

B.TECH.
THEORY EXAMINATION (SEM–VI) 2016-17
SOFTWARE QUALITY ENGINEERING

Time : 3 Hours

Max. Marks : 100

Note : Be precise in your answer. In case of numerical problem assume data wherever not provided.

SECTION A

1. Attempt all the parts :

(10*2=20)

- a) Explain different types of software reviews.
- b) Explain function points.
- c) What is hierarchical model of quality?
- d) What are the requirements of customer problem metrics?
- e) What is Phase-based Defect Removal Pattern.
- f) Differentiate between Fix quality and software quality
- g) Explain backlog, management index for software quality matrices.
- h) What do you understand by software measurement?
- i) Explain statistical software quality assurance.
- j) Name various static and dynamic testing tools.

SECTION – B

2. Attempt any five of the following:

(10* 5=50)

- (a) Explain McCall's Quality model for quality assessment with examples.
- (b) Describe the defect arrival pattern during machine testing and phase based removal pattern.
- (c) Explain various software maintenance metrics with example.
- (d) Explain reliability growth model and types of growth model?
- (e) Why quality estimation is required? How one can use this tool to estimate the cost of the project?
- (f) Explain various characteristics if modern testing tool in respect of software quality.
- (g) Describe the following term with respect in SQE :
 - (i) Mean time to failure (MTTF)
 - (ii) Defect density
- (h) What do you mean by quality planning and control? Explain with suitable example.

SECTION- C

Attempt any two of the following:

(15*2=30)

3. Explain with proper graph delayed Sand inflection S models ?
4. Write notes on the following:
 - (i) Quality standard and processes
 - (ii) Total quality management
 - (iii) Major SQA activities
5. Explain:
 - (i) Software verification and validation
 - (ii) Static and dynamic testing tools
 - (iii) proof of correctness