

PSG POLYTECHNIC COLLEGE, COIMBATORE - 641 004

DIPLOMA ODD SEMESTER EXAMINATIONS – OCT 2014

**DEPARTMENT OF COMPUTER ENGINEERING
Z12501 SOFTWARE ENGINEERING****Time: 3 Hours****Max. Marks: 100****Instructions:**

1. **Group A** and **Group B** questions should be answered in the Main Answer book.
2. Answer any **TEN** questions in **Group A**. Each question carries three marks.
3. Answer **ALL** questions either **(a)** subdivision or **(b)** subdivision in **Group B**. Each question carries 14 marks.

Group – A**Marks: 10 x 3 = 30**

1. What is software engineering? What are the phases in software engineering?
2. Discuss the need for software engineering?
3. What are the advantages and disadvantages of prototyping model?
4. How to capture the requirement for the process?
5. Differentiate functional and non-functional requirements?
6. Design the state transition diagram for ATM machine?
7. Discuss the design principle for software?
8. What is coupling and list out the types of coupling?
9. What is functional cohesion and sequential cohesion?
10. Compare and contrast white box testing and black box testing?
11. What is mean by verification and validation?
12. List out the issues in software maintenance?
13. What are the steps in Software Configuration Management?
14. List out few SCM tools.
15. What is configuration audit?

Group– B**Marks: 5 x 14 = 70**

16. a) i) What is software development life cycle? Explain the linear sequential model in detail with necessary diagram? (9)
- ii) List out any five benefits of software engineering? (5)
- (OR)
- b). i) Explain Rapid Application development model (RAD) with necessary diagram? (7)
- ii) What are the different types of project cost estimation methods? Discuss each with an example in detail. (7)
17. a) i) Discuss about coding principles in detail? (7)
- ii) Explain Structured Analysis Design Tool (SADT) and design a SADT diagram for ATM? (7)

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(OR)

- b). i) What is software requirement specification? Specify the characteristic and Structure of SRS? (9)
 ii) Illustrate Data Flow analysis with an example? (5)
18. a). i) Explain the Entity Relationship diagram and design the ER diagram for student management system? (9)
 ii) What is software design document and what does the software design document contains? (5)
- (OR)
- b). i) Discuss in detail about user interface design and user interface analysis process? (9)
 ii) Explain Hierarchical Input Process Output (HIPO) diagram? (5)
19. a). i) Explain in detail about unit testing and integration testing strategies? (9)
 ii) Discuss about the software maintenance process? (5)
- (OR)
- b). i) Discuss in detail about post implementation review (PIR)? (9)
 ii) Draw the process of system testing and specify the types of performance testing?(5)
- 20.a). i) What is SCM? List out the needs for SCM? (7)
 ii) Explain the phases of software project management? (7)
- (OR)
- b). i) Discuss the roles and responsibilities of Configuration Management team? (9)
 ii) Draw the process of change control in SCM? (5)

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Note :

- i) Group A should have three questions from each unit.
 ii) Group B should have Five long answer questions, i.e., one question in each unit with either OR type. (may have subdivisions if necessary)