the important characteristics of software development projects which make these harder to manage compared to other types of | BTL5 | Evaluate |

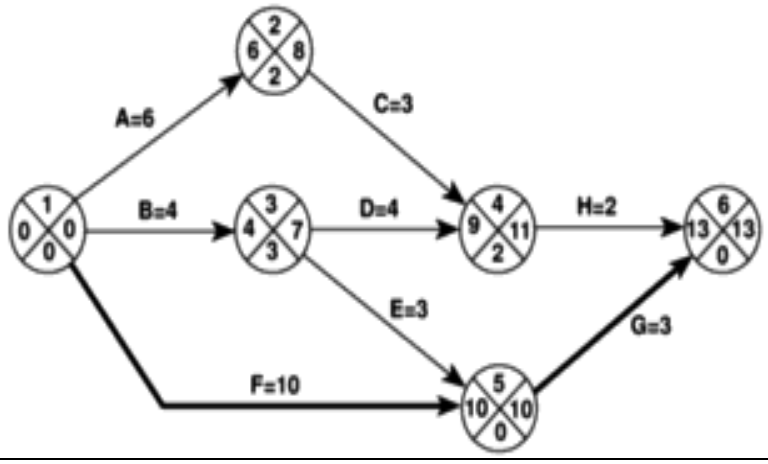
| | | | |
|---|---|---|---|
| | projects. Say for example, a building construction project. (15) | | |
| 2 | **Evaluate** the main types of personnel employed in an information systems department. For each stage of a typical IS development project, list the types of personnel who are likely to be involved. (15) | BTL5 | Evaluate |
| 3 | Suppose Brightmouth College has the option of either buying payroll software off-the-shelf at $50000 or employing a programmer for six months at a salary of $5000 to **develop** the software. Perform cost-benefit analysis for the two options. You can make suitable assumptions regarding any factor that has not been mentioned in this problem statement. (15) | BTL6 | Create |
| 4 | **Evaluate** why discounted cash flow techniques provide better criteria for project selection than net profit or return on investment. (15) | BTL5 | Evaluate |
| 5 | A public library is considering the implementation of a computer based system to help administer book loans at libraries.<br>i) **Identify** the stakeholders. (5)<br>ii**) List** the objectives the project. (5)<br>iii) **Examine** and measure the success and failure of the project. (5) | BTL6 | Create |
| **UNIT II PROJECT LIFE CYCLE AND EFFORT ESTIMATION** | | | |
| Software process and Process Models–Choice of Process models -mental delivery –Rapid Application development –Agile methods –Extreme Programming –SCRUM –Managing interactive processes –Basics of Software estimation –Effort and Cost estimation techniques–COSMIC Full function points -COCOMO II-A Parametric Productivity Model -Staffing Pattern | | | |
| **PART A** | | | |
| 1 | **What** is the function of spiral model? | BTL1 | Remember |
| 2 | **Distinguish** object driven and product driven project. | BTL2 | Understand |
| 3 | **What** are the types of management in strategic assessment? | BTL1 | Remember |
| 4 | **Illustrate** the core values of Extreme programming. | BTL3 | Apply |
| 5 | **Point out** the various agile approaches and the advantages of agile unified process. | BTL4 | Analyze |
| 6 | **Summarize** the short comings of waterfall model. | BTL5 | Evaluate |
| 7 | **Draw** the main life cycle phase of Altern process model. | BTL6 | Create |
| 8 | **Identify** the pros and cons of using pair programming over programmers working alone. | BTL1 | Remember |
| 9 | **List** out the aims of RAD model. | BTL1 | Remember |
| 10 | **Give** the advantages and disadvantages of Incremental delivery. | BTL2 | Understand |
| 11 | **Show** the MoSCoW Classification. | BTL3 | Apply |
| 12 | **What** are the problems with over and under estimate? | BTL1 | Remember |
| 13 | How will you measure the effort of the project in parametric model? **Discuss** it. | BTL2 | Understand |
| 14 | **Illustrate** the major components of function point analysis. | BTL3 | Apply |
| 15 | **Point out** the ways of moving data groups in COSMIC full function point model. Name the any two levels of COSMIC Model. | BTL4 | Analyze |
