DipIETE – ET/CS (Current & New Scheme)

Time: 3 Hours   **JUNE 2016**   **Max. Marks: 100**

PLEASE WRITE YOUR ROLL NO. AT THE SPACE PROVIDED ON EACH PAGE IMMEDIATELY AFTER RECEIVING THE QUESTION PAPER.

NOTE: There are 9 Questions in all.
- **Question 1 is compulsory and carries 20 marks. Answer to Q.1 must be written in the space provided for it in the answer book supplied and nowhere else.**
- **The answer sheet for the Q.1 will be collected by the invigilator after 45 minutes of the commencement of the examination.**
- **Out of the remaining EIGHT Questions, answer any FIVE Questions. Each question carries 16 marks.**
- **Any required data not explicitly given, may be suitably assumed and stated.**

Q.1 **Choose the correct or the best alternative in the following:** **(2×10)**

a. Microprocessor finds its application in
   (**A**) Pocket calculators   (**B**) Scientific instrument
   (**C**) Medical equipments   (**D**) All of these

b. In 8085, PSW consists of
   (**A**) Flag   (**B**) Accumulator
   (**C**) Both (**A**) & (**B**)   (**D**) None of these

c. How many address lines are needed to address each memory location in 2048*4 memory chip?
   (**A**) 10   (**B**) 11
   (**C**) 12   (**D**) 18

d. How many valid opcodes are there in 8085?
   (**A**) 200   (**B**) 246
   (**C**) 255   (**D**) 256

e. Which addressing mode is used in instruction LXI,4500H?
   (**A**) direct   (**B**) indirect
   (**C**) implicit   (**D**) register

f. A state during which nothing happens is known as.
   (**A**) STA   (**B**) NOP
   (**C**) STC   (**D**) OPCODE

g. MOV A,B has
   (**A**) 1 machine cycle   (**B**) 2 machine cycle
   (**C**) 3 machine cycle   (**D**) 4 machine cycle

h. How many and what machine cycles are needed for the execution of MOV A, M instruction?
   (**A**) 2, Fetch & memory read   (**B**) 2,Fetch & I/O read
   (**C**) 2,Fetch & memory write   (**D**) 1, Fetch

i. Which of the data transfer scheme is faster?
   (A) Synchronous   **(B)** Asynchronous
   (C) Interrupt driven   **(D)** DMA

j. How many address lines are there in 8255?
   (A) 6   **(B)** 8
   (C) 2   **(D)** 16

Answer any FIVE Questions out of EIGHT Questions.
Each question carries 16 marks.

Q.2 a. What is bus? How it is organized in 8085?   **(8)**

    b. Draw the internal architecture of 8085 and explain various functional blocks. **(8)**

Q.3 a. Differentiate between I/O mapped I/O and memory mapped I/O.   **(8)**

    b. Explain the function of push and pop instructions with examples.   **(8)**

Q.4 a. What is addressing modes? Explain the addressing modes of 8085 with
examples.   **(8)**

    b. How data transfer instructions are used in case of 8085?   **(8)**

Q.5 a. Add two 8 bit numbers placed in memory location 3000H and 3001H. Result is
also 8 bit number and store it in 3002H.   **(8)**

    b. Subtract the contents of memory location 4001H from the memory location
2000H and place the result in memory location 4002H.   **(8)**

Q.6 a. What is the function of RIM and SIM instructions in 8085?   **(8)**

    b. Explain the various hardware interrupts of 8085.   **(8)**

Q.7 a. How synchronous data transfer and serial output data transfer are used in data
transfer scheme.   **(8)**

    b. Draw the block diagram of 8257 DMA controller   **(8)**

Q.8 a. Explain the purpose and meaning of status flags in 8085.   **(8)**

    b. Discuss the evolution, importance and application of microprocessor.   **(8)**

Q.9 a. How Asynchronous and synchronous transmissions are used in 8251 USART?   **(8)**

    b. Write down the features of 8251 communication interface adapter.   **(8)**