2022

B.A./B.Sc.

Fourth Semester

CORE – 9

COMPUTER SCIENCE

Course Code: CSC 4.21

(Software Engineering)

Total Mark: 70 *Pass Mark: 28*

Time: 3 hours

Answer five *questions, taking* one *from each unit.*

UNIT–I

1. (a) Define software engineering. Why is it important? 1+4=5
   (b) Explain the layered technology in software engineering. 5
   (c) Explain in brief the waterfall model with a diagram. 4

2. (a) What are the attributes of a good software? 4
   (b) Define software process. What are the framework activities of a software process? 1+6=7
   (c) Write a short note on the spiral model. 3

UNIT–II

3. (a) What is software requirement analysis? Explain the crucial process steps of requirement engineering with the help of a diagram. 1+8=9
   (b) Explain in brief the components of an ER diagram. 5

4. (a) What are data dictionaries? What are they used for? 1+3=4
   (b) What is SRS? List and explain the characteristics of a good SRS. 1+9=10

UNIT–III

5. (a) What is software quality management? List and explain in brief the three techniques to enhance quality. 1+3=4

(b) What are documentation standards? What are its three types? 1+3=4

(c) Write a note on ISO 9000 with an illustration. 6

6. (a) What are software quality attributes? Write any ten software quality attributes. 1+5=6

(b) Explain the different types of software reviews. 5

(c) What are product metrics in software? Explain its types. 1+2=3

UNIT–IV

7. (a) What are the fundamental software design concepts? 7

(b) What is data flow diagram? Explain the levels of DFD. 1+6=7

8. (a) What are elements of design model? 4

(b) What is architectural level design? Explain with diagrams the different types of architectural styles. 1+9=10

UNIT–V

9. (a) What are the four software testing strategies? 4

(b) List out the differences between verification & validation. 5

(c) Define black box testing. Give its advantages and disadvantages. 1+4=5

10. (a) What are types of system testing? 5

(b) What is basis path testing? Give an example. What are its advantages? 1+2+2=5

(c) Explain the steps for basis path testing. 4