

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

Programme: MBA Tech (COMPUTER )

Year: II

Semester: IV

**Academic Year: 2017-2018**

Subject: Software Engineering

Date: 14 May 2018

Marks: 70

Time: 2.00 pm to 5.00 pm

Durations: 3 (hrs)

No. of Pages : 02

**Final Examination (2017-18) / Re-examination (2016-17)**

**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.

Q1 a. Define the following

[2M\*4=8M]

- i) Software Engineering
- ii) Software Configuration Items
- iii) Black Box Testing
- iv) Legacy software

b. Explain (any three) different Requirement Engineering Tasks

[2M\*3=6M]

Q2. a. Prepare SRS for Hospital Management System in IEEE format.

[8M]

b. Explain with example the difference between Product, Process and Project Metrics.

[2M\*3=6M]

Q3 a. What is Agile SCRUM Framework?

[8M]

b. Consider the program below

```
i = 0;
n=4; //N-Number of nodes present in the graph
while (i<n-1) do
j = i + 1;
while (j<n) do
if A[i]<A[j] then
swap(A[i], A[j]);
end do;
```

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i=i+1;  
end do;

- i) Define Cyclomatic Complexity [1M]
  - ii) Draw the Flow graph for the above program [2M]
  - iii) Determine the cyclomatic complexity [2M]
  - iv) Comment on the relationship between this metric and software testing [1M]
- Q4. a) Discuss McCall's quality factors [8M]  
b) Enumerate the difference between Incremental Model and Waterfall Model [6M]
- Q5. a) Write a short note on User Interface Design Rules. [8M]  
b) Draw DFD Level 0, Level 1 for an online shopping system. [2M+4M=6M]
- Q6. a) Describe COCOMO-II- An Empirical Estimation Model for Effort. [8M]  
b) How is Software Architecture different from Software Design? [6M]
- Q7. a) Explain 4 software architecture styles with suitable brief example for each. [2M\*4=8M]  
b) Differentiate between Validation and Verification in Software Testing. [6M]
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