V SEMESTER B.TECH. (Open Elective II)

END SEMESTER EXAMINATIONS

SUBJECT: Principles of Software Engineering (CSE 4306) – PART A MCQ's

Time: 2.00 PM – 05.00 PM Date: 01/01/2022 MAX.MARKS: 30

1. The use of the term systematic approach for the development of software implies that methodologies are used for developing software which are _____

repeatable

Non repeatable

functional

Nonfunctional

2. A software project is set to be "medium" if the size is less than _____

100 KLOC (and more than 10)

1000 KLOC (and more than 100)

200 KLOC (and more than 10)

2000 KLOC (and more than 100)

3. The capability to be modified for purposes of making corrections, improvements, or adaptation is _____

Maintainability

Usability

Efficiency

Portability

4. _____ focuses on looking at a system as a combination of many different components, and how they interact with each other to produce the desired results

Architecture

High level design

Detailed design

Modelling

5. _____ metrics are used to quantify characteristics of the process being used to develop the software

Process

Product

Code

coupling

6. The _____ criteria of a phase specify the conditions that the input to the phase should satisfy to initiate the activities of that phase.

Entry

Exit

Evaluation

Product

7. In waterfall model, the design starts after the _____ is complete

requirements analysis

feasibility analysis

coding

error handling

8. Software projects made with _____ delivered in one shot at the end.

waterfall model

prototyping model

incremental model

non incremental model

9. _____ is an attractive idea for complicated and large systems for which there is no manual process or existing system to help determine the requirements

Prototyping

Incremental

Waterfall technique

Code optimization

10. Prototyping is well suited for projects where requirements are hard to determine and the confidence in the stated requirements is _____

low

high

moderate

large

11. With _____, there are dedicated teams for different stages and the total team size for the project is sum of teams of different stages

timeboxing

frequency boxing

incrementation

spiral approach

12. _____ is well suited for projects that require a large number of features to be developed in a short time around a stable architecture using stable technologies.

Timeboxing

frequency boxing

incrementation

spiral approach

13. The project management process specifies all activities that need to be done by the project management to ensure that _____ objectives are met

cost and quality

cost

quality

time

14. Project monitoring and control phase of the management process is the _____ in terms of duration

Longest

Shortest

Moderate

Time bounded

15. The basic reason for performing _____ analysis is to provide information about the development process and learn from the project in order to improve the process

Termination

Initial

Code

Document

16. An _____ establishes the basis for agreement between the client and the supplier on what the software product will do

SRS

Software

Hardware

transfer

17. The _____ aims to capture the transformations that take place within a system to the input data so that eventually the output data is produced.

DFD

SRS

Report

Software

18. An SRS is _____ if everything the software is supposed to do and the responses of the software to all classes of input data are specified in the SRS

Complete

Incomplete

Tangible

fixed

19. The design of a system is _____ if a system built precisely according to the design satisfies the requirements of that system

Correct

incorrect

to be revised

to be incremented

20. A design should clearly be verifiable, complete and _____

Traceable

Noncomplex

Genuine

Rigid

21. An _____ of a component describes the external behavior of that component without bothering with the internal details that produce the behavior.

Abstraction

Construction

Decomposition

composition

22. _____ is the basis of partitioning in function-oriented approaches.

Functional abstraction

Functional composition

Functional decomposition

Inheritance

23. _____ abstraction forms the basis for object-oriented design

Data

Functional

Class

Object

24. A _____ approach is suitable only if the specifications of the system are clearly known and the system development is from scratch

top-down

bottom up

narrow

broader

25. The more complex each interface is, the _____ will be the degree of coupling

Higher

Lower

Moderate

Zero

26. In _____ inheritance a subclass takes all the features from the parent class and adds additional features to specialize it.

Strict

non strict

single

multiple

27. A _____ diagram shows the series of messages exchanged between some objects, and their temporal ordering, when objects collaborate to provide some desired system functionality

Sequence

Class

Collaboration

order

28. The interaction between two classes should be _____

Explicit

Implicit

More

Less

29. The _____ relationship is specified by having arrows coming from the subclass to the superclass, with the empty triangle shaped arrowhead touching to the superclass

generalization-specialization

specialization

generalization

class

30. _____ value test cases are also called "extreme cases."

Boundary

Non-Boundary

Zero

Narrow

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END SEMESTER EXAMINATIONS

SUBJECT: Principles of Software Engineering (CSE 4306) – PART B

Time: 2.20 PM – 03.35 PM Date: 01/01/2022 MAX.MARKS: 20

Note:

1. Missing data may be assumed suitably.
2. Answer all questions in order
3. **PART B is 85 minutes** (75 minutes for writing and 10 minutes for uploading)

1A	Suppose that a project was estimated to be 500 KLOC, calculate the effort and development time for each of the modes ie, organic, semidetached, and embedded using COCOMO equations. Discuss which approach is better?	**3M**
1B	One method to determine the normal (or nominal) overall schedule is to determine it as a function of effort – Justify this statement in terms of overall scheduling in staffing?	**3M**
1C	The goal of the design process is not simply to produce a design for the system. Instead, the goal is to find the best possible design within the limitations imposed by the requirements – Justify in detail.	**4M**
2A	A top-down approach is suitable only if the specifications of the system are clearly known and if a system is to be built from an existing system, a bottom-up approach is more suitable? Give a detailed justification?	**3M**
2B	What will be the outcome of first-level factoring? Depict how factoring the input module of word count problem would appear like?	**3M**
2C	What is the implication of exhaustive testing? Whether it is feasible? Write down the uniqueness of equivalence class partitioning method and indicate an illustration of valid and invalid equivalence class of characters and integers of your own criteria?	**4M**