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END SEMESTER EXAMINATION – 2022

Semester : 6th

Subject Code : CO-603

SOFTWARE ENGINEERING

Full Marks – 70

Time – Three hours

The figures in the margin indicate full marks for the questions.

Instruction :

- Answer *all* the questions from PART-A and PART-B.

PART – A

Marks – 25

1. Choose the correct answer : $1 \times 10 = 10$

(i) Which of the following model is called meta model ?

(a) Waterfall model (b) Spiral model

(c) Prototype model (d) All of these

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(ii) Cohesion and coupling are used for

- (a) High level design
- (b) Detailed design
- (c) Prototyping
- (d) All of the above

(iii) Equivalence class partitioning is a

- (a) White box testing
- (b) Black box testing
- (c) Both (a) and (b)
- (d) None of the above

(iv) Which of the following symbol is used in DFD ?

- (a) a store
- (b) a process
- (c) an external entity
- (d) All of the above

(v) Which one of the following is a functional requirement ?

- (a) Maintainability
- (b) Portability
- (c) Security
- (d) None of these

(vi) Size matrix is denoted by

- (a) LOC
- (b) KLOC
- (c) GLOC
- (d) ZLOC

(vii) What are the various testing levels ?

- (a) Unit testing
- (b) Integration testing
- (c) System testing
- (d) All of the above

(viii) Critical path is related with

- (a) PERT chart
- (b) Gantt chart
- (c) Both (a) and (b)
- (d) Work breakdown chart

(ix) What is the key objectives of integration testing ?

- (a) Design errors (b) Interface errors
(c) Procedure errors (d) None of these

(x) Which of the following is not a software development life cycle model ?

- (a) Water fall model
(b) Agile model
(c) RAD model
(d) Autonomous model.

2. Write True or False : $1 \times 10 = 10$

- F (a) Debugging is easy in unstructured program.
F (b) The effectiveness of a test suite in detecting errors in a system can be determined by counting the number of test cases in the suite.
T (c) UML is used for Object oriented design.
T (d) A highly reliable software can be termed as a good quality software.
T (e) Regression testing is done during software maintenance phase.

F (f) System Analyst work during SRS document preparation.

T (g) During code walk through, most of the syntax errors are identified.

T (h) Inheritance feature of Object oriented paradigm helps in reuse of code.

T (i) Putnam's suggested that optimal staff build-up in a project should follow the Rayleigh curve.

F (j) In software development, more effort should be given in development phase than maintenance phase.

3. Match the following columns : $1 \times 5 = 5$

A	B
(i) McCabe's Cyclomatic Complexity (a)	(a) Detailed design
(ii) SRS (d)	(b) SEI-CMM
(iii) Data structure and algorithm (a)	(c) Classical waterfall model
(iv) TQM (b)	(d) RISK identification
(v) Phase containment errors (c)	(e) Path Testing
	(f) Concise

PART - B

Marks - 45

4. (a) What is Prototyping ?
(b) Explain prototype model with its merits and demerits. $2+5=7$

Or

What is Software testing ? Differentiate between black box and white box testing. 7

5. (a) What is requirements gathering in SRS document ? Explain functional and non-functional requirements of an SRS document with one example of each. $2+3=5$

Or

Differentiate between Functional oriented design and object oriented design. 5

- (b) What is context diagram in a DFD ? 2

6. What is Coupling ? What problems are likely to arise if two modules have high coupling ? 5

Or

What is cohesion ? List the different types of cohesion. 5

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(6)

7. (a) Define three metrics to measure software reliability. 3

- (b) What is TQM ? 2

Or

Discuss the relative merits of ISO 9001 certification and SEI CMM based quality assessment. 5

8. (a) What is CFG ? Draw CFG for computing GCD of two numbers. $1+3=4$

- (b) What are the alpha, beta, and acceptance testing ? Who does it ? 3

9. List any three software evaluation criteria. What is external documentation ? $3+2=5$

10. What is COCOMO model ? Explain COCOMO model in brief. 7

Or

Differentiate between PERT and GANTT chart. 7

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(7)

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11. List four functions of project manager. 2

Or

What is RISK Assessment ? 2

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