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DEPARTMENT OF CSE

V SEMESTER B.TECH.(Computer Science and Engineering)

End Semester

SUBJECT: Software Engineering CSE 3154

Time: 4:00PM – 4:50PM

Date: 24/12/2021

MAX.MARKS: 50

PART A -30M

Q. No.	Questions	M	CLO	AHEP LO	Blooms Taxonomy level
1.	1.According to Miller the number of unrelated information that can be easily accomodated in the short term memory of a human mind is a. 5 b. 6 c. 7 d. 8	1	3	2	2



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2	<p>2. Unrestricted use of GO TO statements is normally avoided while writing a program, since</p> <p>a. It increases the running time of programs.</p> <p>b. It increases memory requirements of programs.</p> <p>c. It decreases the running time of programs.</p> <p>d. It makes debugging difficult.</p>	1	3	2	2
3.	<p>3. Which high level language was developed in the 1960s with the availability of more powerful computers to solve larger and more complex programs?</p> <p>a. ALOGOL b. JAVA c. PYTHON d. SQL</p>	1	1	1	2
4.	<p>4. Adaptive maintenance is</p> <p>a. the type of maintenance that is carried out to correct errors that were not discovered during the product development phase.</p> <p>b. the type of maintenance usually required for porting the software to work in a new environment.</p> <p>c. the type of maintenance carried out to improve the performance of the system.</p> <p>d. none of the given options.</p>	1	1	1	2
5.	<p>5. Which phase is not available in Software life cycle?</p> <p>a. Design b. Coding c. Maintenance</p> <p>d. Decomposition</p>	1	5	1	2
6.	<p>6. In which life cycle model should the requirements be frozen at the beginning of the software development cycle?</p>	1	1	1	2



	a. Iterative waterfall model waterfall model c. V- Model d. Spiral model				
7.	7. The implementation phase in the waterfall model is a synonym for which one of the following phases: a. Coding & unit testing phase Integration & system testing phase c. Maintenance phase phase b. d. Design phase	1	2	2	2
8.	8. Which of the following is not applicable for an experienced software analyst while gathering requirements? a) Studying existing documentation b) Interview c) Feature analysis d) Scenario analysis	1	3	2	2
9.	9. In case of a layered design with good control abstraction, which of the following statement is true? a) Only Superordinate module can communicate to Subordinate module b) Only Subordinate module can communicate to Superordinate module c) Both ways are possible d) All of the given options	1	4	3	3
10.	10. Which of the following is not a characteristic of good SRS document? a) Concise b) Traceable c) Implementation dependent d) Editable	1	3	2	2



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11	<p>11. "While discussing the requirements of Version 1 of a software, project team should not state the requirement of Version 4 now itself".</p> <p>Which bad attribute of SRS document, this example refers to?</p> <p>a) Forward references b) Wishful thinking c) Noise d) Over-specification</p>	1	1	1	2
12	<p>12. A software company wants to redesign the student project for commercialization by improving its design and coding. Which of the following design principles it will follow</p> <p>a) Low coupling, high cohesion b) High coupling, low cohesion c) Low coupling, low cohesion d) High coupling, high cohesion</p>	1	4	3	2
13	<p>13. In which of the following situations, modules are said to be highly coupled?</p> <p>a) Function calls between two modules involve passing large chunks of shared data or interactions occur through some shared data</p> <p>b) Function calls between two modules involve passing a custom class instance instead of large chunks of shared data or interactions occur through some shared data</p> <p>c) Function calls between two modules involve passing large chunks of shared data or interactions occur through some non-shared data</p> <p>d) All of the given options</p>	1	1	1	2



14	<p>14. If the set of functions of the module are executed one after the other, which type of cohesion is this?</p> <p>a) Procedural cohesion</p> <p>b) Temporal cohesion</p> <p>c) Logical cohesion</p> <p>d) Coincidental cohesion</p>	1	3	2	2
15	<p>15. Fuzz testing is a type of _____ testing.</p> <p>A. Blackbox testing</p> <p>B. Whitebox testing</p> <p>C. Grey box testing</p> <p>D. Performance testing</p>	1	1	1	2
16	<p>16. _____ language requires memory usage testing.</p> <p>A. C++</p> <p>B. C#</p> <p>C. Python</p> <p>D. Java</p>	1	5	1	2
17	<p>17. _____ language specific patterns</p> <p>A. Design Patterns</p> <p>B. Architectural Patterns</p> <p>C. Façade Patterns</p> <p>D. Idioms</p>	1	1	1	3
18	<p>18. You have implemented a website without validation control the situation is _____ pattern.</p> <p>A. MVC</p> <p>B. Observer</p> <p>C. Input Kludge</p> <p>D. Publish-Subscribe</p>	1	5	1	2
19	<p>19. If expression or function modifies a state variable value outside its local environment,</p>	1	3	2	2



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	then expression or function is said to have A. Ripple effect B. Side effect C. Overriding D. Overloading				
20	20. _____ integration testing does not require stubs and drivers A. Bigbang B. Mixed C. Topdown D. Bottomup	1	2	2	2
21	21. Consider the following "C" code segment. At least how many test cases are needed for achieving decision coverage for the given C code? <pre>int main () { int a,b=0; scanf("%d",&a); if(a < 10 a>100) b=b+10; if(a == 20) b=b+20; else b++; if(a == 30) b=b+30; else b=b+40; }</pre> A. 5 B. 4 C. 3 D. 8	1	1	1	2
22	22. Which one of the following activities is not carried out during the testing phase of the waterfall life cycle model? A. Debugging	1	3	2	2



