

**SVKM's NMIMS**  
**MUKESH PATEL SCHOOL OF TECHNOLOGY MANAGEMENT & ENGINEERING**

Programme: B.Tech (Computer)

Year: III

Semester: V

**Academic Year: 2019-20**

Subject: Software Engineering

Marks: 70

Time: 10.00 am - 1.00 pm

Durations: 3 (hrs)

No. of Pages: 2

Date: 09 November 2019

**Final Examination (2019-20) / Re-Examination (2017-18 / 2018-19)**

**Instructions: Candidates should read carefully the instructions printed on the question paper and on the cover of the Answer Book, which is provided for their use.**

- 1) Question No. 1 is compulsory.
- 2) Out of remaining questions, attempt any 4 questions.
- 3) **In all 5 questions to be attempted.**
- 4) All questions carry equal marks.
- 5) **Answer to each new question to be started on a fresh page.**
- 6) **Figures in brackets on the right hand side indicate full marks.**
- 7) Assume suitable data if necessary.

Q.1

- (a) How the prototype model solve the problems over waterfall model? 3
- (b) What is requirement analysis? Write major activities of requirement analysis. 4
- (c) What is the difference between test case and test suite? Describe with example. 3
- (d) What is the difference between traditional software development method and agile method? 4

Q.2

- (a) Explain McCall's Software Quality Factors in detail. 7
- (b) Explain SCRUM agile development approach with suitable diagram. 7

Q.3

- (a) Calculate the Cyclomatic complexity for the following program: 7  

```

int temp
if (a>b) temp=a
else temp=b
if (c>temp)
temp=c
return temp

```
- (b) Explain the golden rules for user interface design. 7

Q.4

- (a) Consider a project with following functional units— 7  
Number of user inputs=50  
Number of user outputs=40  
Number of user enquiries=35  
Number of user files=06

Number of external interfaces=04

Assume all weighting factors are average. In addition to above, system requires—

- i. Significant data communication
- ii. System is not designed for multiple installations in different sites
- iii. Designed code should be reusable
- iv. Performance is very critical

Assume all complexity adjustment factors are treated as average.

Computer the function points for the project.

- (b) Explain the working of Spiral Model. Why spiral model is considered to a meta model. 7
- Q.5 (a) Explain SQA and their activities in detail. 7
- (b) How reverse engineering is different from reengineering process? Explain with suitable diagram. 7
- Q.6 (a) Draw DFD up to level 2 for result preparation automation system of B.Tech. Courses of any university. 7
- (b) What do you understand by software architecture? Discuss the different classification of architectural styles with respect to software. 7
- Q.7 Write short note:
- (a) Characteristic of Software 4
- (b) CMMI 4
- (c) Software Configuration Management 3
- (d) Black Box versus White Box Testing 3