| 16 | **Summarize** the factors sensitive to system size in COCOMO II model | BTL5 | Evaluate |
| 17 | **Develop** the function point Mark II model of transaction. | BTL6 | Create |
| 18 | **Wha**t are the difficulties of project estimation? | BTL1 | Remember |
| 19 | **Identify** the different effort estimation methods. | BTL3 | Apply |

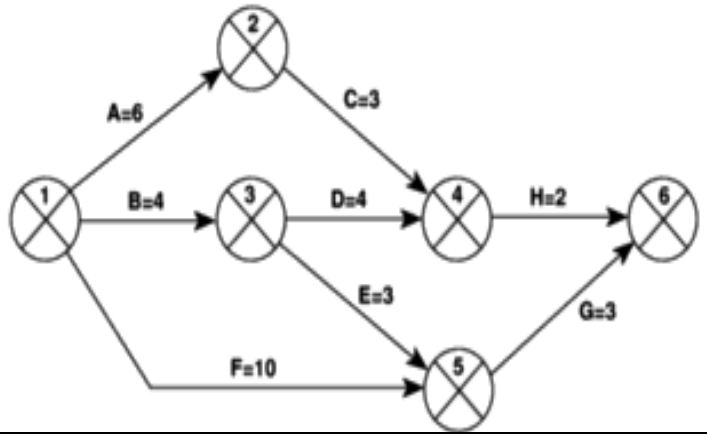
<table>
<tr><td>20</td><td>Express the different modes of COCOMO II model.</td><td>BTL2</td><td>Understand</td></tr>
<tr><td>21</td><td>Analyze the major shortcoming of the SLOC measure.</td><td>BTL4</td><td>Analyze</td></tr>
<tr><td>22</td><td>Illustrate the significance of a “project risk matrix” with an example.</td><td>BTL2</td><td>Understand</td></tr>
<tr><td>23</td><td>Examine some units for measuring the size of the software.</td><td>BTL4</td><td>Analyze</td></tr>
<tr><td>24</td><td>Determine the categories of benefits.</td><td>BTL5</td><td>Evaluate</td></tr>
<tr><td colspan="4">PART B</td></tr>
<tr><td>1</td><td>i) Describe the water fall model in detail with neat diagram (6)<br>ii) Discuss the spiral software development life cycle model with diagrammatic illustration with its deficiencies and usage. (7)</td><td>BTL1</td><td>Remember</td></tr>
<tr><td>2</td><td>Discuss the following in detail:<br>i) Software prototyping (6)<br>ii) Different ways of categorizing prototype(7)</td><td>BTL2</td><td>Understand</td></tr>
<tr><td>3</td><td>i) Demonstrate the incremental delivery with neat diagram.(7)<br>ii) Illustrate the advantages and disadvantages of incremental delivery.(6)</td><td>BTL3</td><td>Apply</td></tr>
<tr><td>4</td><td>i) Explain the Dynamic system development method in detail. (9)<br>ii)Analyze the details about SCRUM.(4)</td><td>BTL4</td><td>Analyze</td></tr>
<tr><td>5</td><td>i) Describe the Rapid Application Development model. (8)<br>ii) Identify the features of Agile method.(5)</td><td>BTL1</td><td>Remember</td></tr>
<tr><td>6</td><td>Discuss the Extreme programming in detail with its advantages and disadvantages. (13)</td><td>BTL2</td><td>Understand</td></tr>
<tr><td>7</td><td>i) Explain the management of iterative process in detail. (8)<br>ii) Explain why estimates are carried out at various stages of a software project. (5)</td><td>BTL5</td><td>Evaluate</td></tr>
<tr><td>8</td><td>i) Describe the basis for software estimation in detail. (8)<br>ii) Describe the expert judgment and estimation by analogy in detail. (5)</td><td>BTL1</td><td>Remember</td></tr>
<tr><td>9</td><td>i) Discuss the extended function point analysis in detail with an example. (7)<br>ii) Illustrate the staffing pattern.(6)</td><td>BTL2</td><td>Understand</td></tr>
<tr><td>10</td><td>Demonstrate the following:<br>i) Function point mark II method (8)<br>ii) COSMIC full function point method (5)</td><td>BTL3</td><td>Apply</td></tr>
<tr><td>11</td><td>Explain the COCOMO II parametric productive model in detail with the steps in effort estimation technique.(13)</td><td>BTL4</td><td>Analyze</td></tr>
<tr><td>12</td><td>Describe the top down and bottom approach of the estimation in detail. (13)</td><td>BTL1</td><td>Remember</td></tr>
<tr><td>13</td><td>The following details are held about previously developed software modules.
