Printed Page:-03 Subject Code:- BMCA0303 Roll. No: NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY, GREATER NOIDA (An Autonomous Institute Affiliated to AKTU, Lucknow) **MCA** SEM: III - THEORY EXAMINATION (2024 - 2025) Subject: Software Engineering 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. 20 **SECTION-A** 1. Attempt all parts:-1-a. Which is NOT the part of operating procedure manuals?[CO1, K1] 1 (a) User manuals **Operational manuals** (b) (c) Documentation manuals Installation manuals (d) 1-b. To produce a good quality product, process should be \_\_\_\_\_ [CO1, K2] 1 Complex (a) Efficient (b) (c) Rigorous none of the above (d) 1-c. Choose an internal software quality from given below: [CO2, K2] 1 scalability (a) usability (b) (c) reusability (d) reliability In the elicitation process, the developers discuss with the client and end users and 1-d. 1

(a) Organizing requirements

know their expectations for the software. [CO2, K2]

(b) Requirement gathering

- (c) Negotiation & discussion (d) Documentation Which of these are followed in case of software design process?[CO3, K2] 1 1-e. (a) Analysis occurs at start of product design with a product idea (b) Analysis occurs at the end of engineering design with the SRS (c) Product design resolution produces the design document Engineering design resolution produces the SRS (d) 1-f. Cohesion is a qualitative indication of the degree to which a module?[CO3, K2] 1 can be written more compactly (a) focuses on just one thing (b) is able to complete its function in a timely manner (c) is connected to other modules and the outside world (d) Acceptance testing is also known as \_\_\_\_\_.[CO4, K1] 1 1-g. Grey box testing (a) White box testing (b) (c) Alpha Testing Beta testing (d) ? [CO4, K2] Testing done without planning and Documentation is called\_ 1-h. 1 ¢.2 Unit testing (a) **Regression testing** (b) Adhoc testing (c) None of the mentioned (d) 1-i. The process of transforming a model into source code is known as 1 .[CO5, K2] Forward engineering (a) Reverse engineering (b) Re-engineering (c) Reconstructing (d) A COCOMO model is[CO5, K2] 1 1-j. Common Cost estimation model (a) Constructive cost Estimation model (b) (c) Complete cost estimation model (d) Comprehensive Cost estimation model 2. Attempt all parts:-2 2.a. Explain the umbrella activities of a software process?[CO1, K2]
- 2.b. Define functional requirements. [CO2, K2]
- 2.c. Explain data acquisition systems.[CO3, K2]
- 2.d. Define risk-based testing. Explain with the help of an example.[CO4, K3]

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2.e.	Define corrective maintenance.[CO5, K3]	2
<u>SECTIO</u>	<u>N-B</u>	30
3. Answer any <u>five</u> of the following:-		
3-a.	Give the difference between Agile Methodology and Spiral Process model of software development.[CO1, K3]	6
3-b.	Discuss various activities during software development life cycle. Explain with help of example and suitable diagram. [CO1, K3]	6
3-с.	Describe the minimum features that are required to be present in a good SRS.[CO2, K2]	6
3-d.	Describe how software requirements are documented? State the importance of documentation.[CO2, K3]	6
3.e.	Define cohesion. Discuss various types of cohesion. [CO3, K3]	6
3.f.	Explain the roles of cyclomatic complexity value in software resting.[CO4, K3]	6
3.g.	Explain the biggest challenge that you faced while working on a project.[CO5, K3]	6
<u>SECTION-C</u>		50
4. Answer any <u>one</u> of the following:-		
4-a.	Primary goal of software development now shifting from producing good quality software to good quality maintainable software. Justify your answer.[CO1, K4]	10
4-b.	Define software crisis. Explain the reasons of software crisis. [CO1, K4]	10
5. Answer any <u>one</u> of the following:-		
5-a.	Differentiate between data flow diagram and state transition diagram.[CO2, K3]	10
5-b.	Describe the characteristics of a good SRS document.[CO2, K3]	10
6. Answer any <u>one</u> of the following:-		
6-a.	Explain the advantages of Modularization[CO3, K3]	10
6-b.	Define bottom up design? Discuss its benefits and limitations.[CO3, K3]	10
7. Answe	r any <u>one</u> of the following:-	
7-a.	Explain the various strategies to software testing. Discuss them briefly. [CO4, K3]	10
7-b.	What do you understand by black box testing? Explain: (i) Equivalence class partitioning (ii) Boundary value analysis[CO4, K5]	10
8. Answer any <u>one</u> of the following:-		
8-a.	What is an architectural design document in software engineering. Explain its importance. [CO5, K3]	10
8-b.	"The details of the project plan vary depend on the type of project and organization". List the details that will be contained in almost all plans.[CO5, K5]	10

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