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

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

Batch: 2014-15/ 2015-16/ 2016-17

Academic Year: 2016-2017

Subject: Software Engineering

Date: 30 May 2017

Marks: 60
Time: 10.00 am to 1.00 pm
Durations: 3 (hrs)
No. of Pages: 2

Re-Examination

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.

NB : 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 W5HH principle with respect to software project management. [6]

b) Explain the golden rules for user interface design. [6]

Q2 With the help of neat labelled diagram, describe the Scrum methodology for developing software. Give example of applications using scrum methodology. [12]

Q3

a) What is Software Configuration Management Repository? Discuss the different SCM tasks. [8]

b) Describe in detail the XP concepts of refactoring and pair programming. [4]

Q4

a) What are software risks? Discuss Reactive and Proactive risk strategies. [5]

b) Draw a Data Flow Diagram for an Online Railway Reservation System up to Level 2. [7]

Q5 [12]

```
public double calculate (int amount) {
    double rushcharge = 0;
    if (nextday.equals("yes") )    {
        rushcharge = 14.5;
    }
    double tax = amount * 0.0725;
    if (amount >= 1000 )    {
        shipcharge = amount * 0.06 + rushcharge;
    }
    else  if (amount >= 200)    {
        shipcharge = amount * 0.08 + rushcharge;
    }
    else  if (amount >= 100)    {
        shipcharge = 13.25 + rushcharge;
    }
    else  if (amount >= 50)    {
        shipcharge = 9.95 + rushcharge;
    }
    else  if (amount >= 25)    {
        shipcharge = 7.25 + rushcharge;
    }
    else  {
        shipcharge = 5.25 + rushcharge;
    }
    total = amount + tax + shipcharge;
    return total;
} //  end calculate method
```

For the above mentioned calculate program perform the following

i. Draw a control flow graph for the calculate method.
ii. Determine the Cyclomatic complexity of the method.
iii. Determine the basis set of independent path.
iv. Prepare the test cases.

Q6

a) With the help of suitable example scenario, describe the incremental model of software development. [6]

b) Discuss Data flow architectural style with suitable example. [6]

Q7

Explain the process of effort estimation using function point analysis, with an example. Discuss the advantage of this method over other estimation methods. [12]

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