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SARDAR PATEL UNIVERSITY
SYBCA Third Semester EXAMINATION CBCS
22/11/2013 (Friday)
Introduction to Microprocessors- US03EBCA01
Time: 2.30 pm – 4.30 pm **Total Marks: 70**

Q.1 Select most appropriate single answer: **[10]**

1. The _____ is responsible for performing all external bus operations.
   (A) EU (B) BUS (C)BIU (D) ALU
2. A flag is a one type of _____.
   (A) Latch (B) Gate (C) Flip-Flop (D) None of these
3. AAA stands for _____.
   (A) Adjust for Addition (B) Adjust After Addition
   (C) ASCII Adjust for Addition (D) None of these
4. In AND instruction which flags are reset?
   (A) PF, OF (B) CF, OF
   (C) PF, CF (D) None of these
5. NOT stands for _____.
   (A) Negative (B) Nothing
   (C) Invert all Byte (D) Invert each Bit
6. Assume BL = 5BH
   AND BL, 2AH
   What is the value of BL register?
   (A) A0H (B) 5AH
   (C) FBH (D) 0AH
7. SHR – Shift operand _____ Right, put zero in _____.
   (A) Bits, LSB (B) Bytes, LSB(s)
   (C) Bytes, MSB (D) Bits, MSB(s)
8. The full form of DB directive is _____.
   (A) Data Byte (B) Define Bits
   (C) Define Byte (D) None of these
9. In REPEAT-UNTIL structure the action(s) is done once _____ condition is checked.
   (A) After (B) before
   (C) in the structure (D) None of these
10. The SEGMENT directive is used to indicate the _____ of logical segment.
    (A) start (B) end
    (C) address (D) None of these

Q.2 Write Answers in short. Attempt Any Ten. **[20]**

1. Explain the following terms:
   1) ALU 2) Flag
2. Explain the concept of Assembler?
3. What physical address is represented by 3272:561BH ?
4. State the INC – Increment instruction.
5. Explain OR instruction with example.
6. Explain the instruction AND AH, CL with description.
7. Describe below code.
   MOV CL, 04H
   ROR AL,CL
8. Differentiate between SHL and SHR.
9. MOV AL,98H
   SHL AL,1
   What will be the content of AL register?
10. Explain DB directive.
11. Explain END directive.
12. Explain structure of assembly program.

Q.3	Draw the diagram of 8086 internal architecture Also explain BIU of 8086 Architecture.	[10]
	OR	
Q.3		
[A]	Explain Instruction pointer in detail.	[5]
[B]	Explain EU in detail.	[5]
Q.4		
[A]	Explain DIV instruction by taking appropriate examples.	[5]
[B]	Write a short note on CMP instruction.	[5]
	OR	
Q.4		
[A]	Explain NEG instruction by taking appropriate example.	[5]
[B]	Write a short note on ADC instruction.	[5]
Q.5		
[A]	Explain ROR instruction with example.	[5]
[B]	Explain LOOPZ instruction with example.	[5]
	OR	
Q.5		
[A]	Explain ROL instruction with example.	[5]
[B]	Explain JE instruction.	[5]
Q.6		
[A]	Explain the IF structure with example.	[5]
[B]	Which are the Looping structures? Explain any one in detail.	[5]
	OR	
Q.6		
[A]	Write a program for Multiplication of Two Numbers. (without using MUL instruction)	[5]
[B]	Explain Assembler directives: ASSUME, LABEL, and SEGMENT.	[5]

*** *All the Best* ***