Reg. No. : ☐☐☐☐☐☐☐☐☐☐☐☐☐

Question Paper Code : 70378

M.E./M.Tech. DEGREE EXAMINATIONS, NOVEMBER/DECEMBER 2019

Elective

Computer Science and Engineering

CP 5005 – SOFTWARE QUALITY ASSURANCE AND TESTING

(Regulations 2017)

Time : Three Hours   Maximum : 100 Marks

Answer ALL questions

PART – A   (10×2=20 Marks)

1. What do you mean by verification in software testing ?

2. Explain white box testing.

3. Describe Sandwich and Big Bang.

4. What do you mean by Fault and Failure ?

5. Explain how Graphical User Interfaces are tested ?

6. Define BETA Testing and its types.

7. What is Defect count ?

8. List McCall's Quality metrics.

9. Define software quality assurance.

10. Explain root cause analysis.

<div align="center">PART – B   (5×13=65 Marks)</div>

11. a) What is testing ? Explain the objectives of testing. Elaborate on how quality is associated with testing.

<div align="center">(OR)</div>

   b) Explain :

     i) Test tools and automation.   **(6)**

     ii) Test case selection.   **(7)**

12. a) Explain in detail about boundary value analysis with an example.

<div align="center">(OR)</div>

   b) Explain about the use of decision tables in testing with an example.

13. a) How robustness of software is tested ? Explain its types.

<div align="center">(OR)</div>

   b) Describe about various test architectures.

14. a) Explain the various levels in process maturity model.

<div align="center">(OR)</div>

   b) Explain briefly about ISO 9126 quality characteristics.

15. a) Explain in detail about :

     i) Software fault tolerance.   **(4)**

     ii) Safety assurance.   **(4)**

     iii) Failure containment.   **(5)**

<div align="center">(OR)</div>

   b) Explain FSM-based testing of web-based applications and its characteristics.

<div align="center">PART – C   (1×15=15 Marks)</div>

16. a) Write a program to calculate ^nC_r value using functions. Describe in detail about the different white-box testing techniques applied stagewise.

<div align="center">(OR)</div>

   b) Explain the principles of ISO 9000 : 2000 software quality standard in detail.