

TBC/TBI-502

**B. C. A./B. SC. (IT)
(FIFTH SEMESTER)**

END SEMESTER EXAMINATION, 2018

SOFTWARE ENGINEERING

Time : Three Hours

Maximum Marks : 100

Note : (i) The 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) "Software is developed and engineered; it is not manufactured in classical sense." Explain. Illustrate with a diagram that software does not wear out while hardware does with time.

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- (b) Explain the waterfall model of software engineering. How is classical waterfall model different from iterative waterfall model?
 - (c) Define Software Engineering. Explain it as a layered technology. What is the most desirable software quality attributes?
2. Attempt any *two* questions of choice from (a), (b) and (c). (2×10=20 Marks)
- (a) Explain the difference between verification and validation. Discuss V-Process model and its significance in software development.
 - (b) Describe the various strategies of design. Differentiate between flowchart and DFD.
 - (c) Define error, fault and failure. Differentiate between unit testing and module testing.
3. Attempt any *two* questions of choice from (a), (b) and (c). (2×10=20 Marks)
- (a) Enumerate the different types of cohesion that a module might exhibit.
 - (b) What is the importance of testing? Explain different types of testing carried out during complete SDLC.

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(3)

- (c) What is software project estimation? Write in brief about COCOMO estimation models.
4. Attempt any *two* questions of choice from (a), (b) and (c). (2×10=20 Marks)
- (a) "Partitioning a problem in software development helps a lot." Justify your answer.
 - (b) Explain the importance of maintenance. Briefly discuss the few reasons which are responsible for software modifications. Discuss the different types of maintenance.
 - (c) What is re-engineering and reverse engineering? How are they carried out? Explain.
5. Attempt any *two* questions of choice from (a), (b) and (c). (2×10=20 Marks)
- (a) What is software reliability? State its significance in software engineering. Differentiate between hardware and software reliability.
 - (b) What is ISO 9000 certification? Write a comparative note on ISO and CMM.
 - (c) What are the CASE tools? How do they aid in software development life cycle?

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