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**NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY, GREATER NOIDA**

(An Autonomous Institute Affiliated to AKTU, Lucknow)

B.Tech.

SEM: III - THEORY EXAMINATION (2021 - 2022)

Subject: Software Engineering

Time: 03:00 Hours

Max. Marks: 100

General Instructions:

1. All questions are compulsory. It comprises of three Sections A, B and C.
  - Section A - Question No- 1 is objective type question carrying 1 mark each & Question No- 2 is very short type questions carrying 2 marks each.
  - Section B - Question No- 3 is Long answer type - I questions carrying 6 marks each.
  - Section C - Question No- 4 to 8 are Long answer type - II questions carrying 10 marks each.
  - 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-a. | Software engineers should not use their technical skills to misuse other people's computers. "Here the term misuse refers to (CO1)   | 1 |
|      | <ol style="list-style-type: none"> <li>1. Unauthorized access to computer material</li> <li>2. Unauthorized modification of computer material</li> <li>3. Dissemination of viruses or other malware</li> <li>4. All of the mentioned</li> </ol>                                |   |
| 1-b. | The reason for software bugs and failures is due to (CO1)  | 1 |
|      | <ol style="list-style-type: none"> <li>1. Software companies</li> <li>2. Software Developers</li> <li>3. Both Software companies and Developers</li> <li>4. All of the mentioned</li> </ol>  |   |
| 1-c. | The process each manager follows during the life of a project is known as (CO2)  | 1 |
|      | <ol style="list-style-type: none"> <li>1. Project Management</li> <li>2. Manager life cycle</li> <li>3. Project Management Life Cycle</li> <li>4. All of the mentioned</li> </ol>  |   |
| 1-d. | Which of the following is not project management goal? (CO2)   | 1 |
|      | <ol style="list-style-type: none"> <li>1. Keeping overall costs within budget</li> <li>2. Delivering the software to the customer at the agreed time</li> <li>3. Maintaining a happy and well-functioning development team</li> <li>4. Avoiding customer complaints</li> </ol> |   |
| 1-e. | Which one of the following is not a software quality model? (CO3)  | 1 |
|      | <ol style="list-style-type: none"> <li>1. ISO 9000</li> <li>2. McCall model</li> <li>3. Boehm model</li> <li>4. ISO 9126</li> </ol>  |   |

|  |   |    |
|--|---|----|
| 1-f.   | What is MTTF ? (CO3)  | 1  |
|  | 1. Maximum time to failure  |    |
|  | 2. Mean time to failure   |    |
|  | 3. Minimum time to failure  |    |
|  | 4. None of the mentioned  |    |
| 1-g.   | Which of the following property does not correspond to a good Software Requirements Specification (SRS) ? (CO4)           | 1  |
|  | 1. Verifiable   |    |
|  | 2. Ambiguous  |    |
|  | 3. Complete   |    |
|  | 4. Traceable  |    |
| 1-h.   | The SRS document is also known as _____ specification. (CO4)  | 1  |
|  | 1. black-box  |    |
|  | 2. white-box  |    |
|  | 3. grey-box   |    |
|  | 4. none of the mentioned  |    |
| 1-i.   | Test case gives detailed information about testing strategy, testing process, preconditions, and expected output (CO5)    | 1  |
|  | 1. TRUE   |    |
|  | 2. FALSE  |    |
| 1-j.   | Functional Testing is also referred as (CO5)  | 1  |
|  | 1. White Box Testing  |    |
|  | 2. Sand Box Testing   |    |
|  | 3. Maintenance testing  |    |
|  | 4. Black Box Testing  |    |
| 2. Attempt all parts:-                       |   |    |
| 2-a.   | 'Software does not wear out'. Justify (CO1)   | 2  |
| 2-b.   | What Is SDLC? (CO2)   | 2  |
| 2-c.   | What is quality audit? (CO3)  | 2  |
| 2  | Define functional requirements. (CO4)   | 2  |
| 2-e.   | What is modularity (CO5)  | 2  |
| SECTION B                                    |   | 30 |
| 3. Answer any <u>five</u> of the following:- |   |    |
| 3-a.   | What is a myth? Give a focus on various software myths regarding Management and Practitioner? (CO1)                       | 6  |
| 3-b.   | What are the advantages of iterative development? Compare iterative development with Incremental delivery approach. (CO1) | 6  |
| 3-c.   | How would you explain project life cycle? (CO2)   | 6  |
| 3-d.   | What is Feasibility Study? (CO2)  | 6  |
| 3-e.   | What is software failure? How is related with fault? (CO3)  | 6  |
| 3-f.   | List any 4 categories of CASE tools. (CO4)  | 6  |
| 3-g.   | What do you mean by modularization. Write properties of a module. (CO5)   | 6  |
| SECTION C                                    |   | 50 |
| 4. Answer any <u>one</u> of the following:-  |   |    |
| 4-a.   | Explain the framework of software process? (CO1)  | 10 |

- 4-b. Compare Traditional engineering approach and software engineering approach. (CO1) 10
5. Answer any one of the following:-
- 5-a. Explain the phases of SDLC with digramatic representation ? (CO2) 10
- 5-b. What are the limitation of Prototype models? Explain with all phases of prototype model? (CO2) 10
6. Answer any one of the following:-
- 6-a. Explain how the CMM encourages continuous improvement of the software process. (CO3) 10
- 6-b. Discuss the 20 clauses of ISO-9001. Why is it suggested that CMM is the better choice than ISO-9001? (CO3) 10
7. Answer any one of the following:-
- 7-a. What Is the Need For An SRS Document? (CO4) 10
- 7-b. What are the Software Requirement Validations? (CO4) 10
8. Answer any one of the following:-
- 8-a. Explain the concept of object and classes in line with software engineering. (CO5) 10
- 8-b. Why polymorphism is important. Justify (CO5) 10