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SG – 632

VI Semester B.C.A. Examination, September/October 2021
(CBCS) (F + R) (2016 – 17 and Onwards)
COMPUTER SCIENCE
BCA 602 : System Programming

Time : 3 Hours



Max. Marks : 100

Instruction : Answer *all* Sections.

SECTION – A

- I. Answer **any ten** questions. **Each** question carries **two** marks. (10×2=20)
- 1) Define compile time and load time.
 - 2) What are the functions of a loader ?
 - 3) Explain BCT and LTOrg pseudo-ops.
 - 4) What is symbol table ?
 - 5) Mention any two disadvantages of radix sort.
 - 6) Write the four basic task that can be performed by macro-instruction processor.
 - 7) What is ALA ?
 - 8) What are overlays ?
 - 9) Mention two types of cards used in direct linking loader.
 - 10) Define relocation factor.
 - 11) List three basic tasks of lexical phase.
 - 12) What are tokens ? Give an example.

SECTION – B

- II. Answer **any five** questions. **Each** question carries **five** marks. (5×5=25)
- 13) Explain any five registers of IBM 360/370 machine.
 - 14) Explain with a flowchart the pass 1 overview of an assembler.
 - 15) Explain shell sort with an example.
 - 16) Explain conditional macro expansion.
 - 17) Explain compile-and-go loader with a diagram.
 - 18) Explain relocatable, non-relocatable and self relocatable programs.
 - 19) Explain the general model of a compiler.
 - 20) Write a note on machine independent optimization.

P.T.O.



SECTION - C

- III. Answer **any three** questions. Each question carries **fifteen** marks. (3×15=45)
- 21) a) Explain the general machine structure IBM 360/370 with a neat diagram. 8
 - b) Draw the micro flow chart for ADD instruction. 7
 - 22) a) Explain database used in pass 1 and pass 2 of assembler. 8
 - b) Illustrate binary search with an example. 7
 - 23) a) Explain the design of absolute loader with an example. 8
 - b) Explain relocating loaders. 7
 - 24) a) Explain the different phases of a compiler. 10
 - b) Write a note on macro instruction arguments. 5
 - 25) Write short notes on :
 - a) Dynamic loading. 5
 - b) Assembler directives. 5
 - c) EXTRN and ENTRY statements. 5

SECTION - D

- IV. Answer **any one** question. Each question carries **ten** marks. (1×10=10)
- 26) a) Explain any 5 pseudo ops used in assembly language program. 5
 - b) Explain macro instructions defining macros with an example. Explain time sharing OS. 5
 - 27) Define direct linking loader. What are the four different types of cards produced by the direct linking loader. Discuss. 10
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