**RollNo.** | | | | | | | | | | |

**ANNA UNIVERSITY(UNIVERSITY DEPARTMENTS)**

**M.C.AENDSEMESTEREXAMINATIONS – July 2021**

Master of Computer Applications
IVSemester
**CA5008Software Testing**
(Regulation2019)

Time:3Hours AnswerALLQuestions Max.Marks100

## PART- A(10x2=20Marks)

| Q.No | Questions | Marks |
|---|---|---|
| 1. | Define maturity goals | **2** |
| 2. | How will the fault manifest itself as a failure? | **2** |
| 3. | A program reads the data of employees in a company by taking the following inputs and prints them:<br>Name of Employee (Max. 15 valid characters A–Z, a–z, space)<br>Employee ID (10 characters)<br>Designation (up to 20 characters)<br>Design test cases for this program using Boundary Value Checking, robust testing methods | **2** |
| 4. | A program reads an integer number within the range [1,100] and determines whether it is a prime number or not. Design test cases for this program using BVC testing method. | **2** |
| 5. | Define test harness. | **2** |
| 6. | What are the objectives of configuration testing according to Beizer? | **2** |
| 7. | What is the need of Test incident Report? | **2** |
| 8. | Differentiate decision and condition coverage? | **2** |
| 9. | Define release metrics. | **2** |
| 10. | What are the different software automation testing tools? | **2** |

## PART- B(5x 13=65Marks)

| Q.No | Questions | Marks |
|---|---|---|
| 11. | a)Explain the role of process in software quality. | **13** |
| | **OR** | |
| | b) Give an overview ofthe Testing Maturity Model(TMM) and the test related activities that should be done | **13** |

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|---|---|---|
| 12. | a)Demonstrate the various black box test cases using equivalence class partitioning and boundary values analysis to test a module for ATM system. | **13** |
| | **OR** | |
| | b)(i) Explain the significance of Control flow graph and Cyclomaticcomplexity in white box testing.<br>(ii)Consider the following program segment:<br>***main()***<br>***{***<br>***int number, index;***<br>***1. printf("Enter a number");***<br>***2. scanf("%d, &number);***<br>***3. index = 2;***<br>***4. while(index <= number – 1)***<br>***5. {***<br>***6. if (number % index == 0)***<br>***7. {***<br>***8. printf("Not a prime number");***<br>***9. break;***<br>***10. }***<br>***11. index++;***<br>***12. }***<br>***13. if(index == number)***<br>***14. printf("Prime number");***<br>***15. } //end main***<br>• Draw the DD graph for the program.<br>• Calculate the cyclomatic complexity of the program using all the methods.<br>• List all independent paths.<br>• Design test cases from independent paths. | **5+8** |
| 13. | a)Write the importance of security testing and explain the consequences of security breaches, also write the various areas which has to be focused on during security testing. | **13** |
| | **OR** | |
| | b)Write a case study for several kinds of tests for a web application. How to improve regression testing? | **13** |
| 14. | a)How will you report the test result? Explain in detail. | **13** |
| | **OR** | |
| | b) (i) Analyze the role of manager in support of test group. | **5+8** |

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|---|---|---|
| | (ii) How would you estimate the measurements formonitoring error, faults and failures? | |
| 15. | a)(i) Make a list of some important automated testing tools which are open-source on the Internet. Use them for testing your software.<br>(ii) Consider a project with the following parameters: EI= 60, EO= 40, EQ = 45, ILF = 06, ELF = 08. Assume all weighing factors are average. In addition, the system requires significant data communications, performance is very critical, designed code may be moderately reusable, and other GSCs are average. Compute the function points using FPA. | **13** |
| | **OR** | |
| | b)(i)Explain the design and architecture for automation. (8)<br>(ii) Calculate the total test points for a module whose specifications are: functions points = 414, ratings for all $FDC_w$ factors are normal, uniformity factor =1, rating for all $QC_{dw}$ are 'very important' and for $QC_{sw}$, three static qualities are considered.(5) | **13** |

## PART- C(1x 15=15Marks)

(Q.No 16is Compulsory)

| Q.No | Questions | Marks |
|---|---|---|
| 16. | Discuss various metrics and measurements in software testing. Explain various types of progressmetrics. | **15** |