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

Registration Number:

Date & Session 5-12-22 ( 9am )

**B.CA – V SEMESTER**

**SEMESTER EXAMINATION: OCTOBER 2022**

**(Examination conducted in December 2022)**

**CA 5218: System Software**

**Time: 2 ½ Hours Max Marks: 70**

**This paper contains 1 printed pages and 3 parts**

**PART-A**

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

1. Differentiate between Compiler and Interpreter.
2. Define USING and LTROG pseudo-ops.
3. List the advantages of assembly language.
4. Write the format of POT.
5. What are the functions of an Assembler?
6. Explain AIF and AGO.
7. What is the use of MDLC?
8. What are ENTRY and EXTRN Statements?
9. Name two types of binders?
10. Write the structure of Uniform Symbol Table.

**PART- B**

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

1. Draw the micro-flow chart for SUB instruction, using Assembly Level Language.
2. Explain general machine structure of IBM 360.
3. List out the databases of Pass2 of an Assembler.
4. Draw the detailed Pass1 flowchart of an assembler.
5. Differentiate between pass1 ALA and pass2 ALA.
6. Discuss the databases used in direct linking loader.
7. Explain in detail concept of context free grammar.

**PART- C**

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

1. a. Explain in detail IBM 360 instruction formats. (6 marks)

b. Sort the following numbers using Shell Sort. (4 marks)

19, 13, 5, 27, 1, 26, 31, 16, 2, 9, 11, 21.

1. With a flowchart explain two pass macro processor.
2. a. Explain absolute loader and draw the flowchart for the design of

absolute loader. (6 marks)

b. Explain machine dependent optimization. (4 marks)