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**NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY, GREATER NOIDA**  
(An Autonomous Institute Affiliated to AKTU, Lucknow)

**B.Tech**

**SEM: VII - THEORY EXAMINATION (2025 - 2026)**

**Subject: IT Project Management**

**Time: 3 Hours**

**Max. Marks: 100**

**General Instructions:**

**IMP:** Verify that you have received the question paper with the correct course, code, branch etc.

1. This Question paper comprises of **three Sections -A, B, & C**. It consists of Multiple Choice Questions (MCQ's) & Subjective type questions.

2. Maximum marks for each question are indicated on right -hand side of each question.

3. Illustrate your answers with neat sketches wherever necessary.

4. Assume suitable data if necessary.

5. Preferably, write the answers in sequential order.

6. No sheet should be left blank. Any written material after a blank sheet will not be evaluated/checked.

**SECTION-A**

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1. Attempt all parts:-

- 1-a. In CPM, the critical path is defined as: (CO1), (K1) 1
- The path with the highest float
  - The path with the shortest duration
  - The path with the most activities
  - The path with the longest duration
- 1-b. Financial appraisal evaluates (CO1), (K2) 1
- Economic viability of project
  - Sequence of activities
  - Float calculation
  - HR planning
- 1-c. Over allocation of resources occurs when (CO2), (K2) 1
- Project is completed early
  - Workload is perfectly balanced
  - Assigned work exceeds availability
  - Resources are underused
- 1-d. Scheduling without considering resources is (CO2), (K2) 1
- Budget scheduling
  - Resource leveling
  - Time-oriented scheduling
  - Cost-based scheduling
- 1-e. List the primary purpose of a communication management plan. (CO3, K1) 1

- (a) Ensuring effective communication throughout the project
  - (b) Documenting project risks
  - (c) Monitoring project costs
  - (d) Defining project objectives
- 1-f. As a tester which of the following will come under product risk if you are testing an e-commerce website? (CO3), (K2) 1
- (a) Shortage of testers
  - (b) Many changes in SRS that caused changes in test cases
  - (c) Delay in fixing defects by development team
  - (d) Failure to transfer a user to secure gateway while paying
- 1-g. Frequency of sprint reviews is determined as- (CO4), (K2) 1
- (a) Once a month
  - (b) Once a quarter
  - (c) At project initiation
  - (d) At the end of every sprint
- 1-h. Scrum artifact used for tracking progress is - (CO4),(K2) 1
- (a) Risk register
  - (b) Project charter
  - (c) Gantt chart
  - (d) Burndown chart
- 1-i. DevOps aims to combine development and operations teams for (CO5),(K2) 1
- (a) Increased documentation
  - (b) Delayed releases
  - (c) Faster delivery and collaboration
  - (d) Reduced automation
- 1-j. Docker image contains (CO5),(K2) 1
- (a) Only configuration
  - (b) Application and dependencies
  - (c) Only source code
  - (d) Only OS files

2. Attempt all parts:-

- 2.a. Explain importance of scheduling in achieving project objectives. (CO1)(K2) 2
- 2.b. Describe the connection between cost performance index and project control. (CO2)(K2) 2
- 2.c. Mention the role of Scrum in Agile project management practices. (CO3)(K2) 2
- 2.d. Describe the role of the development team in sprint execution and collaboration. (CO4)(K2) 2
- 2.e. State the main aim of Feature Driven Development (FDD). (CO5)(K1) 2

## **SECTION-B**

30

3. Attempt all parts:-

3.a. Answer any one of the following:-

- 3.a.(i) Discuss the difference between the total float and free float in the Critical Path Method. Describe the concept of float or slack in the context of CPM. How is float calculated? (CO1),(K3) 6
- 3.a.(ii) Explain the impact of resource allocation on project scheduling and timelines. (CO1),(K2) 6
- 3.b. Answer any one of the following:-
- 3.b.(i) Explain the purpose of a PERT/Cost diagram in a medium-sized project and describe how cost variances are interpreted. (CO2),(K2) 6
- 3.b.(ii) Explain integration of cost control and resource scheduling to achieve project efficiency. (CO2), (K2) 6
- 3.c. Answer any one of the following:-
- 3.c.(i) Demonstrate how project termination strategies can minimize organizational losses. (CO3), (K3) 6
- 3.c.(ii) Describe the relationship between Agile and DevOps in supporting continuous delivery and deployment. (CO3), (K2) 6
- 3.d. Answer any one of the following:-
- 3.d.(i) Explain the process of creating and maintaining the product backlog, including how user stories are prioritized. (CO4), (K2) 6
- 3.d.(ii) Outline the use of Scrum metrics for measuring sprint performance and productivity. (CO4), (K2) 6
- 3.e. Answer any one of the following:-
- 3.e.(i) Summarize the process of containerization using Docker and its benefits in agile environments. (CO5), (K2) 6
- 3.e.(ii) Illustrate the comparative aspects of XP, FDD, DSDM, and Crystal in agile project development. (CO5), (K2) 6

**SECTION-C** 50

4. Answer any one of the following:-
- 4-a. Explain the concept of product life cycle and its relevance to market demand analysis. How can project managers use this information to make strategic decisions? Discuss the importance of competitor analysis in market demand analysis. How can a project team use this information to gain a competitive advantage? (CO1), (K3) 10
- 4-b. Outline the role of the PERT event in the context of project network diagrams and the difference between events and activities? Discuss the advantages and disadvantages of using PERT in project management. (CO1), (K2) 10
5. Answer any one of the following:-
- 5-a. Apply cost variance analysis to assess project performance in a case scenario. (CO2),(K3) 10
- 5-b. Illustrate the connection between project scheduling and cost management for achieving project efficiency. (CO2), (K2) 10
6. Answer any one of the following:-
- 6-a. Describe a project control mechanism to monitor schedule and budget deviations in a case study. (CO3), (K2) 10

- 6-b. Compare Scrum, Lean, and DevOps approaches in coordinating cross-functional team activities. (CO3), (K4) 10
7. Answer any one of the following:-
- 7-a. Explain the concept of a sprint and plan one for a sample software project. (CO4), (K3) 10
- 7-b. Demonstrate the benefits of cross-functional Scrum teams in delivering high-quality software. (CO4), (K3) 10
8. Answer any one of the following:-
- 8-a. Explain the role of "Continuous Monitoring" in a DevOps environment and how it helps in identifying and resolving issues proactively. (CO5), (K2) 10
- 8-b. Compare the practices of Extreme Programming (XP) and Feature Driven Development (FDD) in Agile environments. (CO5), (K4) 10

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