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.

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.　　(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