

TCS-406/TIT-406 329/332 Printed Pages : 4

Paper Code & Roll No. to be filled in your Answer Book

Roll No.

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B.Tech. (IV - Sem.)

Even Semester Examination - 2016

SOFTWARE ENGINEERING

[Time : 2 Hours]

[Maximum Marks :50]

Note : Attempt **all** questions. Each question carries **equal** marks.

Q1. Attempt **any two** parts of the following: (5×2=10)

- (a) What is software engineering and how it is different from conventional engineering process?
- (b) Should a development organization adapt a single process model for all its software development? Discuss the pros and cons?
- (c) Write down the major characteristics of software. Illustrate with a diagram that the software does not wear out?

Q2. Attempt **any two** parts of the following: (5×2=10)

- (a) Describe the various steps in software development life cycle? Explain the spiral model in details.
- (b) Describe the major software quality assurance activity and indicate their importance.
- (c) What is software maintenance? Explain its significance in software. Describe the various types of maintenance in detail.

Q3. Attempt **any two** parts of the following: (5×2=10)

- (a) Discuss SEI –capability maturity model in details with key process areas. Compare CMM model with ISO 9000.
- (b) What are entity relationship model? Why we use ER model? What are the components of ER model?
- (c) List five desirable characteristics of good SRS document. Discuss the relative advantage of formal and informal requirement specification.

Q4. Attempt **any two** parts of the following: (5×2=10)

- (a) How can you compute the cyclomatic complexity of a program? Explain with the help of example. How is cyclomatic complexity useful in process testing? Justify.
- (b) Define software architecture. Explain why it may be necessary to design the system architecture after the specifications written example. Compare function oriented and object oriented design.
- (c) What do you mean by term cohesion and coupling in context of software design? How are concepts of cohesion and coupling useful in arriving at good software design?

Q5. Attempt **any two** parts of the following: (5×2=10)

- (a) What do you mean by constructive cost estimation model (COCOMO) .Explain all the three levels i.e. basic, intermediate, and complete? Using a schematic diagram and suitable example show the order in which the following are estimated in the COCOMO estimation techniques: cost, effort, duration, size.

- (b) Discuss the differences between black box and structural testing and suggest how they can be used together in the defect training process. What do you understand by the software maintenance? Explain your answer in detail.
- (c) Define the following :
- (i) software reverse engineering
 - (ii) software re-engineering

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