

Total No. of Questions :10]

SEAT No. :

**P3115**

[Total No. of Pages :2

**[5154] - 682**

**B.E. (Computer Engineering)**

**SOFTWARE DESIGN METHODOLOGIES AND TESTING**

**(2012 Pattern) (Semester - II) (410449)**

*Time : 2½Hours]*

*[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

**P.T.O.**

- 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 fl(int x,int y)
{
while (x != y)
{
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

*EEE*