[40/A-14]
Eng
SEAT No._____   No. of Printed Pages : 02

SARDAR PATEL UNIVERSITY
T.Y.B.Sc : SEMESTER–VI
COMPUTER SCIENCE
US06CCSC04 : Introduction to Microprocessors and Assembly Languages
Date: 02-04-2018, Monday   Time: 10:00am to 01:00pm   Max. Marks: 70

Q.1 Multiple choice of Question: **10**

[1] The ASSUME directive is used to tell the assembler the name of the _____ segment it should use for a specified segment.
   (a) Physical   (b) Logical
   (c) Both (a) & (b)   (d) None of above

[2] The _____ directive is used to declare a byte-type variable, or to set aside one or more storage locations of type byte in memory.
   (a) DB   (b) DT   (c) DD   (d) None of above

[3] The _____ directive is used to identify the start of a procedure.
   (a) PROC   (b) PTR   (c) EXTRN   (d) OFFSET

[4] The following instruction adds 1 to contents of BL register.
   (a) INC CX   (b) INC BL   (c) INC DX   (d) None of these

[5] _____ instruction rotates all bits in BL, right 1 bit position LSB to MSB and to CF.
   (a) ROR BL, 1   (b) ROR BL, 2
   (c) ROR BL, 3   (d) None of these

[6] The following instruction replaces number in AL with its 2's complement.
   (a) NEG BX   (b) NEG AL   (c) NEG DX   (d) None of these

[7] The instruction _____ is used to repeat a group of instruction some number of times or until the zero flag becomes 1.
   (a) LOOPNE   (b) LOOPNT
   (c) LOOPNM   (d) None of these

[8] The instruction _____, Jump to label RUN_PRESS if AX below 4371H.
   (a) JB RUN_PRESS   (b) JA RUN_PRESS
   (c) JN RUN_PRESS   (d) None of these

[9] _____ Structures are structures that are stepped through sequential.
   (a) Sequential   (b) Non-sequential
   (c) Index   (d) None of these

[10] An _____ loop is one that has no exit.
   (a) finite   (b) Infinite   (c) Index   (d) None of these

Q.2 Attempt any 10 questions: **20**

[1] What is EXTRN?
[2] What is END, ENDP and ENDS?
[3] What is Instruction Pointer?
[4] Explain MUL instruction with example.
[5] Explain the MOV instruction.
[6] What is the function of ADD instruction?
[7] What is CLD processer control instruction?
[8] What is the use of LOOP instruction?
[9] What is STI processer control instruction?
[10] What is the use Stack Segment?

[11] What is a Looping structure?

[12] What is Decision?

Q.3 Write detailed note on 8086 internal architecture: Execution unit and Bus Interface unit.   10

OR

Q.3 [A] Explain in detail the Flags Registers.   5

[B] Explain in brief the Segment Registers.   5

Q.4 [A] Explain (1) DEC and (2) CMP Instructions with examples.   5

[B] Explain (1) IDIV and (2) IMUL Instructions with examples.   5

OR

Q.4 [A] Explain (1)LEA and (2) XCHG Instructions with examples.   5

[B] Explain (1) SHR and (2) OR Instructions with examples.   5

Q.5 Explain the following instructions with example.   10
     1. JGE/JNL   2. JMP   3. JPO   4. JNS

OR

Q.5 [A] Explain the SCAS / SCASB / SCASW instructions with example.   5

[B] Explain the LODS / LODSB / LODSW instructions with example.   5

Q.6 [A] Explain in brief the structure of a typical assembly program.   5

[B] Write short note on how IF... THEN...ELSE structure is implemented in Assembly program.   5

OR

Q.6 [A] Write short note on implementation of looping structures: WHILE-DO.   5

[B] Write short note on how multiple IF...THEN...ELSE (Do Case) structure is implemented in Assembly program.   5

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