<table>
<tr><th>Module</th><th>Inputs</th><th>Entity Types Accessed</th><th>Outputs</th><th>Days</th></tr>
<tr><td>A</td><td>1</td><td>2</td><td>10</td><td>2.60</td></tr>
<tr><td>B</td><td>10</td><td>2</td><td>1</td><td>3.90</td></tr>
<tr><td>C</td><td>5</td><td>1</td><td>1</td><td>1.83</td></tr>
<tr><td>D</td><td>2</td><td>3</td><td>11</td><td>3.50</td></tr>
</table></td><td>BTL4</td><td>Analyze</td></tr>
</table>

<table>
<tr><td></td><td>
<table>
<tr><td>E</td><td>1</td><td>3</td><td>20</td><td>4.30</td></tr>
</table>
i) Calculate the Simons Mark II FPs for each module. (8)<br>ii)Using the results, calculate the effort needed for the new module. (5)
</td><td></td><td></td></tr>
<tr><td>14</td><td>Develop the project data given below.
<table>
<tr><th>Project</th><th>inputs</th><th>outputs</th><th>entity accesses</th><th>system users</th><th>Program - ming language</th><th>developer days</th></tr>
<tr><td>1</td><td>210</td><td>420</td><td>40</td><td>10</td><td>x</td><td>30</td></tr>
<tr><td>2</td><td>469</td><td>1406</td><td>125</td><td>20</td><td>x</td><td>85</td></tr>
<tr><td>3</td><td>513</td><td>1283</td><td>76</td><td>18</td><td>y</td><td>108</td></tr>
<tr><td>4</td><td>660</td><td>2310</td><td>88</td><td>200</td><td>y</td><td>161</td></tr>
<tr><td>5</td><td>183</td><td>367</td><td>35</td><td>10</td><td>z</td><td>22</td></tr>
<tr><td>6</td><td>244</td><td>975</td><td>65</td><td>25</td><td>z</td><td>42</td></tr>
<tr><td>7</td><td>1600</td><td>3200</td><td>237</td><td>25</td><td>y</td><td>308</td></tr>
<tr><td>8</td><td>582</td><td>874</td><td>111</td><td>5</td><td>z</td><td>62</td></tr>
<tr><td>X</td><td>180</td><td>350</td><td>40</td><td>20</td><td>y</td><td></td></tr>
<tr><td>Y</td><td>484</td><td>1190</td><td>69</td><td>35</td><td>y</td><td></td></tr>
</table>
Note X and Y are new projects for which estimates of effort are needed.<br>i) What items are size drivers? (3)<br>ii) What items are productivity drivers? (3)<br>iii) What are the productivity rates for programming languages x, y and z? (3)<br>iv) What would be the estimated effort, for projects X and Y using a Mark II function point count? (4)</td><td>BTL6</td><td>Create</td></tr>
<tr><td>15</td><td>Identify the estimates done and explain the problems with over and under estimates. Develop your own example and explain. (13)</td><td>BTL3</td><td>Apply</td></tr>
<tr><td>16</td><td>Summarize in detail about Managing interactive processes. (13)</td><td>BTL2</td><td>Understand</td></tr>
<tr><td>17</td><td>Evaluate how cost-benefit evaluation techniques can be used to choose the best among competing project proposals. (13)</td><td>BTL5</td><td>Evaluate</td></tr>
<tr><td colspan="4">PART C</td></tr>
<tr><td>1</td><td>Evaluate the major shortcomings of the waterfall model? How have those shortcomings been overcome by the agile model? (15)</td><td>BTL5</td><td>Evaluate</td></tr>
<tr><td>2</td><td>Create the maximum value that the scale factor can have, give that there are five exponent drivers and the maximum rating for an individual driver is five and the minimum is zero? (15)</td><td>BTL6</td><td>Create</td></tr>
<tr><td>3</td><td>Suppose you are the manager of a software project. Explain why it would not be proper to calculate the number of developers required for the project as a simple division of the effort estimate (in person-months) by the nominal duration estimate (in months). (15)</td><td>BTL5</td><td>Evaluate</td></tr>
<tr><td>4</td><td>Identify the pros and cons of using pair programming over programmers working alone. Based on your analysis, point out if there are any situations where the pair programming technique may not be suitable. (15)</td><td>BTL6</td><td>Create</td></tr>
</table>

| | | | |
|---|---|---|---|
| 5 | **Explain** in detail about the Amanda's decision tree. (15) | BTL5 | Evaluate |
| **UNIT III ACTIVITY PLANNING AND RISK MANAGEMENT** | | | |
| Objectives of Activity planning–Project schedules –Activities –Sequencing and scheduling –Network Planning models –Forward Pass & Backward Pass techniques –Critical path (CRM) method –Risk identification –Assessment –Monitoring –PERT technique –Monte Carlo simulation –Resource Allocation – Creation of critical patterns –Cost schedules. | | | |
| **PART A** | | | |
| 1 | **List** the objectives of activity planning. | BTL1 | Remember |
