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BIEL-036

DIPLOMA – VIEP – ELECTRONICS AND COMMUNICATION ENGINEERING (DECVI)

Term-End Examination

December, 2015

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 : *7×2=14*

(a) Program counter

(i) counts the number of programs run in the machine.

(ii) counts the number of times a subroutine is called.

(iii) counts the number of times the loop is executed.

(iv) points the memory address of the current or the next instruction to be executed.

(b) The memory word size of 8085 microprocessor is

(i) 6 bits

(ii) 8 bits

(iii) 12 bits

(iv) 16 bits

(c) If the interrupt service request have been received from all the following interrupts, then which one will be executed last ?

(i) RST 5·5

(ii) RST 6·5

(iii) RST 7·5

(iv) RST 4·5

(d) Which stack is used in 8085 microprocessor ?

(i) FIFO

(ii) LIFO

(iii) FILO

(iv) None of these

(e) Even after a RESET operation, which of the following interrupts remains enabled ?

(i) INTR

(ii) RST 5·5

(iii) RST 7·5

(iv) TRAP

(f) When a subroutine is called, address of the CALL instruction is stored in

(i) pointer

(ii) accumulator

(iii) program counter

(iv) stack

(g) Which port of 8255 PPI can be split into two halves ?

(i) Port A

(ii) Port B

(iii) Port C

(iv) Ports A, B

2. (a) Define the address bus, the data bus and the control bus and explain their functions with reference to 8085 microprocessor. 7

(b) Draw and explain the system timing diagram of 8085 microprocessor. 7

3. (a) Draw and explain the internal architecture of 16-bit 8086 microprocessor. 7

(b) Explain the functions Reset, Wait, Interrupt and Hold with examples. 7

4. (a) Explain the unconditional and conditional Jump instruction with suitable examples. 7

(b) Write an assembly language program for traffic control. 7

5. (a) Define a subroutine and explain its uses. 7

(b) Explain an interrupt process and the difference between a non-maskable and a maskable interrupt. 7

6. (a) Explain the difference between peripheral mapped and memory mapped I/O techniques. 7

(b) Differentiate between 80286 and 80386 microcontrollers. 7

7. Write short notes on any ***two*** of the following : *2×7=14*

(a) Multiplexers and Demultiplexers

(b) RAM and EPROMs

(c) 8085-based Data Acquisition System