

A

COURSE CODE: CSE320
COURSE TITLE: SOFTWARE ENGINEERING

Time Allowed: 3 hrs

Max. Marks: 70

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Part- A

Q1. 1. Debugging is not a part of

- A. Defect Analysis B. Testing C. Defect Resolution D. Validation of Correctness L3 CO4

2. _____ is NOT a type of Control Structure Testing

- A. Basis Path Testing B. Equivalence Analysis C. Loop Testing D. Conditional Testing L3 CO4

3. The testing technique that requires devising test cases to demonstrate that each program function is operational is called

- A. Black-box testing B. Glass-box testing C. Grey-box testing D. White-box testing L3 CO4

4. The best reason for using Independent software test teams is that

- A. software developers do not need to do any testing
B. strangers will test the software mercilessly
C. testers do not get involved with the project until testing begins
D. the conflicts of interest between developers and testers is reduced

L3 CO4

5. Smoke testing might best be described as

- A. bulletproofing shrink-wrapped software B. rolling integration testing
C. testing that hides implementation errors D. unit testing for small programs

L3 CO4

6. The Test Cases Derived from use cases

- A. Are most useful in uncovering defects in the process flows during real-world use of the system
B. Are most useful in uncovering defects in the process flows during the testing use of the system
C. Are most useful in covering the defects in the process flows during real-world use of the system
D. Are most useful in covering the defects at the Integration Level

L3 CO4

7. What can static analysis NOT find?

- A) the use of a variable before it has been defined B) unreachable ("dead") code
C) memory leaks D) array bound violations

L3 CO4

8. Which Test Document describes the Exit Criteria of Testing?

- A) Test Case B) Test Summary Report C) Test Plan D) Defect Report L3 CO4

9. Selenium Variables are stored in

- A. StoredVars B. StoredVariables C. Variable Stores D. None of the Above L3 CO4

10. Which component is not a Part of Selenium Suite

- A. Selenium IDE B. Selenium Web C. Selenium RC D. Selenium Grid L3 CO4

11. The _____ path in the Network Diagram is critical path

- A) Shortest B) Easiest C) Curved D) Longest L3 CO5

12. The PERT Network has nine activities on the critical path. Each critical activity has standard deviation 3. What is the standard deviation of Critical Path. L3 CO5
 A) 3 B) 9 C) 81 D) 27
13. Pessimistic and optimistic completion time of an activity is 10 and 4 days respectively. Variance of the activity will be L3 CO5
 A. 18 B. 12 C. 6 D. 1
14. Which of the following is used to predict the effort as a function of LOC or FP? L3 CO5
 A. COCOMO B. Both COCOMO and FP-based estimation
 C. FP-based estimation D. Process-based estimation
15. The primary purpose of configuration status reporting is to L3 CO5
 A. allow revision of project schedule and cost estimates by project managers
 B. evaluate the performance of software developers and organizations
 C. make sure that change information is communicated to all affected parties
 D. none of the above
16. A critical path network diagram does NOT: L3 CO5
 A. Help determine the amount of float
 B. Identify the particularly important activities
 C. Calculate earned value
 D. Calculate the duration of the whole project
17. John is an investor, and Jenny is a project team member. Both have intensive technical background for the project that you are managing. However, recently they have disagreed on the next step to take for the project. They both decide to defer to whoever has the authority to make this decision. Who has the authority to decide which direction should be taken for the project? L3 CO5
 A. Project manager B. Stakeholders C. The project team D. Investors
18. Resource requirement in project becomes constant while the project is in its _____ progress stage. L3 CO5
 A. 40 to 55% B. 55 to 70% C. 70 to 80% D. 80 to 95%
19. To construct a high-quality, custom home within five months at costs not to exceed \$150,000" is best classified as L3 CO5
 A. A deliverable B. A milestone C. A Limit D. An Objective
20. Which of the following would be considered a direct project cost? L3 CO5
 A. Labor B. Materials C. Equipment D. A, B, and C are all considered direct costs
21. CMMI was developed to combine multiple _____ into one framework. L5 CO6
 A. Meta model B. Business maturity models
 C. Bootstrap D. All of the mentioned above
22. The CMM Integration is a model that has _____. L5 CO6
 A. Installation and migration B. Integrated several disciplines
 C. Actions and tasks D. None of the mentioned above
23. How can we trace the quality of software? L5 CO6
 A. Using quality control activities B. Using system structure
 C. Using validation D. None of the mentioned above
24. Quality of design includes the degree to which the design meets the _____ specified in the requirements model. L5 CO6
 A. Functions and features B. Testing and development
 C. Design and structuring D. None of the mentioned above
25. In software engineering, 'Quality Control' are the measures of, L5 CO6
 A. Software engineering actions to ensure that work product meet its quality goals
 B. Models are reviewed to ensure that they are complete and consistent
 C. Set of testing phases to uncover errors, data manipulation, and interface communication
 D. All of the mentioned above

