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# TBC–403

## B. C. A. (Fourth Semester)
## End Semester EXAMINATION, 2017
### SOFTWARE ENGINEERING

*Time : Three Hours* ] [ *Maximum Marks : 100*

**Note :** (i) This question paper contains *five* questions.

(ii) All questions are compulsory.

(iii) Instructions on how to attempt a question are mentioned against it.

(iv) Total marks assigned to each question are **twenty**.

1. Attempt any *two* questions of choice from (a), (b) and (c). (2×10=20 Marks)

   (a) Explain the problems which are the main cause of software crisis.

   (b) Why prototyping is used ? Explain prototyping in details.

   (c) Explain incremental model with a neat diagram.

Software reliability → Software reliability means operational reliability. It is described as the ability of the system or the component to perform its function under static conditions over a specific period. It is the probability that the software fulfils its assigned tasks under any given environment



2. Attempt any *two* questions of choice from (a), (b) and (c). (2×10=20 Marks)

   (a) What is requirement analysis ? How DFD and ERD are used to analyse a requirement ?

   (b) What are the main components of an SRS ? What are the main criteria for evaluating the quality of an SRS ?

   (c) What is functional independence ? How do we achieve functional independence ?

3. Attempt any *two* questions of choice from (a), (b) and (c). (2×10=20 Marks)

   (a) Explain structured programming in details.

   (b) Explain the following :

      (i) Internal documentation

      (ii) Coding guidelines

   (c) Explain the testing strategies in detail.

4. Attempt any *two* questions of choice from (a), (b) and (c). (2×10=20 Marks)

   (a) Explain the term "Software project estimation" in details.

   (b) Explain in details the basic form of COCOMO model.

   (c) Why is there a need of software maintenance ? Explain software maintenance in details.





5. Attempt any *two* questions of choice from (a), (b) and (c). (2×10=20 Marks)

   (a) Explain software reliability matrics in details.

   (b) Briefly explain the following :

      (i) Software reliability

      (ii) Software quality

   (c) Explain in detail the SEI capability Maturity Model. Also differentiate it with ISO.