16U535 (Pages: 2) Name: ……

Reg. No..……

FIFTH SEMESTER B.Sc. DEGREE EXAMINATION, NOVEMBER 2018

(CUCBCSS-UG)

CC15U BCS5 B11 - PRINCIPLES OF SOFTWARE ENGINEERING

(Computer Science – Core Course)

(2015-Admission onwards)

Time: Three Hours Maximum: 80 Marks

Part A

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

1. ---------- is a collection of computer programs, procedures, rules and associated documentation.
2. Name the software process model used in product development.
3. The unit for size metrics for a software is expressed in terms of ----------
4. In a DFD, if data flows A and B are mandatory for a process, then it is represented as
   a) A+B b) A*B c) A&B d) A AND B
5. In a structure chart, the symbol  is used to represent ----------
6. The interaction through messages between the objects are captured in ---------- diagrams
   a) Sequence b) Object c) Class d) State
7. An SRS is ---------- if there is no requirement that conflicts with one another.
8. Expand PDL.
9. Analysis of programs by methodically analyzing the program text is called ----------
10. Name the testing that is performed when some changes are made to the existing system.

(10 x 1 = 10 Marks)

Part B

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

11. Define Software Engineering.
12. What is the significance of timebox in timeboxing model?
13. A high-quality SRS is prerequisite to high quality software. Justify this statement.
14. Differentiate most abstract input and most abstract output.
15. How does integration testing differ from system testing?

(5 x 2 = 10 Marks)

Part C

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

16. Define the software quality attributes.

17. Write a note on iterative development model. What are its strengths?
18. Explain each level in CMM framework.
19. What are use cases? Why are they used in function oriented design?
20. What is coupling? Mention the factors that influence coupling between modules.
21. Write a note on classes and class diagrams used in OOD.
22. Write any four guidelines used by a good programmer in coding.
23. What is mutation testing?

(5 x 4 = 20 Marks)

Part D

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

24. Elaborate on phased development process.
25. Describe the prototyping model. How it overcomes the disadvantages of waterfall model?
26. a) How does a DFD helps in problem analysis phase?
    b) Mention the symbols used in DFD.
    c) Consider the given scenario of a library management system. It caters to the needs of students\teachers by adding a provision to reserve the books in case books are not available at any particular moment.Draw the context diagram and 1- level DFD for the above case **(2+2+4)**
27. Write in detail about components of SRS.
28. Explain the following:
    a) Structure chart.
    b) Design walkthrough.
    c) White box testing. **(3+2+3)**
29. a) Creating strongly cohesive modules have prime importance in function oriented design. Why?
    b) Explain the various levels of cohesion. **(2+6)**
30. Elaborate on various coding approaches used in coding process.
31. Explain the following black box testing approaches:
    a) Cause Effect Graphing.
    b) Boundary Value Analysis.
    c) State Based Testing. **(3+2+3)**

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