SEMESTER EXAMINATION-2021

CLASS – MCA V SEM SUBJECT COMPUTER SCIENCE

PAPER CODE: MCA-E512

PAPER TITLE: SOFTWARE QUALITY AND TESTING

Time: 3 hour **Max. Marks: 70**

Min. Pass: 40%

Note: Question Paper is divided into two sections: **A and B.** Attempt both the sections as per given instructions.

SECTION-A (SHORT ANSWER TYPE QUESTIONS)

Instructions: Answer any five questions in about 150 words (5 X 6 = 30 Marks) each. Each question carries six marks.

Question-1: Define Regression testing techniques.
Question-2: What are assumptions made in J-M model?
Question-3: Explain nominal scale, ordinal Scale, interval scale, and ratio scale.
Question-4: What is the significance of six sigma concept in software quality?
Question-5: Define the term test metrics and measurement.
Question-6: What is the significance of Cause and effect diagram?
Question-7: What is the need of Accessibility Testing?
Question-8: What is the need of acceptance testing?
Question-9: Explain the Life-cycle of software testing metrics.
Question-10: Explain the metrics of defect removal effectiveness.

SECTION-B (LONG ANSWER TYPE QUESTIONS)

Instructions: Answer any FOUR questions in detail. Each (4 X 10 = 40 Marks) question carries 10 marks.

Question-11: Explain the process of calculating function point for a project.
Question-12: What are Ishikawa's seven basic tools for quality control?
Question-13: Define performance testing. What are attributes of performance testing? Why we do performance testing?
Question-14: Explain Rayleigh model in detail. Also define the strengths of Rayleigh model.
Question-15: What is object object-oriented testing? What are the difference between conventional systems and Object-Oriented systems dependencies?
Question-16: What is Test Management Process? Define the various steps involves in improvement of test management.
Question-17: What do you understand with decision table based testing? Explain with the suitable example.
Question-18: What is boundary value analysis? Consider a program for determining the previous date. Its input is a triple of day, month and year with the values in range

$1 \leq \text{month} \leq 12$
$1 \leq \text{day} \leq 31$
$1900 \leq \text{year} \leq 2025$

The possible outputs would be previous date or invalid input date. Design the boundary value test cases

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