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	B. Unit Testing C. Integration Testing D. System Testing				
23	23. Structural View contains a) Sequence Diagram b) Collaboration Diagram c) State Chart Diagram d) Class Diagram.	1	3	2	2
24	24. Class C is a part of B, is a) Dependency b) Aggregation c) Association d) Generalization.	1	2	2	4
25	25. Include Relation in Use Case Diagram is a a) Non Mandatory Relationship b) Class c) Mandatory Relationship d) Non Dependency.	1	5	1	2
26	26. Loop Operator in Sequence Diagram indicate a) Selection b) Repetition c) Addition d) Subtraction. Ans b	1	1	1	2
27	27. Connection of Process's directly is called as a) Synchronous Operation b) Data Store c) System Boundary d) Asynchronous Operation.	1	4	3	5
28	28. In Context Diagram, Mandatory number of bubbles is a) One b) Two c) Three d) Zero.	1	4	3	5
29	29. DFD at higher levels should have a) Users b) Balancing among themselves c) No Data Stores d) No interaction among Process's	1	4	3	2
30	30. Transform Analysis should have	1	2	2	2



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a) Afferent Branch only Only c) Efferent Branch Only. d) Input Transform, Central Transform and Output Transform.				
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PART B -20M

Time : 2:20-3:35PM

Q. No.	Questions	M	CL O	AH EP LO	Blo om s Ta xon om y lev el
1.	Q 1 a) Enlist at least six noteworthy differences between exploratory style and software development practices.	05	3	2	3
2	b) Describe four important ways in which an experienced analyst gathers software requirements. A software has to be developed for automating the manual railway reservation system. The system should have distributed functionalities as given below: A passenger should be able to reserve a seat in the train specified by him if available. For this, he has to fill a reservation form with the details about his journey. The clerk checks for the availability of the seat in the train and if the seat is available then he makes entries regarding train name, train number, date of journey, boarding station and destination. The passenger is then asked to pay the fare. After making payment the passenger can collect the ticket from the clerk. There may arise a case when the passenger wants to cancel his reservation. For this, he has to fill a cancellation form providing all the details about the ticket reserved by him. The clerk then checks for the entries from the database and cancels the reservation finally returning the ticket amount with some deduction. Only the administrator has the right to make changes in train details (train name, train no, etc). The system should also be able to generate report when needed in the form of reservation charts, train schedule charts, etc. Only the user with specified login id & password can get access to the system. This provides security from unauthorized access. The users should be able to see the information about the reservation status and train schedule, train	03	4	3	3



	name, train number, etc. Give 3 requirements for the railway reservation system.				
3	c) Distinguish between high-level and detailed designs. What documents should be produced on completion of high-level and detailed designs?	2	4	3	2
4	<p>A factory has different categories of machines such as lathe machines, soldering machines, etc. The factory can have different n category such as 200 lathe machines, 50 drilling machines, etc. The adjustments and repair. Each category of machine falls uniformly after failure profile of the different categories of machines is given by its certain number of adjusters are employed to keep the machine running in maintaining different categories of machines. An adjuster may be ex one type of machine. A service manager coordinates the activities of the maintains a queue of inoperative machine. If there are machines waiting the service manager assigns the machine at the front of the queue to down.</p> <p>At any given time, one of the two queues will be empty. Thus, the serv only a single queue, which when it is not empty contains only machine management wishes to get as much as possible out of the machines is utilization- the percentage of time an adjuster is busy. The goal of our si average machine and adjuster utilizing depend on such factory as the nu of adjusters, the reliability of the machines in terms of mean time to fail be used by different factories to determine the optimum number of adj</p> <p>a) Give Functional Requirements in correct template format, Conte 1, DFD at level 2 in for the problem, given above.</p>	5	4	3	3
5	b) Give Class Diagram and Interaction Diagrams (for any two use cases) for the problem, given above.	2	3	2	3
6	c) Suppose an untested program was determined to contain 640 bugs. Three different testing techniques were applied to test the code. Each testing technique is effective to detect 50% of the bugs that exist before the concerned testing technique is applied. While fixing a bug after the application of a test strategy, there is a 50% chance of creating another bug. How many bugs would exist in the code after the three testing and bug-fix cycles have been carried out?	3	5	1	2

QUESTION PAPER ANALYSIS



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(Combined – All Assignments, Mid-term and End Sem)

Statements	Course Learning Outcome	Marks
To illustrate how a given problem can be broken down into different modules.	CLO3154.1	18
Click or tap here to enter text. To Demonstrate SDLC Model.	CLO3154.2	12
To develop DFD and Structured Chart	CLO3154.3	20
To construct UML diagrams.	CLO3154.4	30
Ability to use standards in Coding and Testing.	CLO3154.5	20

Blooms Taxonomy level	Quiz	In sem quiz	insem	End Sem	Intl Marks	Extl Marks	Total Marks	% Marks
Remembering	0	0	0	0	0	0	0	0
Understanding	9.5	16	8	0	0	27	60.5	60.5
Applying	0	2	6	0	0	15	23	23
Analysing	0.5	2	0	0	0	3	5.5	5.5
Evaluating	0	0	6	0	0	4	10	10
Creating	0	0	0	0	0	0	0	0