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Paper Code : PC-EE 602/PC-EEE-602 Micro processor & micro controller

UPID : 006608

Time Allotted : 3 Hours

Full Marks : 70

The Figures in the margin indicate full marks.

Candidate are required to give their answers in their own words as far as practicable

Group-A (Very Short Answer Type Question)

1. Answer *any ten* of the following :

[1 x 10 = 10]

- (I) Name the interrupt controller used in the 8086-based system.
- (II) What is the internal RAM capacity of Intel 8051 microcontroller?
- (III) What do you mean by LCD?
- (IV) What is the physical memory space of an 8086 microprocessor?
- (V) What is the opcode fetch cycle?
- (VI) Write down the full form of USART?
- (VII) What is the address range for bit-addressable RAM of 8051 microcontroller?
- (VIII) Which register bank of 8051 microcontroller is selected when RS1 and RS0 bits are 0 and 1 respectively?
- (IX) Why is the address bus unidirectional?
- (X) What is a multiplexed bus?
- (XI) What do you mean by DMA?
- (XII) Name the two power modes of 8051 microcontroller?

Group-B (Short Answer Type Question)

Answer *any three* of the following :

[5 x 3 = 15]

2. Describe the flag register of Intel 8086. [5]
3. Explain the BSR mode control word for 8255. [5]
4. List the different types of interrupts in 8051 microcontroller. [5]
5. Briefly explain the word format of IE register of 8051 microcontroller. [5]
6. Draw the interfacing diagram of LCD with 8051 microcontroller. [5]

Group-C (Long Answer Type Question)

Answer *any three* of the following :

[15 x 3 = 45]

7. (a) Explain the closely coupled multiprocessor system. [5]
 (b) Explain the loosely coupled multiprocessor system. [5]
 (c) Mention the different interconnection topologies in multiprocessor systems. [5]
8. (a) Classification of interrupts in 8086 microprocessors. [5]
 (b) What are the different modes of Intel 8255? [5]
 (c) Explain the I/O mode control word for 8255. [5]
9. (a) Discuss the memory organization of 8051 microcontrollers. [10]
 (b) Describe the alternate function of the port pins of the 8051. [5]
10. (a) Mention the features of 8051 serial ports. [5]
 (b) What are the functions of the two SFRs related to serial port communications? [5]
 (c) Write an ALP to glow an LED for a fraction of second when INT0 is activated. [5]
11. (a) Interface the ADC with the 8051 microcontroller. [8]
 (b) Why do we need external memory interfaces in the 8051 microcontroller? [7]

*** END OF PAPER ***