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BMS College of Engineering, Bangalore-560019

(Autonomous Institute, Affiliated to VTU, Belgaum)

MAY/JUNE 2014 Semester End Main Examinations

Course: Software Engineering

Code: 10CI6GCSWE

Duration : 3 hours Course

Max Marks: 100

Date: 03.06.2014

Instructions: Answer five full questions choosing one from each unit.

UNIT 1

- | | | | |
|---|----|---|----|
| 1 | a. | What are the key challenges faced by software engineering | 05 |
| | b. | Differentiate between user requirements and system requirements | 05 |
| | c. | With the help of a diagram explain the spiral model of requirements engineering process | 10 |

OR

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|---|----|---|----|
| 2 | a. | Differentiate between milestones & deliverables | 05 |
| | b. | Explain the general structure of a project plan | 05 |
| | c. | With the help of a neat diagram explain the components of a CASE tool for structured method support | 10 |

UNIT 2

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|---|----|--|----|
| 3 | a. | Draw and explain the context model of an ATM system. | 10 |
| | b. | Explain the risk management process with a neat diagram. | 10 |

UNIT 3

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|---|----|---|----|
| 4 | a. | Explain with neat diagram the two main strategies used to decompose a subsystem into modules. | 08 |
| | b. | Which are the Object Oriented strategies used throughout the development process. Explain. | 06 |
| | c. | Explain in detail repository model of system organization with a neat diagram | 06 |

UNIT 4

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|---|----|---|----|
| 5 | a. | Explain rapid application development with a neat diagram. | 08 |
| | b. | What are the benefits of prototyping? Explain the process of prototype development with a neat diagram. | 08 |
| | c. | Explain the roles in the inspection team. | 04 |

OR

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|---|----|--|----|
| 6 | a. | Explain the stages involved in automated static analysis of program. | 05 |
| | b. | Explain the model of software testing process. | 07 |
| | c. | Explain clean room software development with a neat diagram. | 08 |

UNIT 5

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|---|----|---|----|
| 7 | a. | For an android based game, distinguish the milestones and deliverables | 06 |
| | b. | Explain nonfunctional requirements for simulating a text editor with features of write, update, cut, copy and paste | 04 |
| | c. | Write a Control Flow Graph (CFG) for the following pseudo code. Estimate the Cyclomatic Complexity for the CFG | 10 |

```
Begin Cooking Control Function
1. initialize time and power values
2. while time is not equal to 00:00
3.   if Stop/Clear button is pressed
       call Oven Control Function
       to shut off oven
4.   while Start button is not pressed
5.     if Stop/Clear is pressed again
       end cooking
     endif
   endwhile
6. elseif microwave door is opened
   call Oven Control Function
   to shut off oven
7.   while door is open
       wait
   endwhile
8.   while Start button is not pressed
9.     if Stop/Clear is pressed
       end cooking
     endif
   endwhile
   endif
10. call Display Time Function
    to output current time value
    call Display Power Function to
    display current power level
    call Oven Control Function to turn
    on oven at the proper power level
    decrement current time value
  endwhile
11. call Oven Control Function to
    shut off oven
    set time to 00:00
    call Display Time Function
    call Beeper Function to sound beeper
End Cooking Control Function
```
