

GANPAT UNIVERSITY
M. TECH. SEM. - II INFORMATION TECHNOLOGY
REGULAR EXAMINATION | April - June 2015
3IT204: SOFTWARE ENGINEERING

Time: 3 Hours]

[Total Marks: 60

Instructions:

1. Figures to the right indicate full marks.
2. Each section should be written in a separate answer book.
3. Be precise and to the point in your answer.

SECTION - I

- Q.1** (a) Explain about following: (4)
 1. Incremental Process Model
 2. Evolutionary Process Model
- (b) Discuss about following Management Myths. (4)
 1. *If we get behind schedule, we can add more programmers and catch up.*
 2. *A general statement of objectives is sufficient to begin writing programs we can fill in the details later.*
- (c) What are the attributes of good software? (2)

OR

- Q.1** (a) Explain about Spiral model and list out the strength and weakness of Spiral Model. (4)
- (b) What are the key challenges facing Software Engineering? (4)
- (c) What is Exclude and Include relationship of UML USE CASE (2)
- Q.2** (a) Discuss about Crucial Process Steps of Requirement Engineering. (5)
- (b) What is Activity Network Diagram? Discuss about PERT Chart with suitable Diagram. (5)

OR

- Q.2** (a) Discuss about Normal Requirement, Expected Requirement and Exciting Requirement with reference to QFD. (5)
- (b) Discuss about following with reference to CPM. (5)
 Earliest Start time, Latest Start time, Earliest Finish time, Latest Finish, Slack time
- Q.3** (a) Draw the activity diagram for following: (6)
 1. Issue book in Library
 2. Return book in Library
 3. Member registration in Library
- (b) Draw the Sequence Diagram for Tour Management System. (4)

SECTION-II

- Q.4** (a) Define module coupling and cohesion. Explain different types of coupling and cohesion. (4)
- (b) Discuss about following with reference to Code Review: (4)
1. Code walk through
 2. Code Inspection
- (c) List out the all notation of Structure Chart. (2)

OR

- Q.4** (a) Discuss about Data Flow based testing with example. (4)
- (b) What is Software Design? List out the Diagrams corresponding to scenario based elements and flow-oriented based elements. (4)
- (c) What is functional testing and structural testing? (2)

- Q.5** (a) Discuss about ISO 9000 in brief. (5)
- (b) Explain about boundary value analysis and Equivalence Class Partitioning. (5)

OR

- Q.5** (a) Explain about SEI Capability Maturity Model in brief. (5)
- (b) Draw the Control Flow Graph for Following code. (5)

```
int someFunction(int a, int b) {
    int result = 0;
    if (a < b && a <> result) {
        System.exit(0);
    }
    else {
        int c = a + b;
        int i = 0;
        while (i < c) {
            result = (result + a) / b;
            i++;
        }
    }
    return result;
}
```

- Q.6** (a) Draw the Context Level Diagram and Data Flow Diagram (up to level-2) for Hospital Management System (HMS). (5)
- (b) Draw a class diagram to represent the following: (5)
- An engineering college offers B.Tech degrees in three branches-EC, Electrical and Computer Science. Each branch can admit 30 students each year. For student to complete B.Tech degree he/she has to clear all the 30 core subjects and at least 10 of the elective subjects.

END OF PAPER