SVKM's NMIMS

MUKESH PATEL SCHOOL OF TECHNOLOGY MANAGEMENT & ENGINEERING

Programme: B. Tech (Computer) Year: III Semester: V

Academic Year: 2018-2019

Subject: Software Engineering

Date: 17 November 2018

Marks: 70
Time: 10.00 am to 1.00 pm
Durations: 3 (hrs)
No. of Pages: 2

Final Examination (2018-19) / Re-examination (2017-18)

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)	Explain the term architecture style and architecture pattern. When we can use **Call and Return** architecture? Justify with an example.	**[7]**
	b)	Design State Diagram for 'Automatic washing machine system'. Automatic washing machine is able to soak, rinse, drain and dry the cloths. The state diagram must have minimum five states.	**[7]**
Q2	**a)**	Explain incremental model with a neat diagram, also list down the advantages of incremental model over prototype model.	**[7]**
	b)	Explain the terms spike solution, Refactoring , Project Velocity , pair programming in Extreme programming agile process	**[7]**
Q3	**a)**	Online shopping is a form of electronic commerce website which allows customers to directly view products, select products and buy products. Payment option is also available in the site. Design Data Flow Diagram up to level-2 for Online shopping system. (Representation of minimum five functionalities required in level-1)	**[7]**
	b)	Explain steps for mapping data flow into software architecture	**[7]**
Q4	**a)**	Design Any ONE interface for the case study in Q3.(a) based on the golden rules of interface design and explain each rule in detail.	**[7]**
	b)	Compare white box and black box testing.	**[7]**

Q5 a) Design the flow graph and calculate the Cyclomatic Complexity for the code given: [7]

```
If A=365
  Then If B>C
       Then A=B
       Else
       A=C
       ENDIF
ENDIF
Print A
```

b) Explain the layers of SCM process with neat diagram [7]

Q6 a) Find function point, cost for an E-commerce application with the following average components: [7]

Number of external inputs (EIs) – 50, Number of external outputs (Eos) – 40, Number of external inquiries (Eqs) -35, Number of internal logical files (ILFs) -06 and Number of external interfaces (EIFs) – 04.

Assume necessary data required for the calculation of FP and cost.

b) List down McCall's quality triangle Factors. [7]

Q7 **Write Short note:** [14]

a) Spiral Model
b) W5HH principles
