# Priyadarshini College of Engineering, Nagpur
## Sessional Examination (2023-24) ODD Semester
### B.Tech. Third Semester(Information Technology)(C.B.C.S)
### System Programming

P. Pages: 2  
Duration : Three Hours

PCE/KW/23/BEIT305T  
Max. Marks: 70

Notes:
1. All questions carry marks as indicated.
2. Solve Question 1 or Question 2.
3. Solve Question 3 or Question 4.
4. Solve Question 5 or Question 6.
5. Solve Question 7 or Question 8.
6. Solve Question 9 or Question 10.
7. Due credit will be given to neatness and adequate dimensions
8. Assume suitable data wherever necessary.
9. Illustrate your answers whenever necessary with the help of neat sketches.

| Q. No. | | Question | CO | BT | Marks |
|---|---|---|---|---|---|
| Q1 | a) | Draw and Explain General Machine Structure IBM 360/370. | CO1 | 2 | 7 |
| | b) | Explain key steps in System software development. | CO1 | 2 | 7 |
| | | OR | | | |
| Q2 | a) | Explain in details the variuos data formats used in assembler?Explain. | CO1 | 2 | 7 |
| | b) | Differentiate between the following:<br>a. Compiler and Interpreter.<br>b. Process and program | CO1 | 3 | 7 |
| Q3 | a) | Illustrate the elements of assembly language programming. | CO2 | 3 | 7 |
| | b) | Draw and explain flowchart of Pass I Assembler | CO2 | 2 | 7 |
| | | OR | | | |
| Q4 | a) | Explain flowchart and algorithm of Pass II Assembler. | CO2 | 2 | 7 |
| | b) | Give the elements of assembly language programming. | CO2 | 2 | 7 |
| Q5 | a) | Explain one pass macroprocessor. | CO3 | 2 | 7 |
| | b) | Explain Conditional Macro expansion with example. | CO3 | 2 | 7 |
| | | OR | | | |
| Q6 | a) | Explain the Macro Definition and Macro calls in detail. | CO3 | 2 | 7 |
| | b) | GET MDT, MNT and ALA for the following code fragment. | CO3 | 2 | 7 |

1

```
        MACRO
        XYZ          &A
        MACRO
        &A           &B
        MACRO
        &B           &C
        ST           15, A(&C)
        BALR         14, 15
        L            I = I' I'
        X            I & C
        ST           L, & C
        MEND
        MEND
        MEND
PROG    START
        BALR
         :
        XYZ          MIT
        MIT          HELLO
        HELLO        D1
D1      DC           F'10'
        END
```

Q7  a)  Define Loader? Explain task of Loader.  CO4  2  7

    b)  Explain Absolute Loader Scheme with advantages and Disadvantages.  CO4  2  7

**OR**

Q8  a)  Explain General loader scheme in detail.  CO4  2  7

    b)  Explain compile and go loaders in detail  CO4  2  7

Q9  a)  What is debugger & explain debugging procedure in detail.  CO5  2  7

    b)  Describe Java Virtual machine.  CO5  2  7

**OR**

Q10 a)  Explain errors and its types.  CO5  2  7

    b)  What are Different phases of Compiler design.  CO5  2  7

*** ALL THE BEST ***