CB – 481

VI Semester B.C.A. Examination, August/September 2023
(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

Answer **any 10** questions. **Each** question carries **two** marks. **(10×2=20)**

1. What is the difference between compiler and interpreter ?
2. What are the functions of a loader ?
3. List any two advantages of assembly language.
4. What is PSW ?
5. Mention the different types of sorting techniques.
6. What is a macro ? Write down its syntax.
7. What is a symbol table ? Give its format.
8. Define AIF and AGO.
9. Explain EXTRN pseudo-op.
10. Define relocation factor.
11. Mention any 4 components of SP.
12. Mention different phases of compiler.

SECTION – B

Answer **any five** questions. **Each** question carries **five** marks. **(5×5=25)**

13. Explain the general machine structure with a neat diagram.
14. Explain bucket sort with an example.
15. Explain pass 2 of assembler with a neat flowchart.

P.T.O.

16. Explain macro definition with arguments with an example.

17. Explain general loader with a neat diagram.

18. Explain absolute loader with a neat diagram.

19. Explain the databases used in lexical analysis phase of a compiler.

20. Explain intermediate phase with an example.

SECTION – C

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

21. a) Draw the detailed PASS-1 flowchart of an assembler. **7**
    b) Explain various types of instruction formats used in IBM 360. **8**

22. a) Perform shell sort for the following numbers : **10**

    45, 23, 53, 43, 18, 24, 8, 95, 101

    b) Mention the databases of pass 1 and pass 2 of an assembler. **5**

23. a) Explain macro instructions defining macros with an example. **7**
    b) Explain conditional macro expansion. **8**

24. a) Explain the overlay structure for linking. **7**
    b) Explain direct linking loaders. **8**

25. a) Explain the structure of a compiler with a neat diagram. **8**
    b) Explain the semantic phase of compiler. **7**

SECTION – D

Answer **any one** question. Question carries **ten** marks. **(1×10=10)**

26. a) Explain any five pseudo ops in assembly language program. **5**
    b) Explain long way no looping. **5**

27. Write short notes on :
    a) Pass 2 of a macroprocessor. **5**
    b) Dynamic loading. **5**