

INTERNATIONAL CENTRE FOR APPLIED SCIENCES (Manipal University) III SEMESTER B.S. DEGREE EXAMINATION –MAY 2016 SUBJECT: COMPUTER ORGANIZATION AND ASSEMPLY LANGUAGE PROGRAMMING (CS232) 21ST MAY, 2016

Reg. No.

Time: 3 Hours

Max. Marks: 100

✓ Answer ANY FIVE full Questions.

1A. Explain with neat diagram, the internal architecture of 8086 microprocessor with function of execution unit and bus interface unit.

1B. Explain following addressing modes with an example

- i) Immediate
- ii) Direct
- iii) Register
- iv) Based Indexed
- v) Register Relative

(10+10)

- 2A. What is the output of the following sequence of 8086 instructions execution and where the result is stored (Show the contents of the resultant memory locations)?
 - MOV AX, 2000H MOV DS, AX **MOV SI, 300H** MOV CX, 10 MOV BL, 1 L2: MOV AL, 0 MOV DL, BL L1: ADD AL, BL DAA DEC DL JNZ L1 MOV [SI], AL INC BL INC SI LOOP L2
- 2B. Illustrate the operation of the following 8086 instructions with sample code snippet. i) XLATB ii) CMPSB
- 2C. Identify the addressing modes used in the following instructions:
 - i) MOV AL, 10 ii) MOV CL, [SI] iii) ADD [BX+SI], AL
 - iv) MOV AX, [BX +DI+100H] v) MOV AL, [BX + 3]

(5+(5X2)+(1X5))

- 3A. Differentiate between
 - i. macro and procedure
 - ii. near jump and far jump with example
- 3B. Write a program in 8086 to check whether the string is palindrome or not. Read the string from the console until enter key is pressed. Display appropriate message on the screen.

((5+5)+10)

- 4A. Explain the following BIOS interrupt function requests:
 - (i) To set cursor shape
 - (ii) To read cursor position
- 4B. Write a program using 8086 instructions to find the sub string in main string. Accept both sub string and main string from the keyboard, display appropriate message on the screen ((5X2)+10)
- 5A. Differentiate between SAR and SHR with suitable example.
- 5B. Write a program in 8086 to find a substring in a main string.
- 5C. Explain the actions taken by 8086 during interrupt.

(4+10+6)

- 6A. Explain with the help of a neat block diagram the functional units of M68HC11 CPU.
- 6B. Explain all addition and subtraction instructions of M68HC11 with examples. Specify the addressing modes used by the instructions.

(10+10)

- 7A. Explain status polling and interrupt control simple strobed mode parallel I/O in M68HC11 microcontroller
- 7B. Explain XIRQ Interrupts with neat diagram.
- 8A. Explain the following BUFFALO ROM commands:i) MM ii)RM iii) BR iv) MD v) GO(G)
- 8B. Explain the sources of reset in M68HC11

(10+10)

(10+10)

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