| 2 | **Compare** work breakdown structure and Product break down structure. | BTL5 | Evaluate |
| 3 | **Differentiate** Activity-On-Arrow (AOA) from Activity-On-Node (AON). | BTL4 | Analyze |
| 4 | **Show** the various approaches would you use to identify activities. | BTL3 | Apply |
| 5 | How will you **formulate** risk reduction leverage? Outline the strategies for risk reduction can be adopted for the following software project risk: Personnel (staffing) shortfalls. | BTL6 | Create |
| 6 | How would you use hybrid approach of project scheduling? **Discuss** it. | BTL2 | Understand |
| 7 | **What** are the different ways of prioritizing the activities in resource allocations? | BTL1 | Remember |
| 8 | **Develop** the changes would you make to shorten the project duration. | BTL6 | Create |
| 9 | **How** would you show a "Dangle" in an activity Network? | BTL1 | Remember |
| 10 | **Illustrate** Hammock activities. | BTL3 | Apply |
| 11 | **Compare** forward pass and backward pass. | BTL2 | Understand |
| 12 | **Analyze** activity float. Appraise the need for modeling precedence networks. | BTL4 | Analyze |
| 13 | **Define** 'Free floats' and 'interfering floats'. | BTL1 | Remember |
| 14 | **Compare** PERT and CPM | BTL5 | Evaluate |
| 15 | **List** out the categories of cost. | BTL1 | Remember |
| 16 | **Interpret** the types of risk. | BTL2 | Understand |
| 17 | **Analyze** the factors involved in risk planning. | BTL4 | Analyze |
| 18 | What do you understand by risk transfer? **Give** an example. | BTL2 | Understand |
| 19 | **Define** hazard. | BTL1 | Remember |
| 20 | **Classify** the time estimates in PERT. | BTL3 | Apply |
| 21 | **Summarize** Monte Carlo Simulation method? | BTL2 | Understand |
| 22 | **Identify** the different types of schedules in resource allocation. | BTL3 | Apply |
| 23 | **Discover** the categories of resources. | BTL4 | Analyze |
| 24 | **Determine** the factors that needs to be taken into account while allocating individuals to tasks. | BTL5 | Evaluate |
| 25 | **Formulate** the ways in which activities can be prioritized. | BTL6 | Create |
| **PART B** | | | |
| 1 | i) **Describe** the various steps involved in activity planning with its objectives. (8)<br>ii) **Examine** the sequencing and scheduling activities. (5) | BTL1 | Remember |
| 2 | **Describe** the different approaches of identifying the project activities | BTL2 | Understand |

| | | | |
|---|---|---|---|
| | in detail with neat diagram. (13) | | |
| 3 | **Illustrate** the various network planning model and calculations used in the model and differentiate between them. Explain rules for constructing precedence network. (13) | BTL3 | Apply |
| 4 | i) **Analyze** the forward pass activity in detail. (8)<br>ii) **Explain** the backward pass activity with neat diagram.(5) | BTL4 | Analyze |
| 5 | i) **Explain** the identification of the critical path in details with neat diagram. (7)<br>ii) **Summarize** on activity float.(6) | BTL5 | Evaluate |
| 6 | **Develop** an Activity-On-Arrow network. Explain rules and conventions for activity on arrow network. (13) | BTL6 | Create |
| 7 | **Discuss** different CPM forward and backward pass network in detail with neat diagram (13) | BTL1 | Remember |
| 8 | **Define** the term Risk. Discuss the issues related to managing the risk. Give examples. (13) | BTL2 | Understand |
| 9 | i) **Illustrat**e the use of checklist and brain storming in iidentification of risk. (8)<br>ii) **Classify** the categories of risk.(5) | BTL3 | Apply |
| 10 | i) **Explain** Monte Carlo Simulation with an example. (6)<br>ii) **Differentiate** PERT and CPM. Explain with an example the use of network techniques PERT and CPM in software project management. (7) | BTL4 | Analyze |
| 11 | i) **Describe** PERT network in detail with example. (6)<br>ii) **Identify** the risk identification process and the mitigation steps involved in the project management. (7) | BTL1 | Remember |
| 12 | i) **Discuss** about the cost schedule in detail. (8)<br>ii) **Discuss** the factors to be considered in allocation of tasks. (5) | BTL2 | Understand |
| 13 | i) **Explain** the different categories of project resources in detail. (8)<br>ii) **Analyze** on various scheduling resources. (5) | BTL4 | Analyze |
