

**DIPLOMA - VIEP - ELECTRONICS AND
COMMUNICATION ENGINEERING (DECVI)**

**Term-End Examination
June, 2015**

00596

BIEL-036 : MICROPROCESSOR

Time : 2 hours

Maximum Marks : 70

*Note : Attempt any **five** questions. Question no. 1 is compulsory. Use of scientific calculator is permitted.*

1. Choose the correct answer for the following : $7 \times 2 = 14$

(a) Purpose of READY signal is

- (i) to indicate to user, that microprocessor is working and ready for use.
- (ii) to provide for proper WAIT states when microprocessor (μP) is communicating with slow peripheral devices.
- (iii) to provide for slowing down of fast peripheral devices so as to communicate.
- (iv) None of the above

- (b) The addressing mode used in instruction LDA 0345 H is
- (i) Direct
 - (ii) Indirect
 - (iii) Indexed
 - (iv) Immediate
- (c) Number of address bus lines in 8085 microprocessor is
- (i) 6
 - (ii) 8
 - (iii) 12
 - (iv) 16
- (d) Stack used in 8085 microprocessor is
- (i) FIFO
 - (ii) LIFO
 - (iii) FILO
 - (iv) None of the above
- (e) When a subroutine is called, the address of instruction following the CALL instruction is stored in
- (i) Stack pointer
 - (ii) Accumulator
 - (iii) Program counter
 - (iv) Stack

- (f) The instruction RST 7 is a
- (i) restart instruction that begins the execution of a program
 - (ii) one-byte call to memory address 0038H
 - (iii) one-byte call to memory address 0007H
 - (iv) hardware interrupt
- (g) The direction of address bus is
- (i) Unidirectional into μP
 - (ii) Unidirectional out of μP
 - (iii) Bidirectional
 - (iv) Mixed direction is used, some lines into μP and some lines out of μP

2. What is addressing mode ? Explain the various addressing modes of 8085 with examples. 14
3. (a) Draw and explain the internal diagram of ALU. 7
- (b) Sixteen bytes of data are stored in memory locations at 2050H to 205FH. Write a program to transfer the entire block of data to new memory location starting at 2070H. 7
4. (a) List the elements of 8255 Programmable Peripheral Interface and explain its various operating modes. 8

- (b) Explain the following in the context of 8086 : 6
- (i) $\overline{\text{BHE}}$
 - (ii) $\text{DT}/\overline{\text{R}}$
 - (iii) $\overline{\text{TEST}}$
5. (a) What is a subroutine ? Also explain the instructions CALL and RET. 7
- (b) Define the stack, the stack pointer and the program counter. Also give their uses. 7
6. (a) Explain the difference between peripheral mapped and memory mapped I/O techniques. 7
- (b) Explain the instructions EI, DI and RST and their functions in the 8085 interrupt process. 7
7. Write short notes on any *two* of the following : $2 \times 7 = 14$
- (a) 80386 Microcontroller
 - (b) A/D and D/A Converter
 - (c) Programmable Interval Timer 8253
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