SARDAR PATEL UNIVERSITY

MASTER OF COMPUTER APPLICATIONS
SEMESTER – III EXTERNAL EXAMINATIONS
PS03CMCA24 (System Software)
Monday, Nov 26th, 2018

Time: 2:00 pm to 5:00 pm   **Max. Marks: 70**

Q-1   Choose the most appropriate option for each question: [8]

1. The data bus of 8086 is of _____ bits

   A. 8   B. 16
   C. 24   D. 32

2. _____ is not an example of the 8086 control flags.

   A. SF   B. IF
   C. ZF   D. None of these

3. The _____ instruction determines the offset of the variable or memory location named as the source and puts this offset in the indicated 16-bit register.

   A. MOV   B. OFFSET
   C. LEA   D. None of these

4. The first pass constructs the _____ of the source program for use by the second pass.

   A. Mnemonic table   B. Symbol table
   C. Link table   D. None of these

5. _____ directive indicates the first word of the target program generated by the assembler should be placed in the memory word

   A. BEGIN   B. OPEN
   C. STORE   D. START

6. The in TII entry is a pair of (<instruction address>,_____)

   A. <symbolic constant>   B. <opcode>
   C. <Instruction>   D. <symbol>

7. In any syntax tree ,operator appear as the _____ node.

   A. interior   B. Children
   C. Exterior   D. Root

8. The characters remaining in the input do not form any token of the language: this kind of errors can be detected at _____ analysis.

   A. Syntax   B. Linear
   C. Semantic   D. None of these

①

(P.T.O)

Q-2 Answer the following questions (Any Seven): [14]

1. What is the meaning of 'n' in n-bit microprocessor.
2. Define: 1) Semantic Gap 2) Specification gap
3. Write 8086 assembly interrupt code used for displaying single character output to user.
4. List and explain different types of Real time system.
5. What is an Imperative statement? Give its examples.
6. Define: 1) Lexical expansion 2) Semantic expansion.
7. Explain different functions performed by Preprocessors.
8. List the reasons for changing the origin of any program by the linker or loader.
9. Draw the diagram showing a schematic of program execution.

Q-3 Answer the following questions:

A. List and explain different types of active flags available on 8086 Microprossesor architecture. [6]

B. Justify that "Introduction of PL domain reduces the severity of the consequences of semantic gap" [6]

OR

B. Write an assembly program to input a character and convert it in its equivalent ASCII value. [6]

Q-4 Answer the following questions:

A. Write a short note on Macro definition. [6]

B. List and explain different types of Conditional Transfer Assembly Statements. [6]

OR

B. Explain Pass structure of Assemblers. [6]

Q-5 Answer the following questions:

A. Justify that "Literal differs from an immediate operand as constant". [6]

B. Explain the process of single pass translation in detail. [6]

OR

B. Discuss the context of a compiler. [6]

Q-6 Answer the following questions:

A. Discuss different tasks performed by peripheral chips embedded in 8086 processor. [6]

B. Explain how external references are resolved by linkers. [6]

OR

B. Write a note on debug monitors. Explain the steps in dynamic debugging of programs. [6]