

FIFTH SEMESTER B.Sc. DEGREE EXAMINATION, NOVEMBER 2017

(CUCBCSS—UG)

Computer Science

BCS 5B 11—PRINCIPLES OF SOFTWARE ENGINEERING

Time : Three Hours

Maximum : 80 Marks

Part A*Answer all questions.**Each question carries 1 mark.*

1. When two modules refer to the same global data area they are related as
 - (a) External coupled.
 - (b) Data coupled.
 - (c) content coupled.
 - (d) Common coupled.
2. The development is supposed to proceed linearly through the phase in
 - (a) Spiral model.
 - (b) Waterfall model.
 - (c) Prototyping model.
 - (d) None of the above.
3. An important aspect of coding is
 - (a) Readability.
 - (b) Productivity.
 - (c) To use small memory space as possible.
 - (d) None of the above.
4. The objective of testing is :
 - (a) Debugging.
 - (b) To analyze system.
 - (c) To uncover errors.
 - (d) To gain modularity.
5. _____ is a representation of a software system that is used as a medium for communicating software design information.
6. SRS stands for _____.
7. The context diagram of a DFD is also known as _____.
8. _____ is the inability of a system to perform a required function according to its specifications.
9. Process of generating analysis and design documents is called _____.
10. _____ are semantic connection between classes in an object oriented system.

(10 × 1 = 10 marks)

Turn over

Part B

*Answer all questions.
Each question carries 2 marks.*

11. What are the basic objectives of Software Engineering ?
12. Define software process.
13. What are structure charts ?
14. Explain error, fault and failure.
15. Define software reliability.

(5 × 2 = 10 marks)

Part C

*Answer any five questions.
Each question carries 4 marks.*

16. What is prototyping model ? Explain
17. Explain the components of an SRS.
18. Explain coupling and cohesion.
19. Explain the various concepts behind object oriented design.
20. Explain top down and bottom up approaches in programming.
21. Explain the various program verification methods.
22. What is test plan ? What are its components ?
23. What are the importance of requirements ?

(5 × 4 = 20 marks)

Part D

*Answer any five questions.
Each question carries 8 marks.*

24. What is the fundamental objective of a process? Explain the important characteristics of a software process.
25. Write notes on :
 - (a) SADT.
 - (b) PSL.
 - (c) RSL.
 - (d) REVS.
26. Explain in detail the function oriented design principles.
27. What are the different configuration management activities ? Explain ?
28. Explain the various concepts in object oriented design.
29. Explain dynamic modeling in OOD. Explain the major steps in dynamic modeling.
30. Write notes on :
 - (a) Equivalence class partitioning.
 - (b) Boundary value analysis.
31. What is structural testing ? Explain various approaches to structural testing.

(5 × 8 = 40 marks)