

[75]

SARDAR PATEL UNIVERSITY
BCA(3rd SEM) – NC EXAMINATION January – 2021
US03EBCA01 – INTRODUCTION TO MICROPROCESSORS

5th January, 2021, Tuesday

Time : 2 :00 PM to 4 :00 PM

Marks: 70

Q. 1 Multiple Choice Questions (One marks each)**[10]**

- 1 The _____ are used to balance power supply in computer.
 (A) Transistors (B) Capacitors (C) Microchips (D) None of these
- 2 A flag is one type of _____.
 (A) Latch (B) Gate (C) Flip-Flop (D) None of these
- 3 The assembler list file extension is _____.
 (A) .obj (B) .lst (C) .lis (D) None of these
- 4 DIV stands for _____.
 (A) Division (B) Signed Division (C) Unsigned Division (D) None of these
- 5 AND – AND corresponding _____ operands.
 (A) Bits of two (B) Bytes of two (C) Words of two (D) All of these
- 6 NOT stands for _____.
 (A) Negative (B) Nothing (C) Invert all byte (D) Inver each bit
- 7 SHR – Shift operand _____ Right, put zero in _____.
 (A) Bits, LSB (B) Bytes, LSB(s) (C) Bytes, MSB (D) Bits, MSB(s)
- 8 JZ is executed when the zero flag is _____.
 (A) reset (B) set (C) undefined (D) None of these
- 9 The full form of DB directive is _____.
 (A) Data Byte (B) Define bits (C) Define Byte (D) None of these
- 10 The END directive ends the _____.
 (A) segment (B) program (C) procedure (D) None of these

Q. 2 Fill in the blanks and True / False. (One marks each)**[08]**

- 1 Embedded Controllers are also called microcontrollers. (True / False)
- 2 The _____ is responsible for decoding and executing instructions.
- 3 CF indicates Common Flag. (True / False)
- 4 AAA stands for _____.
- 5 LOOZ means – LOOP WHILE CX≠0 and ZF=1. (True / False)
- 6 ROL stands for Rotate _____ of Operand Left.
- 7 The SEGMENT directive is used to indicate the end of logical segment.
 (True/False)
- 8 There are _____ types of control structure in assembly language programming.

[11]

[110]

Q. 3 Short answer questions (Attempt any 10 out of 12)

[20]

- 1 Define Microprocessor and name its components.
- 2 Explain the terms : 1] ALU , 2] Flag
- 3 What is Pipelining?
- 4 Explain CMP instruction with example.
- 5 State the INC – Increment instruction.
- 6 Explain the following description:
1] OR AH, CL
2] OR BP, SI
- 7 What do you mean by conditional JUMP? Explain with example.
- 8 Explain LOOPZ instruction with example.
- 9 MOV CL, 04H
ROL BL, CL
Describe above code.
- 10 Draw structure of a typical assembly program.
- 11 List all loop structure and write syntax of any one of them.
- 12 What is the use of PAGE and TITLE directive in assembly program?

Q. 4 Long answer questions (Attempt any 4 out of 8)

[32]

- 1 Explain 8086 internal architecture with diagram.
- 2 Explain conditional flags in detail.
- 3 Describe ADD and SUB instruction with example.
- 4 Explain Logical instructions in detail.
- 5 Write a short note on ROL and ROR instruction with example.
- 6 Explain JZ and JNC instruction with example.
- 7 Explain Assembler Directives and Describe any three in detail with example.
- 8 List control structure. Explain any one in detail.

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