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BMS College of Engineering, Bangalore-560019

(Autonomous Institute, Affiliated to VTU, Belgaum)

July 2015 Supplementary Examinations

Course: Software Engineering

Course Code: 10CI6GCSWE

Duration: 3 Hours

Max Marks:100

Date: 29.07.2015

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

UNIT-I

1. a) Define software engineering. How is it different from computer science? 06
- b) Explain the emergent properties of a system with example. 06
- c) With a neat diagram illustrate the system design process. 08

OR

2. a) List and explain the types of non-functional requirement with the help of a diagram. 06
- b) Compare and contrast user requirement with system requirement. Design a form based system requirement specification for online movie ticket booking. 08
- c) Justify why viewpoints are important in requirement engineering process. 06

UNIT-II

3. a) Explain the structured method and with the help of neat diagram explain the components of CASE tools for structured method support. 07
- b) Explain the process of project scheduling. 06
- c) Explain the risk management process with neat diagram. 07

UNIT-III

4. a) With a neat diagram explain client server model? 06
- b) Explain with neat diagram centralized control style? 06
- c) Develop an object model, including a class hierarchy diagram and an aggregation diagram showing the principal components of a personal computer system and its system software? 08

UNIT-IV

5. a) Explain with the help of a neat diagram Extreme Programming release cycle. 08
- b) Explain the four strategic options for Legacy system Evolution. 06
- c) What are the principles of Agile methods. Explain. 06

OR

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| 6. | a) | Explain in detail the program Inspection process with a neat diagram | 06 |
| | b) | Explain the Clean Room Software development in detail. | 08 |
| | c) | Explain Black-Box Testing in detail | 06 |

UNIT - V

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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 |

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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

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