| 14 | i) **Describe** an activity network using activity on node for office automation.(5)<br>ii) **Identify** a network diagram representing the following logic. As the project starts, activities A and B can be performed concurrently. When A is finished, activities C and D can start. When B is finished, activities E and F can start. When activities D and E are finished, activity G can start. The project is complete when activities C, F and G are finished. (8) | BTL1 | Remember |
| 15 | **Explain** how you will identify the major risks, & identify the strategies for minimizing each of those risks. (13) | BTL2 | Understand |

<table>
<tr><td>16</td><td>(i) Assess the objectives of designing a proper project schedule? Explain its significance. (7)<br>(ii) What is risk analysis? Explain its significance in project management? (6)</td><td>BTL5</td><td>Evaluate</td></tr>
<tr><td>17</td><td>Identify the steps involved in the process of resource allocation. (13)</td><td>BTL3</td><td>Apply</td></tr>
<tr><td colspan="4">PART C</td></tr>
<tr><td>1</td><td>Identify and create the objectives and sub-objectives of the Brightmouth College payroll project. What measures of effectiveness could be used to check the success in achieving the objectives of the project? (15)</td><td>BTL5</td><td>Evaluate</td></tr>
<tr><td>2</td><td>Referring to figure suppose that the duration for activity F is shortened to 8 weeks. Calculate the end date for the project.<br>What would the end date for the project if activity F were shortened to 7 weeks? Why? (15)<br> 
</td><td>BTL6</td><td>Create</td></tr>
<tr><td>3</td><td>Draw an activity network using CPM conventions for the project specified in below table. When you have completed it, evaluate and compare your result with that shown in figure
<table>
<tr><th colspan="2">Activity</th><th>Duration (weeks)</th><th>Precedents</th></tr>
<tr><td>A</td><td>Hardware selection</td><td>6</td><td></td></tr>
<tr><td>B</td><td>Software design</td><td>4</td><td></td></tr>
<tr><td>C</td><td>Install hardware</td><td>3</td><td>A</td></tr>
<tr><td>D</td><td>Code & test software</td><td>4</td><td>B</td></tr>
<tr><td>E</td><td>File take-on</td><td>3</td><td>B</td></tr>
<tr><td>F</td><td>Write user manuals</td><td>10</td><td></td></tr>
<tr><td>G</td><td>User training</td><td>3</td><td>E, F</td></tr>
<tr><td>H</td><td>Install & test system</td><td>2</td><td>C, D</td></tr>
</table>
Table1: An example project specification with estimated activity duration and precedence requirements. (15)<br>Figure: Illustrates the network for the project specified in Table1</td><td>BTL5</td><td>Evaluate</td></tr>
</table>

| | | | |
|---|---|---|---|
| |  | | |
| 4 | Consider a software project with five tasks T1-T5. Duration of the five tasks in weeks is 3,2,3,5 and 2 respectively. T2 and T4 can start when T1 is complete. T3 can start when T2 is complete. T5 can start when T3 and T4 are complete. **Draw and create** the CPM network representation of the project. When is the latest start date of the task T3? What is the float time of the task T4? Which tasks are on the critical path? (15) | BTL6 | Create |
| 5 | On a large project it is often the responsibility of a team leader to allocate tasks to individuals. Why might it be unsatisfactory to leave such allocations entirely to the direction of the team leader? (15) | BTL5 | Evaluate |
| **UNIT IV PROJECT MANAGEMENT AND CONTROL** | | | |
| Framework for Management and control –Collection of data Project termination – Visualizing progress – Cost monitoring –Earned Value Analysis-Project tracking –Change control-Software Configuration Management –Managing contracts –Contract Management | | | |
| **PART A** | | | |
| 1 | **Give** the advantages and disadvantages of the EVA approach. | BTL2 | Understand |
| 2 | **List** out the steps in project control. | BTL1 | Remember |
| 3 | **List** the Deciding levels of monitoring. | BTL1 | Remember |
| 4 | **Predict** the different ways of collecting data. | BTL2 | Understand |
| 5 | **Identify** the categories of reporting. | BTL1 | Remember |
| 6 | **What** is the use of check points and monitoring? | BTL1 | Remember |
| 7 | **Examine** the techniques of visualizing progress. | BTL3 | Apply |
| 8 | **Illustrate** the advantages of fixed priced contracts. | BTL3 | Apply |
