



US – 645

VI Semester B.C.A. Examination, May 2017
(2016-17 and Onwards) (CBCS)
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 : (2×10=20)

- 1) Define compiler, assembler.
- 2) What are the functions of a Loader ?
- 3) Explain PSW.
- 4) What is Instruction Interpreter ?
- 5) Write the format of POT.
- 6) What is a symbol table ? Give its format.
- 7) Differentiate between a macro and subroutine.
- 8) What is an argument list array ?
- 9) What are overlays ?
- 10) What is dynamic loading ?
- 11) What are the three classes of uniform symbols ?
- 12) Define local and global optimization.

SECTION – B

II. Answer **any five** questions, **each** question carries **five** marks. (5×5=25)

- 13) Explain open subroutine and closed subroutine with an example.
- 14) Explain different instruction formats of IBM 360/370 machine.
- 15) Explain address modification using instruction as data.
- 16) Explain shell sort with an example.

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- 17) Explain pass-2 overview of an assembler with flow-chart.
- 18) Explain macro definitions with an example.
- 19) Describe four types of cards used in direct linking loader.
- 20) Explain intermediate phase with an example.

SECTION – C

III. Answer **any three** questions, **each** question carries **fifteen** marks. (3×15=45)

- 21) a) Explain the general machine structure of IBM 360/370 with a neat diagram. 7
- b) Draw the detailed PASS-1 flow-chart of an assembler. 8
- 22) a) Explain databases used in PASS-1 and PASS-2 of assembler. 8
- b) Explain different data formats used in IBM 360/370 with an example. 7
- 23) a) Explain simple one pass macro processor. 10
- b) Explain conditional macro expansion. 5
- 24) a) Explain design of absolute loader with a neat diagram. 8
- b) Explain direct-linking loaders. 7
- 25) a) Explain the passes of compiler with neat diagram. 10
- b) Discuss briefly about lexical phase of compiler. 5

SECTION – D

IV. Answer **any one** question, **each** question carries **ten** marks. (1×10=10)

- 26) With a neat diagram explain the structure of compiler. 10
- 27) Write short note on :
 - a) Relocating loaders. 5
 - b) Draw the micro flow-chart of ADD instruction. 5