Total number of printed pages–4

3 SEM BCA (CBCS) 4

2018

(December)

COMPUTER APPLICATION

Paper : 3·4

(Introduction to System Software)

Full Marks : 60

Time : Three hours

The figures in the margin indicate full marks for the questions.

1. Answer ***any ten*** from the following : 1×10=10

(i) What is a language processor ?

(ii) What is the function of MEND statement ?

(iii) What is a symbol table ?

(iv) Define syntax directed translation.

(v) What is a macro ?

(vi) What is parse tree ?

(vii) Define ambiguity in grammatic specification.

Contd.

(viii) What is the fundamental principle of language processing?

(ix) What is a computer?

(x) Define record base.

(xi) Define refer record and define record.

(xii) Define intermediate representation.

(xiii) What is lexical macro expansion?

(xiv) What is an assembly process?

(xv) What is semantic macro expansion?

2. Answer **any five** from the following : 2×5=10

(i) Explain, in brief, the activities associated with language processing with a suitable diagram.

(ii) Describe, in brief, the design of an assembler.

(iii) Define macro.

(iv) What is macro expansion?

(v) What is the difference between a system software and an application software?

(vi) What is an interpreter? State and explain different types of interpreter.

(vii) Define loading, linking and relocation.

(viii) Describe, in brief, the phases of a computer.

(ix) Describe, in brief, LC processing.

(x) State the role of linking for resolving external references.

3. Explain the two pass and single pass of an assembler. 4

4. Explain the process of derivation and reduction in parse tree with proper diagram. 4

OR

Describe nested macro calls with an example. 4

5. Explain the concept of object module in program relocation and linking. 4

6. Explain the process of top-down parsing. State the criteria for the implementation of factoring and recursion during the process. 4

7. Describe the design specification of macro preprocessor. 4

OR

Describe the design of a linker. 4

8. Write the algorithm for program linking describing the features of the programming language, influencing linking requirements. 4

9. Describe different types of loader with proper diagram. 4

OR

Describe the process of code optimization. 4

10. Describe macro expansion with the help of algorithm. 4

OR

Explain the process of flow of control during macro expansion. 4

11. Write the algorithm for macro expansion. 4

OR

Describe the design and pass structure of macro assembler. 4

12. Describe the programming logic of Pass 1 and Pass 2 of the linking loader. 4

OR

Write the algorithm for program relocation. 4