| 9 | **Differentiate** ball charts and slip chart. | BTL2 | Understand |
| 10 | **Compare** budgeted cost of work scheduled and budgeted cost of work performed. | BTL4 | Analyze |
| 11 | **Define** critical path and outsource. | BTL1 | Remember |
| 12 | **Give** the justifications for project termination. | BTL6 | Create |
| 13 | **Explain** how the details needed to carry out EVA to be collected? | BTL4 | Analyze |
| 14 | **Explain** how would you rate the levels to monitor the project? | BTL5 | Evaluate |
| 15 | **Evaluate** the need for monitoring the cost. | BTL5 | Evaluate |
| 16 | **List** the different types of contracts. | BTL1 | Remember |
| 17 | **Explain** the supply processes in managing contract. | BTL4 | Analyze |

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| 18 | **Summarize** open source configuration Management tools. | BTL2 | Understand |
| 19 | **Illustrate** the outcome of contract management. | BTL3 | Apply |
| 20 | How would you **integrate** the popular visual tools in monitoring and tracking the project progress? | BTL6 | Create |
| 21 | **Compare** schedule variance, time variance and cost variance. | BTL5 | Evaluate |
| 22 | Define change control. | BTL2 | Understand |
| 23 | **Identify** the stages in awarding a contract. | BTL3 | Apply |
| 24 | Analyze the features of Open Tendering Process. | BTL4 | Analyze |
| | **PART B** | | |
| 1 | **i) Describe** in details about creating the frame work for monitoring the project management and control. (5)<br>ii**)** Scope and deliverables of software projects are changed frequently. This has severe implications on the projects. **Examine** how can a project manager minimize their impact on the projects? (8) | BTL1 | Remember |
| 2 | **Discuss** the following in detail:<br>i. Collecting the data (5)<br>ii. Project termination review (8) | BTL2 | Understand |
| 3 | i) **Illustrate** the use of Gantt and timeline charts in visualizing the project progress with suitable diagrams. (7)<br>ii) **Demonstrate** on cost monitoring. (6) | BTL3 | Apply |
| 4 | **Explain** the various ways in visualizing the progress of the project with neat diagram. (13) | BTL4 | Analyze |
| 5 | i) **Explain** the earned value analysis method in detail (8)<br>ii) **Summarize** the various steps involved in change control procedure (5) | BTL5 | Evaluate |
| 6 | i) **Develop** the procedure to get back the project to target. (7)<br>ii)**Formulate** the process of prioritizing monitoring with examples. (6) | BTL6 | Create |
| 7 | i) **Describe** the purpose of software configuration management. (8)<br>ii) **Examine** in detail about configuration management process.(5) | BTL1 | Remember |
| 8 | i) **Discuss** the various types of contracts with example. Appraise the activities involved in software configuration management. (8)<br>ii) **Express** the various stages in contract placement in detail. (5) | BTL2 | Understand |
| 9 | i) **Illustrate** the salient features of "Fixed price" and "Time and material" contracts model. (8)<br>ii) **Demonstrate** in detail about contract management. (5) | BTL3 | Apply |
| 10 | i) **Explain** the formal models for cost monitoring with its metrics (8)<br>ii) **Point out** the levels of monitoring with example. (5) | BTL4 | Analyze |
| 11 | i)**List** down the typical terms in contract and explain them in detail. (5)<br>ii) **Identify** how the earned value chart depicts scheduled progress, actual cost and actual progress (earned value) to allow the determination of spending, schedule and time variances with example. (8) | BTL1 | Remember |

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| 12 | i) **Summarize** the managing contract under ISO12207 approach. (5)<br>ii) How would you rate the change control procedure? **Interpret** in detail.(8) | BTL2 | Understand |
| 13 | i) **Analyze** a baseline in the contest of software configuration management. How do the base lines get updated to form new base lines? (6)<br>ii) How the following can be prevented while using a configuration management tool? **Explain** it**.** (7)<br>a. Two team members overwriting each other's work<br>b. Accidental deletion of work product.<br>c. Unauthorized modifications to a work product | BTL4 | Analyze |
