

**IM.Sc. (CS) (NEP) Sem.-4 Examination  
System Software**

**Time : 2.30 Hours]****July-2025****[Max.Marks : 25**

- Q.1** 1. What is intermediate representation in an Assembler? Explain giving suitable examples. 5+5  
2. Explain any four advanced macro facilities.

**OR**

- Q.1** 1. Write assembly language code which performs the following 5+5  
1. Add two numbers  
2. Display whether the result of above addition is odd or even  
2. Differentiate between Positional, Keyword and keyword default parameters

- Q.2** 1. How does order of evaluation of operators in an expressions can affect the efficiency of the code generated ? Explain giving suitable example. How can we determine best order of evaluation. 5+5  
2. What do you understand by optimizing compiler? How compiler can eliminate common sub expression from the code locally.

**OR**

- Q.2** 1. Answer The following 5+5  
(a) What information an object module of a program contains? Explain the need and rational of each of the object module components.  
(b) Explain the structure and purpose of following Intel 8088 object module records : LNAMEs, EXTDEF  
2. Give algorithm for linking explaining each step in your own words.

- Q.3 Answer any 5 out of 6** 5

- 1 'MOVEM' instruction moves data from memory to register. (True/False) (Justify)
- 2 Give instruction format of assemble language.
- 3 Mention 4 segment registers of Intel 8088 processor.
- 4 An entry statement in a program unit lists the symbols to which external references are made in the program unit. (True/False) (Justify)
- 5 An address sensitive instruction in a program is an instruction that contains relative memory address. (True/False) (Justify)
- 6 Define specification gap.