

23/4/19

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**B.E / B.Tech (FT) END SEMESTER EXAMINATIONS – APRIL / MAY 2019**

Information Technology  
IV Semester  
CS7351 Software Engineering  
(Regulation 2015)

Time: 3 Hours

Answer ALL Questions

Max. Marks 100

**PART-A (10 x 2 = 20 Marks)**

1. Give the IEEE definition of Software Engineering
2. "Process is important in software Engineering" Justify
3. How will you do the requirement negotiation?
4. Write short notes on requirements validation
5. Discuss the importance of requirement analysis
6. Write short notes on Entity Relationship Diagram
7. What is design ? Why design is important?
8. What is smoke testing?
9. What is a software risk?
10. Write short notes on verification and validation



**PART-B (5x 13 =65 Marks)**

- 11.a. Which software process model can be applied when a client's requirements have uncertainties ? Explain the model with neat diagram and discuss the advantages and disadvantages 13
- (OR)
- 11.b.(i) Explain the Capability Maturity Model Integration for process improvement in an organization 8
- (ii) List the various umbrella activities and justify their significance in software development. 5
- 12.a Discuss in detail about various principles that guide the communication and planning. 13

(OR)

12.b.(i) Explain in detail about how the requirements for a Library management system is gathered and categorized. 8

(ii) Discuss how the Quality Function Deployment maximizes the customer satisfaction? 5

13a.(i) What is an analysis model? Explain the various elements of analysis model with neat sketch. 8

(ii) Compare structured analysis and object oriented analysis. 5

(OR)

13b. Draw an use case diagram and class diagram for a student assessment management system and explain. 13

(OR)

14a. Explain the various design concepts in detail with illustration. 13

(OR)

14b. Consider the following program segment. 13

```
int bin_search(int num)
{
int min=0,max=100;
while(min!=max){
if(arr[(min+max)/2] > num)
max=(min+max)/2;
else if(arr[(min+max)/2]
min=(min+max)/2;
else return((min+max)/2); } return(-1); }
```



Construct the control flow graph for this program segment. Determine the cyclomatic complexity for this program by various methods.

15.a What is Software Configuration Management? Explain the various elements of SCM system. 13

(OR)

15.b Explain the various versions of COCOMO model for cost estimation with relevant examples. 13

#### PART C(1x15=15 Marks)

16.(i) Explain the golden rules that must be followed for the design of User Interface. 8

(ii) Design an UI for a home automation system that is controlled by various sensors which is integrated to cloud & controlled by a mobile App and/or a desktop. 7