| 14 | **Describe** the following in detail:<br>i) Partial completion reporting (8)<br>ii) Reb/Amber/Green(RAG) Reporting (5) | BTL1 | Remember |
| 15 | (i) Scope and deliverables of software projects are changed frequently. This has severe implications on the projects. How can a project manager minimize their impact on the project? (7)<br>(ii) **Determine** the activities involved in software configuration management. (6) | BTL5 | Evaluate |
| 16 | i) Summarize the various steps involved in change control procedure. (9)<br>ii) Interpret the roles and responsibility of a configuration librarian.(4) | BTL2 | Understand |
| 17 | What problems are you likely to face if you are developing several versions of the same software product according to a client's request and are not using any configuration management tools? (13) | BTL3 | Apply |
| | **PART C** | | |
| 1 | How would you **evaluate** the following aspects of a proposal?<br>i. The usability of an existing software application (3)<br>ii. The usability of a software application that is yet to be designed and constructed. (3)<br>iii. The maintenance costs of hardware to be supplied (3)<br>iv. The time taken to respond to requests for software support (3)<br>**v.** Training. (3) | BTL5 | Evaluate |
| 2 | If you have access to project planning software, investigate the extent to which it offers support for earned value analysis. If it does not so directly, **investigate** ways in which it would help you to generate a baseline budget (PV) and track the earned value (EV). (15) | BTL6 | Create |
| 3 | Give examples of how project termination **review results** can change the development process and the project management process. (15) | BTL5 | Evaluate |
| 4 | Suppose a project is budgeted to cost $150000. The project is to be completed in 18 months. After two months, the project is 10% complete at an expense of $25000. It was planned that after two months 15% of the project work should have been completed. **Create and compare** the cost performance index and the schedule performance index. Interpret these values to assess the progress of the | BTL6 | Create |

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| | project. (15) | | |
| 5 | Formulate with your own example how the earned value chart depicts scheduled progress, actual cost and actual progress (earned value) to allow the determination of spending, schedule and time variances. (15) | BTL6 | Create |
| **UNIT V STAFFING IN SOFTWARE PROJECTS** | | | |
| Managing people –Organizational behavior –Best methods of staff selection –Motivation –The Oldham -Hackman job characteristic model –Ethical and Programmed concerns –Working in teams –Decision making –Team structures –Virtual teams –Communications genres –Communication plans. | | | |
| **PART A** | | | |
| 1 | **Point out** the objectives of managing people and organizing teams. | BTL4 | Analyze |
| 2 | **Describe** the importance causes of "stress" encountered in project. | BTL1 | Remember |
| 3 | **Classify** the different motivation theory. | BTL4 | Analyze |
| 4 | **Develop** the importance of objectives of organizational behavior. | BTL6 | Create |
| 5 | **Describe** Taylor's model. | BTL2 | Understand |
| 6 | **Classify** the different types of leadership style. | BTL4 | Analyze |
| 7 | **Develop** the stages of team formation model. | BTL6 | Create |
| 8 | **Illustrate** the methods would you use to improve motivation. | BTL3 | Apply |
| 9 | Will you state or **interpret** job enlargement and job enrichment. | BTL2 | Understand |
| 10 | **Give** the different categories of decisions. | BTL2 | Understand |
| 11 | **Define** Herzberg's two factor theory and software reliability. | BTL1 | Remember |
| 12 | **Recommend** some mental obstacles to good decision making. | BTL5 | Evaluate |
| 13 | **Illustrate** the steps involved in selecting the right person for the job. | BTL3 | Apply |
| 14 | **What** you understand by virtual team? | BTL1 | Remember |
| 15 | **List** the basic stages of team development. | BTL1 | Remember |
| 16 | **Quote**: Maslow's hierarchy of need. | BTL1 | Remember |
| 17 | **Compare** personal and organizational stress. | BTL2 | Understand |
| 18 | **Recommend** the measures to enhance the job design in Oldham-Hackman model characteristic model. | BTL5 | Evaluate |
