

Total No. of Questions : 12]

SEAT No. :

P1435

[4759] - 187

[Total No. of Pages : 3

B.E. (IT)

SOFTWARE TESTING AND QUALITY ASSURANCE

(2008 Course) (Semester -I) (414442)

Time : 3 Hours]

[Max. Marks : 100

Instructions to the candidates:

- 1) Answer question number 1 or 2,3 or 4,5 or 6 from section I.*
- 2) Answer question number 7 or 8,9 or 10,11 or 12 from section II.*
- 3) Answers to the two sections should be written in separate answer books.*
- 4) Neat diagrams must be drawn wherever necessary.*
- 5) Figures to the right indicate full marks.*
- 6) Assume suitable data, if necessary.*

SECTION - I

Q1) a) Explain testing verses debugging. Differentiate between unit testing and integration testing. [8]

b) Explain in short any four methods of system level testing. [8]

OR

Q2) a) Is complete testing possible? When to stop testing? Explain the difference between random testing and testing using error guessing. [8]

b) Explain unit test planning in detail. [8]

Q3) a) What do you mean by white box testing? Explain the different test case design for white box testing. [8]

b) Explain in detail different functions/responsibilities to be handled in a testing life cycle or process. [8]

OR

Q4) a) Explain the different stages of defect prevention process (DPP). [8]

b) Explain the difference between the following: [8]

i) Test plan and test strategy.

ii) Defect severity and Defect priority.

P.T.O.

- Q5) a)** Explain with example the GQM method for identifying software measures. **[10]**
- b) What is customer problem metric? What are approaches to achieve low PUM. **[8]**

OR

- Q6) a)** How do you calculate defect density and defect removal rate? Discuss ways to improve these rates for a better quality product. **[10]**
- b) Write a note on control flow structures also focus on sequencing and nesting of flow graphs. **[8]**

SECTION - II

- Q7) a)** What does SQA ensure? What are the goals of SQA activity? **[10]**
- b) Explain the following terms w.r.t software quality: **[8]**
- i) Quality
 - ii) Cost of Quality
 - iii) Quality Assurance
 - iv) Quality control

OR

- Q8) a)** Illustrate with example the use of following techniques in improving quality. **[8]**
- i) Code inspection
 - ii) Project planning.
- b) List Ishikawa's Seven Basic Quality Tools. Explain any three with diagram and example. **[10]**
- Q9) a)** What is six sigma? Explain the terms DMAIC and DMADV with reference to six sigma. **[8]**

- b) List all the requirements of ISO 9000 and ISO 9001. [8]

OR

Q10)a) How does ISO 9000/9001 ensure production of good quality software? [8]

- b) Explanation for the PDCA cycle with reference to ISO 9000:9001. Diagram? [8]

Q11)a) Explain the various levels of CMM along with the KPA's for the levels. [8]

- b) Explain in detail the Quantitative Process Management KPA. [8]

OR

Q12)a) Explain the goals and activities performed in the following KPA's: [8]

- i) Software Configuration Management.
 - ii) Organization Process Definition.
- b) How is defect prevention and process change management brought into practice? [8]

