

T.E Sem V - ECS R-19 SH 2024 / 22 / 11 / 24

Q.P code: 66459

(3 hrs.)

Maximum Marks: 80

NB:

1. Question No. 1 is compulsory and solve any THREE questions from remaining questions
2. Assume suitable data if necessary
3. Draw clean and neat diagrams

- | | Marks |
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| Q1. Attempt any four | |
| a. Explain the difference between verification and validation. | 5 |
| b. Describe different skills a tester should have to perform effective testing. | 5 |
| c. Explain different guidelines for selection of testing tools. | 5 |
| d. Explain static testing. | 5 |
| e. Differentiate between progressive and regressive testing. | 5 |
| Q2. a. A Program accepts a, b, c as 3 sides of a triangle. The range of a, b, c is [1,100]. Program outputs type of triangle as one of scalene, isosceles, equilateral and not a triangle which is formed by a, b, c. Design test cases using Boundary Value Checking (BVC) and Robustness Testing Method | 10 |
| b. Explain components of a test plan. | 10 |
| Q3. a. Consider a software system that computes income tax based on Adjusted Gross Income (AGI) according to the following rules:
If AGI is between \$1 and \$29,500, the tax due is 22% of AGI.
If AGI is between \$29,501 and \$58,500, the tax due is 27% of AGI.
If AGI is between \$58,501 and \$100 billion, the tax due is 36% of AGI.
Design test cases using Equivalence Class Partitioning. | 10 |
| b. Explain ISO 9000:2000. | 10 |
| Q4. a. Consider a program to calculate factorial of a number. It contains main() and fact() module. Calculate individual cyclomatic complexity of main() and fact() and then the cyclomatic complexity of whole program. | 10 |
| <pre>int fact(int); main() { int number; 1. clrscr(); 2. printf("Enter the number whose factorial is to be found"); 3. scanf("%d", &number); 4. if(number < 0) 5. printf("Factorial cannot be defined for this number"); 6. else 7. printf("Factorial is %d", fact(number)); 8. } int fact(int number) { int index; 1. int product=1; 2. for(index=1; index<=number;index++) 3. product= product * index; 4. return(product); 5. }</pre> | |

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Single

- b. Explain McCall's quality factors in detail. 10
- Q5 a. Explain Agile testing in detail. 10
- b. Explain test suite minimization and its benefits. 10
- Q6 a. Explain categorization of test automation tools. 10
- b. Explain software testing lifecycle. 10

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