Total No. of printed pages = 5

Et-502/Micro/3rd Sem/2018/M

MICROPROCESSOR

Full Marks – 70

Time – Three hours

The figures in the margin indicate full marks for the questions.

Answer Q. No. 1 and any *three* from the remaining questions.

1. Fill in the blanks for the microprocessor INTEL 8085 : 1×25=25

   (a) It is a ———— pin IC.

   (b) The package of this IC is ———— .

   (c) Its operating voltage is ————.

   (d) Its operating frequency is 3.14 ————.

   (e) It is ———— bit microprocessor.

[Turn over

(f) It has ———— numbers of basic instructions.

(g) It has ———— bit data bus.

(h) It can access ———— memory locations.

(i) The full meaning of ALE is ————.

(j) Multiplexing of data bus with ———— is done to make the address bus 16 bit wide.

(k) During multiplexing of data bus, ———— signal is used.

(l) It has one 8 bit accumulator which is also known as register ————.

(m) Apart from accumulator, it has ———— numbers of general purpose registers.

(n) All the general purpose registers are ———— bit wide.

(o) It has a special purpose register SP, the full form of which is ————.

(p) It has another special purpose register PC, the full form of which is ————.

(q) PC holds the ———— of the next instruction to be fetched.

(r) It has ———— numbers of flags.

(s) When a flag is set, it holds ————.

(t) When a flag is reset, it holds ————.

(u) When 8085 send an address for memory, the control signal is set to ————.

(v) During memory read operation, the control signal is set to ————.

(w) During memory write operation, the control signal is set to ————.

(x) The full form of DMA is ————.

(y) The full form of PPI is ————.

2. (a) Draw the block diagram of INTEL 8085 and describe its various components. 8

(b) Describe the function of all the status flag of 8085. 7

3. (a) With the help of appropriate diagram, describe how the data bus is multiplexed. 8

Or

Demultiplexed with the address bus by using 74LS343 latch.

(b) Draw the timing diagram of opcode fetch cycle of INTEL 8085. 7

4. (a) What do you mean by DMA ? What are the different DMA data transfer schemes ? Describe. 8

(b) Draw block diagram of INTEL 8255 and describe its different mode of operations. 7

5. (a) Write the meaning of the following opcodes : 8

(i) MVI (ii) LDA

(iii) XCHG (iv) SBI

(v) INX (vi) ANA

(vii) CPI (viii) SIM

(b) Write assembly language program to add 10 numbers already stored in memory locations starting from 2000H to 2009H. Store the result in memory location 200AH. 7

6. (a) What do you mean by interrupt ? Describe INTEL 8259 with block diagram. 8

(b) What do you mean by IO mapped IO and memory mapped IO ? Explain. 7

7. Write short notes on any *two* : $7\frac{1}{2} \times 2 = 15$

(a) Classification of Instructions of INTEL 8085

(b) Control word of INTEL 8255

(c) AD / DA converter