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

MCA (Integrated)

SEM: VIII - THEORY EXAMINATION (2025 - 2026)

Subject: Software 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

20

1. Attempt all parts:-

- (1.1) Project initiation mainly focuses on _____.(CO1,K2) 1
- (a) Defining project goals
 - (b) Testing modules
 - (c) Coding software
 - (d) Debugging
- (1.2) Project planning mainly focuses on _____.(CO1,K4) 1
- (a) Execution only
 - (b) Testing only
 - (c) Goals, schedule and resources
 - (d) Deployment only
- (1.3) Function Point Analysis (FPA) is used to measure _____.(CO2,K1) 1
- (a) Hardware size
 - (b) Software functionality
 - (c) Coding errors
 - (d) Team size
- (1.4) Gantt chart is used for _____.(CO2,K1) 1
- (a) Risk analysis
 - (b) Coding
 - (c) Project scheduling
 - (d) Testing

- (1.5) Earned Value Management (EVM) is used to measure _____.(CO3,K3) 1
- Hardware usage
 - Network traffic
 - Coding errors
 - Project performance
- (1.6) Progress monitoring ensures _____.(CO3,K2) 1
- Ignoring tasks
 - Tracking project progress
 - Increasing errors
 - Avoid planning
- (1.7) Software Quality Assurance (SQA) mainly focuses on _____.(CO4,K1) 1
- Writing programs
 - Ensuring software quality
 - Increasing hardware speed
 - Reducing memory
- (1.8) Risk mitigation strategies aim to _____.(CO4,K3) 1
- Ignore risks
 - Increase risk
 - Delay project
 - Reduce risk impact
- (1.9) Team evaluation is used for:(CO5,K2) 1
- Salary
 - Performance
 - Coding
 - Design
- (1.10) Project success depends on:(CO5,K2) 1
- Time
 - Cost
 - Quality
 - All

2. Attempt all parts:-

- (2.1) State the importance of SPM in software development. (CO1,K2) 2
- (2.2) Define bottom-up estimation method. (CO2,K1) 2
- (2.3) Explain milestone tracking in software project scheduling. (CO3,K3) 2
- (2.4) Explain the role of configuration management in SQA. (CO4,K2) 2
- (2.5) Explain the importance of team feedback after project completion.(CO5,K2) 2

SECTION-B

30

Answer any one of the following:-

- (3.1) Describe different SDLC models with examples. (CO1,K3) 6
- (3.2) Explain feasibility study and its types in SDLC. (CO1,K3) 6

Answer any one of the following:-

- | | | |
|-------|---|---|
| (3.3) | Describe challenges faced in software estimation. (CO2,K2) | 6 |
| (3.4) | Differentiate between top-down and bottom-up estimation methods. (CO2,K3) | 6 |

Answer any one of the following:-

- | | | |
|-------|---|---|
| (3.5) | Explain the relationship between scheduling and resource allocation. (CO3,K3) | 6 |
| (3.6) | Explain time estimation in PERT using optimistic, pessimistic, and most likely values. (CO3,K3) | 6 |

Answer any one of the following:-

- | | | |
|-------|---|---|
| (3.7) | Explain Software Quality Assurance (SQA) and its importance in software development. (CO4,K2) | 6 |
| (3.8) | Discuss different approaches to achieving software quality. (CO4,K3) | 6 |

Answer any one of the following:-

- | | | |
|--------|---|---|
| (3.9) | Discuss the benefits of team performance evaluation in software projects.(CO5,K3) | 6 |
| (3.10) | Discuss the importance of proper communication during project closure.(CO5,K3) | 6 |

SECTION-C

50

4. Answer any one of the following:-

- | | | |
|-------|---|----|
| (4.1) | Describe the role of Software Project Management in successful project delivery. (CO1,K2) | 10 |
| (4.2) | Explain monitoring and controlling phase including performance measurement and corrective actions. (CO1,K3) | 10 |

5. Answer any one of the following:-

- | | | |
|-------|--|----|
| (5.1) | Calculate effort using Basic COCOMO for a project size of 50 KLOC (organic mode). (CO2,K3) | 10 |
| (5.2) | Compare and contrast different task estimation techniques (e.g., Expert Judgment, Analogous Estimating, Parametric Estimating, Three-Point Estimating). (CO2,K4) | 10 |

6. Answer any one of the following:-

- | | | |
|-------|--|----|
| (6.1) | Explain resource leveling and its importance in managing project resources. (CO3,K2) | 10 |
| (6.2) | Describe the process of identifying the critical path in a project network with an example. (CO3,K3) | 10 |

7. Answer any one of the following:-

- | | | |
|-------|---|----|
| (7.1) | Differentiate Between white box testing and black box testing. (CO4,K2) | 10 |
| (7.2) | Differentiate between boundary value analysis and equivalence class partitioning with example. (CO4,K2) | 10 |

8. Answer any one of the following:-

- | | | |
|-------|--|----|
| (8.1) | Explain the importance of stakeholder involvement during project closure.(CO5,K2) | 10 |
| (8.2) | Describe the techniques used for effective knowledge transfer between project teams and clients.(CO5,K2) | 10 |