RegistrationNo: _____

26. PSP Model has framework activities
A. 2 B. 3 C. 4 /D. 5 L5 CO6
27. The percentage yield in Six Sigma is
A. 93.3 B. 99.38 C. 99.977 D. 99.99966 L5 CO6
28. The first standard published by the International Standard Organization (ISO) defining a Six Sigma process.
A. ISO 13053:2009 B. ISO 13053:2010 C. ISO 13053:2011 D. ISO 13053:2012 L5 CO6
29. Which of the following technique is involved in certifying the sustained development of legacy systems?
A. Reengineering B. Forward engineering
C. Reverse engineering D. Reverse engineering and Reengineering L5 CO6
30. Which of the following framework activities are carried out in Adaptive Software Development (ASD)?
A. Assumption, Association, Learning
B. The investigation, Strategy, Coding
C. Requirements gathering, Adaptive cycle planning, Iterative development
D. All of the above L5 CO6

PART-B

Q2a) Why Spiral Model is called Meta Model. Discuss Spiral Model in detail with a suitable diagram. (5)

b) In carrying out software engineering activities establish the significance of Software Requirement Specification (SRS) document (5) L2CO1

Q3. a) Differentiate between the following (4)
i. Data Coupling and Content Coupling
ii. Communicational Cohesion and Procedural Cohesion

b) Trending Fashionista is a mail order supplier of high-quality, fashionable clothing and accessories. It provides three different mode of ordering the stuff. Customers place orders by telephone, by mailing an order form included with each catalog, or via the Web site. When customer orders come in, the item master and the customer master files are both updated. If an item is out of stock, the inventory control department is notified. If the order is from a new customer, a new record is created in the customer master file. Picking slips are produced for the customer order and sent to the warehouse. A shipping statement is prepared. The process of shipping a customer order involves getting the goods from the warehouse and matching up the customer shipping statement, getting the correct customer address, and shipping it all to the customer. The customer statement is generated and a billing statement is sent to a customer once a month. An account receivable report is sent to the accounting department.

- i) Draw the Context Level Diagram (2)
ii) Draw the Data Flow Diagram Level 1. (4)

L3 CO2

Q4. World's Trend is a mail order supplier of high-quality, fashionable clothing. Customers place orders by telephone, by mailing an order form included with each catalogue, or via the Web site. When customer orders come in, the item master and the customer master files are both updated. If an item is out of stock, the inventory control department is notified. If the order is from a new customer, a new record is created in the customer master file. Picking slips are produced for the customer order and sent to the warehouse. A shipping statement is prepared. The process of shipping a customer order involves getting the goods from the warehouse and matching up the customer shipping statement, getting the correct customer address, and shipping it all to the customer. The customer statement is generated and a billing statement is sent to a customer once a month. An accounts receivable report is sent to the accounting department.

- i. Draw the Use Case Diagram of the above Case (5)
ii. Give the Use Case information in Use Case template. (2.5)
iii. Identify at least five significant classes in the given case (2.5)

L3 CO3

RegistrationNo: _____

Q5. Consider the following Code Snippet:

```
while(x<100)
{
  if(a%2==0){
    parity=0;}
  else{
    parity=1;
  }
  switch(parity)
  {
    case 1: println("[a["+i+"]is even");
    case 2: println("[a["+i+"]is odd");
    default: println("Error");
  }
  x++;
}
```

- Draw a flow graph for the above code. (5)
- Calculate the Cyclomatic Complexity for the flow graph using three different techniques. (3)
- Give different independent paths. (1)
- How many test cases are required (1)

Q6. Consider the activities with preceding activities and their duration

L3 CO4

	Activity	Precedence	Duration (days)
A	Prepare foundations		7
B	Make and position door frames		2
C	Lay drain, floor base and screed		15
D	Install services and fitting	E	8
E	Erect walls	A,B	10
F	Plaster ceiling	D,G	2
G	Erect roof	E	5
H	Install doors and windows	G	8
I	Fit gutters and pipes	C,F	2
J	Paint outside	I	3

- Construct the Network Diagram. (5)
- Find out early start/early finish, late start/late finish and slack time for each activity in table. (3)
- Find the Critical Path. (1)
- Find the Critical Time (1)

L3 CO5

--- End of Question Paper---

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