B.E. (Information Technology) Fifth Semester (C.B.S.)

Software Engineering

P. Pages : 2 **NRT/KS/19/3440**

Time : Three Hours Max. Marks : 80

Notes :
1. All questions carry marks as indicated.
2. Solve Question 1 OR Questions No. 2.
3. Solve Question 3 OR Questions No. 4.
4. Solve Question 5 OR Questions No. 6.
5. Solve Question 7 OR Questions No. 8.
6. Solve Question 9 OR Questions No. 10.
7. Solve Question 11 OR Questions No. 12.
8. Due credit will be given to neatness and adequate dimensions.
9. Illustrate your answers whenever necessary with the help of neat sketches.

1. a) Comment on "Software Engineering a layered technology". **6**

b) What are different characteristics of software. Engineering? Explain each of them in detail. **7**

OR

2. a) What is agile process? Explain it in detail. **7**

b) Elaborate spiral model for Software Engineering. Explain how it combines the features of waterfall model and prototyping model. **6**

3. a) Describe the difference between process and project metrics. **6**

b) What is LOC? Why LOC is not universally accepted as a standard metric? **7**

OR

4. a) Discuss "Make-Buy" decision tree with example for software estimation. **6**

b) Define decomposition. Why decomposition is required in software development? Explain various decomposition techniques. **7**

5. a) What is requirement Engineering? Explain steps in requirement Engineering. **7**

b) Explain CRC model and draw class diagram for "floor plan". **7**

OR

6. a) Define the following terms with respect to requirement engineering **any three.** **6**
- i) Inception
- ii) Elicitation
- iii) Elaboration
- iv) Negotiation
- v) Specification.

b) List various elements of analysis model & Explain each element with example. **8**

7.	a)	How data flow is mapped into software architecture.	4
	b)	Write any five design principles.	4
	c)	Draw and explain the following architectural design: i) Call-and-return ii) Pipe-and-Filter	6

OR

8.	a)	Discuss cohesion and coupling concept in design engineering.	7
	b)	Draw context level DFD diagram for "Safe Home Security function", DFD level and DFD Level.	7
9.	a)	What do you mean by cyclomatic complexity? How Cyclomatic complexity is useful in basis path testing? Explain with example.	8
	b)	What is validation testing? Explain alpha and beta testing.	5

OR

10.	a)	What is the difference between testing and debugging? Explain debugging process in detail.	6
	b)	What is Black-box testing? Explain one method of Black-box testing in detail.	7
11.	a)	Define software risk List various types of risks and explain it.	7
	b)	Elaborate the risk identification and overall project risk.	6

OR

12.		Write short note on **any three.**	13
	i)	Code restructuring.	
	ii)	Forward Engineering.	
	iii)	SCM Process	
	iv)	SQA.	

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