

Roll No. \_\_\_\_\_

**PGIIS-N 1036 A-2K13**  
**M.Sc. IIInd Semester (CBCS) Degree Examination**

**Computer Science**  
**(System Software)**  
**Paper -SCT 2.1**  
**(New)**

Time : 3 Hours

Maximum Marks : 80

**Instructions to Candidates:**

- 1) Section 'A' is **compulsory**.
- 2) Answer any five questions from section B.

**Section - A**

Answer the following :

**(10×2=20)**

1. a) What is a compiler? Give examples.  
b) What are assembler directives?  
c) What is the use of linkage editor?  
d) Define a macro. Give example.  
e) What is a nested macro call? Give an example.  
f) List the features of YACC.  
g) Define multiprogramming  
h) Differentiate between system software and application software.  
i) Compare CISC and RISC machine architecture.  
j) List the statements present in a macro definition.

**Section - B**

2. a) Explain the main features of ultra SPARC architecture. (6)  
b) Compare one-pass and two pass assemblers. (6)
3. a) Explain registers, instruction formats and addressing model of CISC machine. (6)  
b) Write algorithm of pass 1 of two - pass assembler. (6)
4. a) Explain bootstrap loader. (6)  
b) What is conditional macro definition? Explain with an example. (6)
5. a) Explain how loading and calling of a subroutine can be done using dynamic linking (6)  
b) What is macro processor? Explain the machine dependent and machine independent features of a macro processor. (6)
6. a) Explain different phases of a compiler design with a neat diagram. (6)  
b) What is lexical analysis? Explain the role of finite automata in lexical analysis with example. (6)
7. a) Explain the working of linkage editor with a neat block diagram. (6)  
b) Explain various data structures used for linking loader. (6)
8. Write notes on the following : (6×2=12)
  - a) LEX
  - b) MASM assembler