Printed Pages : 1 **Roll No.** | | | | | | | | | | | **EIT063**

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

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 **Answer all the questions.** **10x2=20**

a) Differentiate between software and hardware reliability.

b) Define defect rate and reliability.

c) What are various tools of software reliability techniques?

d) Define two matrices to define software reliability.

e) Define curve fitting in software reliability techniques.

f) Define defect, fault and failure.

g) What was the accuracy of estimating the actual value of project schedule?

h) Define software reliability model.

i) Define parametric reliability growth model.

j) Why do we need documents and matrices in software reliability?

SECTION B

2 **Answer any five questions from this section.** **5x10=50**

a) Describe the software metric for analysis and design models.

b) Explain the Software Quality Assessment Models with the help of a block diagram.

c) How the size and structure are used for measuring the product attributes. How the product qualities are ascertained?

d) Explain the evolution of software quality assurance and major SQA issues.

e) Explain predicting reliability techniques with suitable example.

f) Explain hierarchal model of software quality assessment with suitable example.

g) What is Zero defect software? Explain Software reliability attribute and specifications.

h) Discuss collection of fault and failure data and explain phase based defect removal pattern.

SECTION C

Answer any two questions of the following. **2x15=30**

3. a) What resources must be expended to achieve the reliability improvement? Use the logarithmic Poisson execution time model with a failure intensity decay parameter of 0.25/failure.

   b) Explain term error seeding, failure rate and curve fitting.

4. a) Explain software reliability technique with help of a block diagram.

   b) Discuss static code metric.

5. Write short notes on any three of the following:

   a) Rayleigh model of software reliability assessment

   b) Study of tool like SARA

   c) Metric for software maintenance

   d) Major SQA activities