

**Note: Section A is compulsory. Attempt any Four questions from Section B and two from Section C**

**SECTION A MARKS 2 EACH**

- a) What are the salient features of DOS editor?
- b) Differentiate between full screen editor and multi window editor.
- c) What is the need of assemblers?
- d) What do you understand by parse tree? How is it different than syntax tree?
- e) Define finite automata.
- f) List the various software tools used for debugging.
- g) What is dynamic binding?
- h) What are the real operating systems?
- i) List the functions of loaders.
- j) What is the purpose of shells in operating systems?.

**SECTION B MARKS 5 EACH**

- Q2) Discuss with the help of examples different types of tools used to design compilers.
- Q3) Explain the working of two pass assembler with an example. Draw the flowchart of two pass assembler also.
- Q4) Describe the working of shift reduce parser with an example.
- Q5) What do you understand by memory management techniques in operating systems? Explain them.
- Q6) Design a deterministic finite automata(DFA) that accepts the language  $(a|b)^*abb$ .

**SECTION C MARKS 10 EACH**

- Q7) Differentiate between the following:
  - a) LEX and YACC.
  - b) Syntax and Semantics.
- Q8) What are the assembler directives? Explain the function of EQU,START.
- Q9) What are the three major areas in which the operating system divides its services? Give examples and explain.