

Total No. of Questions : 10]

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SEAT No. :
[Total No. of Pages : 2

B.E. (Computer Engineering)
SOFTWARE DESIGN METHODOLOGIES AND TESTING
(2012 Pattern) (Semester - II) (410449)

Time : 2½ Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) Neat diagrams must be drawn wherever necessary;
- 2) Assume suitable data, if necessary;

Q1) a) Explain Aggregation, Composition and Generalisation with reference to Class Diagram? [5]

b) Explain briefly Web Service Protocols. [5]

OR

Q2) a) Draw use case diagram for online digital Library information system with all advanced notations. [5]

b) What are the major classification of design pattern? Explain in brief with few example patterns under each class. [5]

Q3) a) What do you mean by software design? Explain its importance. [5]

b) What is singleton pattern? Explain one example scenario where you will singleton pattern to get applied. [5]

OR

Q4) a) What is 4+1 architecture view model? Explain with suitable diagram. [5]

b) Describe Real time Software architecture in brief. [5]

Q5) a) Explain V test model with suitable block diagram? [8]

b) Differentiate between verification and validation? [8]

OR

Q6) a) Explain various principle of testing? [8]

b) What is defect management? Discuss the generic steps in defect management process? [8]

Q7) a) Explain Equivalence partitioning and Boundary value analysis in black box testing. [6]

b) Explain system testing. What is the significance of system testing? [6]

c) For the given piece of code, draw flow graph and compute the cyclomatic complexity of the same. [6]

```
int f(int x, int y)
{
  while(x != y)
  {
    x=x-y;
    else y=y-x;
  }
  return x;
}
```

```
while(x != y)
{
  x=x-y;
  else y=y-x;
}
```

```
if(x>y) then
  x=x-y;
else y=y-x;
}
```

```
return x;
}
```

OR

Q8) a) Differentiate between alpha and beta testing. [6]

b) Explain integration testing? Explain Big-bang approach of integration testing? [6]

c) What is unit testing? List the benefits of unit testing. [6]

Q9) a) Difference between functional and nonfunctional testing. [8]

b) Differentiate between automated and manual testing? [8]

OR

Q10) a) What is mobile testing? Mention the challenges in mobile testing? [8]

b) Write short note on: [8]

- i) JUnit
- ii) Selenium

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May 2017