

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

P. Pages : 2

Time : Three Hours



NKT/KS/17/7356

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.

1. a) Explain software characteristics in detail. **6**
b) Explain software engineering - A Layered Technology. **7**
OR
2. a) What is an Agile Process? Explain Agile Process Model along with principles. **5**
b) Explain prototyping model of software development with their pros and cons. **4**
c) Discuss about XP (Extreme Programming) with neat diagram. **4**
3. a) Explain McCall's quality factors. **7**
b) What is LOC? Why LOC is not universally accepted as a standard metric? **7**
OR
4. a) Define Decomposition. Why decomposition is required in software development? Explain various decomposition techniques. **7**
b) Explain in short : **7**
i) Empirical Estimation Model
ii) Make - buy Decision
5. a) Explain Business Process Engineering in detail. **6**
b) Explain various components of software Analysis model in detail. **7**

OR

6. a) Explain in detail data modeling concepts. 6
b) What is requirement engineering? Explain steps in requirement engineering. 7
7. a) Explain any five design principles. 5
b) Explain following architectural design : 6
i) Call - and - return
ii) Pipe - and - filter
c) How data flow is mapped into software architecture. 3

OR

8. a) Explain various types of cohesion and coupling in detail. 10
b) What is pattern - based software design? Explain. 4
9. a) Explain unit testing procedure with the help of suitable diagram. 4
b) What are the different software testing principles suggested by Davis? 3
c) What is the difference between testing and debugging? Explain debugging process in detail. 6

OR

10. a) Explain Black - Box testing in detail. 8
b) What do you understand by SMOKE TESTING? Give the various activities encompassing the smoke testing. 5
11. a) What is SQA? How FTR is conducted for SQA? 6
b) What is Reliability and Availability? What are the measures of Reliability and Availability? 4
c) Define Risk. Also list various types of Risk. 3

OR

12. a) Write short note on RMMM plan. 3
b) Explain Reverse Engineering in detail. 5
c) What are the layers of SCM process? Explain. 5
