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Reg. No.....

Name.....

B.C.A. DEGREE (C.B.C.S.S.) EXAMINATION, MARCH 2018

Sixth Semester

Core Course—SOFTWARE ENGINEERING

(2013 Admission onwards)

Time : Three Hours

Maximum Marks : 80

Part A

Answer all questions.

Each question carries 1 mark.

1. Define software process.
2. Define deliverables and milestones.
3. What is the purpose of context diagram ?
4. Write the basic concept of ER-diagram.
5. Define software reliability.
6. How many product quality factors have been proposed in McCall quality model ?
7. Which is the most desirable form of coupling ?
8. What is Beta testing ?
9. What is the objective of data flow testing ?
10. What is integration testing ?

(10 × 1 = 10)

Part B

Answer any eight questions.

Each question carries 2 marks.

11. Define software engineering.
12. What is meant a software product ?
13. What are the advantages of developing the prototype of a system ?
14. What is risk ? How many categories of activity in risk management ?
15. Distinguish between user and system requirements.

Turn over

16. Define module cohesion and list different types of cohesion.
17. Why is SRS known as the black box specification of a system ?
18. Distinguish between functional and non functional requirements.
19. What are the important issues that must be addressed by an SRS ?
20. Differentiate between module and software component.
21. How many types of requirements are possible and why ?
22. What is mutation testing ?

(8 × 2 = 16)

Part C

Answer any six questions.

Each question carries 4 marks.

23. What are the important characteristics of software ?
24. What are the characteristics to be considered for the selection of a life cycle model ?
25. Write short notes on :
 - (i) Data flow diagram.
 - (ii) Data dictionary.
26. List five desirable characteristics of a good SRS document. Discuss the relative advantages of formal requirement specifications.
27. What is software quality ? Discuss software quality attributes.
28. Why does software testing need extensive planning ? Explain.
29. What are various debugging approaches ? Discuss them with the help of examples.
30. Discuss the structure testing. How it is different from functional testing ?
31. Quality and reliability are related concepts but are fundamentally different in a number of ways. Discuss them.

(6 × 4 = 24)

Part D

Answer any two questions.

Each question carries 15 marks.

32. Describe Waterfall model in detail. What are its limitations? Compare it with iterative model for the selection of a life cycle model.
33. Describe the various steps of requirements engineering. Is it essential to follow these steps?
34. Explain all the levels of COCOMO model. Assume that the size of an organic software product has been estimated to be 32,000 lines of code. Determine the effort required to develop the software product and the nominal development time.
35. Discuss various key process areas of CMM at various maturity levels.

(2 × 15 = 30)