**ST. JOSEPH’S COLLEGE (AUTONOMOUS), BENGALURU -27**

Registration Number:

Date & Session

**B.Sc – V SEMESTER**

**SEMESTER EXAMINATION: OCTOBER 2022**

**(Examination conducted in December 2022)**

**CS 5218: Software Engineering**

**Time: 2 ½ Hours Max Marks: 70**

**This paper contains 2 printed pages and 3 parts**

**PART-A**

**Answer all TEN questions (2 X 10 = 20)**

1. List out any four characteristics of a software product.
2. Why is software engineering required?
3. What is SRS? Mention its purpose.
4. Write the four stages of requirement elicitation and analysis phase.
5. Distinguish function oriented and object oriented design.
6. What is coupling? Name two types of coupling.
7. Give an example of a program error that may not cause any failure.
8. What is Software reliability.
9. What formal testing is conducted in Waterfall model and Incremental model?
10. List the 6 major phases of STLC.

**PART- B**

**Answer any FIVE questions (6 X 5 = 30)**

1. Explain different phases of SDLC.
2. Explain Basic COCOMO model.
3. Define Cohesion and state the different types of cohesion.
4. Mention any six principles of agile and Explain.
5. Write a note on software quality assurance.
6. Define black box testing and write the generic steps of black box testing.
7. Define three metrics to measure software reliability. Do you consider these metrics entirely satisfactory to provide measure of the reliability of a system? Justify your answer.

**PART- C**

**Answer any TWO questions (10 X 2 = 20)**

1. Explain spiral model with a neat diagram. Discuss its advantages and disadvantages.
2. a. Explain different phases of system design process with a neat diagram. (6 marks)

b. Draw first level 1 DFD for Banking System. (4 marks)

1. a. List out the differences between functional and nonfunctional requirements

 (6 marks)

b. Suppose a developed software has successfully passed all the three levels of

 testing, i.e., unit testing, integration testing, and system testing. Can we claim

 that the software is defect free? Justify your answer. (4 marks)