

**FIFTH SEMESTER B.Sc. DEGREE EXAMINATION, NOVEMBER 2016**

(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. \_\_\_\_\_ software is used to solve problems which are non-algorithmic in nature.
 

(a) Real time.	(b) AI.
(c) System.	(d) Scientific and Engineering
2. Choose the tool which is not used in requirement analysis :
 

(a) DFD.	(b) Flow graph.
(c) Activity network.	(d) Module dependency diagram.
3. Choose the testing method which is designed to evaluate the software system performance in rare and abnormal conditions :
 

(a) White box testing.	(b) Black box testing.
(c) Stress testing.	(d) Alpha testing.
4. \_\_\_\_\_ is the measure of the degree of interdependence between modules.
5. \_\_\_\_\_ are the building blocks of an OOD.
6. SDLC stands for \_\_\_\_\_.
7. Who develop software products ?
8. A design notation used for representing function oriented design is \_\_\_\_\_.
9. CASE stands for \_\_\_\_\_.
10. The person responsible for requirement analysis is called \_\_\_\_\_.

(10 × 1 = 10 marks)

**Part B**

*Answer all questions.*

*Each question carries 2 marks.*

11. Define phased development process.
12. Define DFD and data dictionary.

Turn over

13. Explain the various levels of cohesion.
14. Distinguish between reliability and robustness of a software process.
15. What is mutation testing ?

(5 × 2 = 10 marks)

### Part C

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

16. What are software metrics ? Explain different types of metrics used for software development.
17. Explain any three characteristics of a software process.
18. Explain iterative enhancement model.
19. What is problem analysis ? What are the major issues in analysis ?
20. What are the various methods for verifying a design ?
21. Explain the relationship between OOA and OOD.
22. What is structured programming and why is it important ?
23. Explain equivalence class partitioning.

(5 × 4 = 20 marks)

### Part D

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

24. With the help of neat diagram, explain waterfall model. What are the limitations of the model ?
25. Explain the characteristics and components of SRS.
26. Explain various design methodologies in OOD.
27. What is meant by testing process ? Explain the various levels of testing.
28. What is structural testing ? Explain various approaches to structural testing.
29. Explain the structured design methodology for developing system designs.
30. Explain various rules that are applicable to programming style.
31. Write notes on :
  - (a) Error, fault, failure.
  - (b) Test oracles.
  - (c) Top down and Bottom-up approaches.
  - (d) Test cases.

(5 × 8 = 40 marks)