

Total No. of printed pages = 3

CSE 1816OE11

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Roll No. of candidate

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2023

B.Tech. 6th Semester End-Term Examination

Computer Science and Engineering

SOFTWARE ENGINEERING

(New Regulation (w.e.f. 2017 - 18) & New Syllabus (w.e.f. 2018-19))

Full Marks - 70

Time - Three hours

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

Answer question No. 1 and any *four* from the rest.

1. Answer the following : (10 × 1 = 10)
- (i) Software is defined as _____
- (a) Set of programs, documentation & configuration of data
 - (b) Set of programs
 - (c) Documentation and configuration of data
 - (d) None of the mentioned
- (ii) What is Software Engineering?
- (a) Designing a software
 - (b) Testing a software
 - (c) Application of engineering principles to the design a software
 - (d) None of the above
- (iii) _____ is a software development activity that is not a Part of software processes.
- (a) Validation
 - (b) Specification
 - (c) Development
 - (d) Dependence

[Turn over

(iv) The activity that distributes estimated effort across the planned project duration by allocating the effort to specific software developing tasks is _____

- (a) Project scheduling
- (b) Detailed schedule
- (c) Macroscopic schedule
- (d) None of the mentioned

(v) Attributes of good software is _____

- (a) Development
- (b) Maintainability and functionality
- (c) Functionality
- (d) Maintainability

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(vi) What does SDLC stands for?

- (a) System Design Life Cycle
- (b) Software Design Life Cycle
- (c) Software Development Life Cycle
- (d) System Development Life cycle

(vii) _____ is a software development life cycle model that is chosen if the development team has less experience on similar projects.

- (a) Iterative Enhancement Model
- (b) RAD
- (c) Spiral
- (d) Waterfall

(viii) What is system software?

- (a) Computer program
- (b) Testing
- (c) AI
- (d) IOT

(ix) Functional requirements capture the intended behavior of the system.

- (a) True
- (b) False

(x) The word which describes the importance of software design is?

- (a) Complexity
- (b) Quality
- (c) Efficiency
- (d) Accuracy

2. (a) What is software development life-cycle (SDLC)? State the different types of SDLC models available in software engineering. Discuss briefly about the classical waterfall model. (2+3+5=10)
- (b) What is requirements specification? Briefly explain about the different approaches followed for requirements specification. (1+4=5)
3. (a) What do you mean by cohesion and coupling? Discuss briefly about different types of cohesion and coupling. (4+6=10)
- (b) Differentiate between SRS document and design document in software engineering. (5)
4. (a) Describe briefly about data flow diagram and the purposes of using it in software engineering. Give an example with suitable diagrams. (2+3+5=10)
- (b) Draw the data flow diagram (DFD) for a system which finds the distance between two points using Euclidean distance measure. Euclidean distance between two points, $d = \sqrt{[(x_2 - x_1)^2 + (y_2 - y_1)^2]}$. (5)
5. (a) Explain how cost estimation is performed in project management. Explain briefly about COCOMO model. (3+7=10)
- (b) Explain briefly about data modeling? Also define cardinality in data modeling. (3+2=5)
6. (a) What do you mean by software testing? List and explain different types of testing performed during the testing phase. (2+8=10)
- (b) Differentiate between Structured Analysis and Structured Design. (5)
7. Write short notes on (any three) : (3 × 5 = 15)
- (a) Aggregation
- (b) Spiral model
- (c) Software metric
- (d) Requirements Elicitation and analysis process
- (e) ER diagram.

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