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 : (2x10=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. (5x5=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.

P.T.O.
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. (3x15=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. (1x10=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