Registration No :

Total Number of Pages : 02

B.Tech
RCS6C001

6th Semester Regular / Back Examination: 2022-23
SOFTWARE ENGINEERING
CST,CSE,CSIT,CSEAIME,ELECTRICAL & C.E.,ELECTRONICS & C.E.,IT
Time : 3 Hour
Max Marks : 100
Q.Code : M509
Answer Question No.1 (Part-1) which is compulsory, any eight from Part-II and any two from Part-III.
The figures in the right hand margin indicate marks.

Part-I

Q1   Answer the following questions: (2 x 10)

a) Write the characteristics of a good SRS document.
b) What do you mean by a software life cycle?
c) What are the major shortcomings of iterative waterfall model?
d) Give an example of a software product development project for which the iterative waterfall model is not suitable.
e) Define Scrum.
f) What are the main shortcomings of DFD as a tool for performing structured analysis?
g) What do you mean by software reverse engineering?
h) What is the difference between black box testing and white box testing?
i) What do you mean by software reengineering?
j) Define SaaS.

Part-II

Q2   Only Focused-Short Answer Type Questions-   (Answer Any Eight out of   (6 × 8)
Twelve)

a) Draw a schematic diagram to represent the iterative waterfall model of software development. On your diagram, represent the deliverables that need to be produced at the end of each phase.
b) Explain how a software development effort is initiated and finally terminated in the spiral model.
c) Suppose you are developing a software product in the organic mode. You have estimated the size of the product to be about 1,00,000 lines of code. Compute the nominal effort and development time.
d) Explain how a DFD model of software can be created from its source code.
e) What do you mean by cohesion and coupling in the context of software design? How are these concepts useful in arriving at a good design of a system?
f) Discuss the major differences between the function oriented and the object oriented approaches to software design. Corroborate your answer through suitable examples.
g) Discuss in brief the different reliability metrics. Draw the diagram for reliability growth model.

h) Write the IEEE 830 guidelines in brief.

i) With help of suitable example, explain how the inheritance feature of the object oriented paradigm helps in code reuse.

j) Discuss the process models for software maintenance and indicate how you would select an appropriate maintenance model for a maintenance project at hand.

k) Explain in brief about RAD model.

l) Describe CMM in brief.

Part-III
Only Long Answer Type Questions (Answer Any Two out of Four)

Q3 Design the black box test suite for a program that accepts two strings and checks if the first string is a substring of the second string and displays the number of times the first string occurs in the second string. **(16)**

Q4 What do you mean by system testing? What are the different kinds of system testing that are usually performed on large software products? Discuss. **(16)**

Q5 Assume that you are the technical manager of a software development organization. A client approached you for a software solution. The problems stated by the client have uncertainties which lead to loss if it is not planned and solved. Which software development model will you suggest for this project – justify? Explain that model with its pros and cons and neat sketch. **(16)**

Q6 What is the purpose of data flow diagrams? What are the notations used for the same? Explain by constructing a context flow diagram level-0 DFD and level-1 DFD for a library management system. **(16)**