5E3124

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B.Tech. (Sem.V) (Main/Back) Examination- Dec. 2012
Electrical Engineering
5EE2 Microprocessors and Computer Architecture

Time : 3 Hours] [Total Marks : 80
[Min. Passing Marks : 24

Instructions to Candidates :
Attempt any five questions, selecting one question from each unit. All questions carry equal marks. Schematic diagrams mu be shown wherever necessary. Any data you feel missing suitably be assumed and stated clearly. Units of quantities used/calculate must be stated clearly.

UNIT - I

1. (a) Explain the architecture of 8085 in detail.
   (b) Differentiate between 8085 & 8086 microprocessor.

OR

1. (a) Explain the pin diagram of 8085.
   (b) Explain the followings (in brief) :
   1. Control Bus 2. Buffer 3. Latches 4. CPU (4×2=

UNIT - II

2. Explain the following terms with reference to 8085 microprocessor :
   1. ALU.
   2. Control & timing unit.
   3. Register array.
   4. Interrupt control.
   5. Serial I/O control.
   6. Instruction register and decoder.

   Draw the functional block diagram of 8085 also. (6×2+4=16

OR

2. (a) Explain various input/output devices.
   (b) Draw timing diagram of opcode fetch machine cycle.

UNIT - III

3. (a) Explain the following instructions using a suitable example :
   (i) XCHG (ii) DAA (iii) LHLD (iv) XTHL
   (b) Write an assembly language program for printing table of a given integer number. (4×2=

OR

3. (a) Explain various instruction formats applicable to the 8085 instruction set.
   (b) Write an assembly language program that count the number of 1's in a given 8 bit stream.

UNIT - IV

4. (a) Explain 8257 chip using block diagram.
   (b) Write Short Note on :
   (i) A/D Converter (ii) Applications of 8253 chip.

OR

4. (a) Explain 8155 chip using a block diagram.
   (b) Explain keyboard and display interface.

UNIT - V

5. (a) Differentiate between :
   (i) Primary and secondary memory.
   (ii) Static and dynamic memory.
   (iii) Virtual and physical memory.
   (iv) Volatile and non-volatile memory. (4×2=
   (b) Explain cache memory.
   (c) Explain basic computer architecture.

OR

5. Define followings :
   1. Memory Latency.
   2. Memory Bandwidth
   3. Memory Seek Time
   4. PAL
   5. PLA
   6. Flash Memory
   7. DDRAM
   8. SDRAM (8×2=1