| 19 | **Identify** the advantages of the chief Programmer team. | BTL1 | Remember |
| 20 | How would you **apply** your understanding in "Egoless Programming"? | BTL3 | Apply |
| 21 | **Interpret** the modes of communication. | BTL2 | Understand |
| 22 | **Analyze** the problems that are faced by matrix team organization. | BTL4 | Analyze |
| 23 | **Identify** the advantages of functional team formats. | BTL3 | Apply |
| 24 | **Deduct** the general approach which is followed for recruitment process. | BTL5 | Evaluate |
| **PART B** | | | |
| 1 | **Describe** the organizational behavior with example.(13) | BTL1 | Remember |
| 2 | i) **Discuss** the factors to be considered in the Oldham-Hackman job characteristic model. (8)<br>ii) **Give** the Vroom's expectancy theory.(5) | BTL2 | Understand |
| 3 | **Demonstrate**, how would you select a new staff into a project along with the recruitment process? (13) | BTL3 | Apply |
| 4 | i) **Explain** the Maslow's Hierarchy of needs with an example. (8) | BTL4 | Analyze |

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| | ii) Analyze the details on Taylorist model.(5) | | |
| 5 | **Explain** the following in detail:<br>i) Stress (5)<br>ii) Health and safety(8) | BTL5 | Evaluate |
| 6 | i) **Compose** some Ethical and Professional concern. (5)<br>ii**) Develop** the project and functional organization structure and list out the advantages functional team format. (8) | BTL6 | Create |
| 7 | **Describe** the various models of Motivation in detail. (13) | BTL1 | Remember |
| 8 | i) **Discuss** the metrics and issues involved in selecting the right person for the job. (5)<br>ii) **Express** the importance of working together as a team and the various aspects of team development. (8) | BTL2 | Understand |
| 9 | **Illustrate** the term "Decision making" in the process of managing people and organizing teams. With an example explain the strength of a team.(13) | BTL3 | Apply |
| 10 | **Explain** different types of team structures used in the project management.(13) | BTL4 | Analyze |
| 11 | i) **Describe** the Organization and Team structure in detail. (5)<br>ii) Define team and the types of team structures.(8) | BTL1 | Remember |
| 12 | i) **Describe** in detail about Dispersed and Virtual Team. (5)<br>ii) **Summarize** details on Communication Genres.(8) | BTL2 | Understand |
| 13 | i) **Analyze** the factors and characteristics that are involved in making a team. (7)<br>ii) **Explain** the different ways to improve the group performance.(6) | BTL4 | Analyze |
| 14 | i) **Discuss** the leadership models with the functions of a leader with an example. (7)<br>ii) **Express** about communication plan in detail. (6) | BTL1 | Remember |
| 15 | **Illustrate** the 3 ways in which a software development department can be structured with suitable diagram.(13) | BTL2 | Understand |
| 16 | i) Define leadership and explain different kinds of leadership power. (7)<br>ii) Explain in detail about leadership style.(6) | BTL5 | Evaluate |
| 17 | In your final year project, categorize each participant according to the Belbin classification. Were there any duplications or gaps in any of the roles? Did this seem to have any impact on your progress? Propose your solution. (13) | BTL3 | Apply |
| | **PART C** | | |
| 1 | An organization has detected low job satisfaction in the following departments:<br>i. The system testing group;<br>ii. The computer applications help desk;<br>iii. Computer batch input;<br>How could these jobs be **redesigned** to give more job satisfaction? (15) | BTL6 | Create |
| 2 | Job enlargement sounds like a good thing. **Explore** what are the possible disadvantages of job enlargement might be for both | BTL5 | Evaluate |

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| | employers and staff. (15) | | |
| 3 | Explain the advantages of a functional organization over a project organization. Also **evaluate** why software development houses prefer to use project organization over functional organization. (15) | BTL5 | Evaluate |
| 4 | As a project manager, **identify** the characteristics that you would look for in a software developer while trying to select personnel for your team. (15) | BTL6 | Create |
| 5 | Does staff selection relate with quality of product? Justify with appropriate reason. (15) | BTL5 | Evaluate |