PAPER ID-410531

Subject Code: KCA035

Roll No: | | | | | | | | | | | | | |

MCA
(SEM IV) THEORY EXAMINATION 2023-24
SOFTWARE QUALITY ENGINEERING

TIME: 3 HRS **M.MARKS: 100**

Note: 1. Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

1. Attempt *all* questions in brief. 2 x 10 = 20

a.	Discuss error, fault & failure with respect to Software Quality.	02
b.	Explain the term Software Quality.	02
c.	Illustrate software quality indicators.	02
d.	Illustrate contents of Product Quality Metrics.	02
e.	What is a software quality model?	02
f.	Is Quality Engineering different from Quality assurance? Clarify.	02
g.	List any four Software Quality Assurance techniques.	02
h.	Explain the term Zero Defect Software.	02
i.	What are the requirements of customer problem metrics?	02
j.	Explain the objective of software testing process.	02

SECTION B

2. Attempt any *three* of the following: 3 x 10 = 30

a.	Demonstrate Functional requirements & non-functional requirements with suitable example.	10
b.	Describe the following verification methods in brief (Any two) (a) Peer Reviews (b) Walkthroughs (c) Inspections	10
c.	Determine the assumptions stated by Musa Basic execution model over Jelinski and Moranda Model.	10
d.	Explain the relationship among Quality Assurance, Quality Planning and Quality Control.	10
e.	What are various CASE tools? Describe advantages of CASE tools.	10

SECTION C

3. Attempt any *one* part of the following: 1 x 10 = 10

a.	Demonstrate Software Quality Attributes and Specification in detail.	10
b.	Explain Defect Prevention and its activities. Mention the steps involved in Defect Prevention Techniques and Practices.	10

4. Attempt any *one* part of the following: 1 x 10 = 10

a.	Explain different types of Software quality metrics in details.	10
b.	Differentiate between McCall's Quality Model and Boehm's Quality Model.	10

5. Attempt any *one* part of the following: 1 x 10 = 10

a.	Illustrate Hierarchical Model of Software Quality Assessment with block diagram.	10
b.	Discuss the Rayleigh model of software quality Management.	10

6. Attempt any *one* part of the following: 1 x 10 = 10

a.	Demonstrate the components of SQA architecture in detail.	10
b.	Explain Six Sigma concept in detail with suitable example.	10

7. Attempt any *one* part of the following: 1 x 10 = 10

a.	Explain the testing tools. Describe the characteristics of Modern testing tools.	10
b.	Define Verification and Validation activities associated with V-Model	10