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B.Tech DEGREE EXAMINATION, NOVEMBER 2023

Seventh Semester

18CSE471T - SOFTWARE MAINTENANCE AND ADMINISTRATION

(For the candidates admitted during the academic year 2020 - 2021 & 2021 - 2022)

Note:

i. **Part - A** should be answered in OMR sheet within first 40 minutes and OMR sheet should be handed over to hall invigilator at the end of 40th minute.

ii. **Part - B** and **Part - C** should be answered in answer booklet.

Time: 3 Hours **Max. Marks: 100**

PART - A (20 × 1 = 20 Marks) — Answer **all** Questions

		Marks	BL	CO
1.	Which maintenance model is used when the system issue is resolved without analyzing its impact and documenting it? (A) Quick-fix model (B) Boehm's model (C) Osborne's model (D) Iterative enhancement model	1	1	1
2.	Consider a scenario where the software of an ATM machine needs to be updated due to currency changes. What kind of maintenance is required? (A) Corrective Maintenance (B) Adaptive Maintenance (C) Preventive Maintenance (D) Perfective Maintenance	1	2	1
3.	Which of the following factors can impact software maintenance? (A) Relationship between software products and Environment. (B) Relationship between software product and Lines of code (C) Relationship between software Product and data flow (D) Relationship between software Product and documentation	1	2	1
4.	Providing continuity of service for any software application is only possible by (A) Software Development (B) Software Testing (C) Software Maintenance (D) Software implementation	1	1	1
5.	Processes for evolving a software product don't depend on ._____. (A) Type of software to be maintained. (B) Development processes are used. (C) Skills and experience of the people involved. (D) Organizational goal	1	1	2
6.	Reverse engineering is the process that deals with: (A) Size measurement (B) Cost measurement (C) Design recovery (D) Testing	1	2	2
7.	The core of reverse engineering is an activity called_____. (A) restructure code (B) directionality (C) extract abstractions (D) interactivity	1	2	2
8.	What is the ratio of perfective maintenance to total maintenance in industry? (A) 20% (B) 5% (C) 80% (D) 50%	1	1	2
9.	Which software configuration management concept helps control change without seriously impeding justifiable change? (A) Baselines (B) Source code (C) Data model (D) Tag model	1	2	3

10.	Which IEEE 1042 standard was approved by ANSI for (A) Software Configuration Management Plans (B) Guide to Software Configuration Management (C) Software Configuration Report (D) Software Configuration design	1	1	3
11.	In reverse engineering, the level of detail given at an abstraction is (A) completeness (B) Interactivity (C) abstraction level (D) Directionality	1	2	3
12.	Which property of a sociotechnical system varies depending on how the component assemblies are arranged and connected? (A) security (B) usability (C) volume (D) Reliability	1	1	3
13.	Which IEEE standard is used for Software maintenance? (A) IEEE (STD) 1200-1993 (B) IEEE (STD) 1219-1988 (C) IEEE (STD) 1219-1993 (D) IEEE (STD) 1220-1983	1	2	4
14.	The time elapsed from the point the machine fails to carry out its task to the point it is repaired and got into working circumstance is known as _____ (A) Downtime (B) Pre-Processing time (C) Revoked time (D) Idle time	1	1	4
15.	Which of the following is not a software configuration management activity? (A) Configuration item identification (B) Risk management (C) Release management (D) Branch management	1	2	4
16.	Which of the following is not a configuration management objective? (A) Control (B) Consistency (C) Development (D) Minimizing Cost	1	1	4
17.	In the given scenario, which one is suitable for fitness purposes? (A) To check the product performance (B) To check the purpose of software that meets the requirements (C) To check the testability (D) To check the complexity	1	2	5
18.	Which requirements are the foundation on which quality is measured? (A) Hardware (B) Software (C) Programmers (D) code	1	1	5
19.	Which of the following is not a SQA plan for a project? (A) Evaluations to be performed (B) amount of technical work (C) audits and reviews to be performed (D) documents to be produced by the SQA group	1	2	5
20.	The degree to which design specifications are followed in manufacturing the product is called (A) Quality Control (B) Quality of conformance (C) Quality Assurance (D) Quality cycle	1	2	5

PART - B (5 × 4 = 20 Marks)

Answer **any 5** Questions

		Marks	BL	CO
21.	Justify how software evolution plays an important role in software maintenance.	4	1	1
22.	Differentiate software testing from software maintenance.	4	2	1
23.	Categorize the different activities involved in software configuration management.	4	1	2

24.	Illustrate Mccabe's cyclomatic complexity method for measuring a program's complexity.	4	2	3
25.	Write short notes on algorithmic decomposition.	4	1	4
26.	List the criteria for selecting software maintenance tools.	4	2	5
27.	Write short notes on software patches.	4	2	5

PART - C (5 × 12 = 60 Marks)

Answer **all** Questions

		Marks	BL	CO
28.	(a) Explain the different phases and attributes of the software maintenance life cycle.	12	3	1
	(OR)			
	(b) Illustrate the different types of software maintenance with examples.			
29.	(a) Discuss the objectives and strategies of software maintenance education in detail.	12	3	2
	(OR)			
	(b) Comprehend the goals and benefits of employing reusable software components during software maintenance.			
30.	(a) Categorize the different activities involved in Software configuration management and explain each activity in detail	12	3	3
	(OR)			
	(b) Elaborate your views on the following (i) SCM roles (ii)SCM Directories			
31.	(a) Describe the key features of object-oriented paradigms and their effect on maintenance.	12	4	4
	(OR)			
	(b) Discuss the key features of fourth-generation languages and how they affect maintenance.			
32.	(a) Prepare a detailed list for performing routine audits of system and software	12	4	5
	(OR)			
	(b) Give short notes on (i) System performance tuning (ii) updating user account information			

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