No. of Printed Pages—2

645 (SP)

[19HRGPKAC-D6S19M]

BCA 6th Semester Exam., 2019 (S)

SYSTEM PROGRAMMING

[BCA (S6) 19]

Full Marks : 80

Time : 3 hours

The figures in the margin indicate full marks for the questions

1. Answer the following questions : 1×8=8

(a) Give the purpose of a language processor.

(b) Define finite state automaton.

(c) Define dynamic linking.

(d) What are mnemonics opcode?

(e) Define ambiguous grammar.

(f) Define predictive parsing.

(g) What are global symbols and local symbols?

(h) Give the difference between DFA and NFA.

2. Answer the following questions : 2×8=16

(a) Define formal language and give an example.

(b) Give the syntax of assembly language statement.

(c) What is bootstrap loader?

(d) What is bottom-up parsing?

(e) Give the use of symbol table.

(f) Give two advantages of direct linking loader.

(g) Name the four components of grammar.

(h) Differentiate between linking and loading.

3. Answer any *five* from the following questions : 4×5=20

(a) Differentiate between static binding and dynamic binding.

(b) What are the functions of a loader?

(c) How is using assembly language better than machine language?

(d) Give the contents of an object file.

(e) Describe the different types of statements in assembly language.

(f) Differentiate between pure and impure interpreter.

4. Answer any *two* from the following questions : 8×2=16

(a) Define language processor. Describe the different types of language processor.

(b) Define NFA. What are the different parts of an NFA? Draw an NFA to represent the regular expression "1(0 | 1)*10".

(c) Describe the data structure of an assembler.

5. Answer any *two* from the following questions : 10×2=20

(a) Describe the synthesis and code optimization phases of a compiler using examples.

(b) Give the working of "compile and go" loader. Give two advantages and disadvantages of this loader.

(c) Define parsing. What are the different types of parser? Give the role of a parser.

★★★