

DiplETE – ET/CS (Current & New Scheme)

Time: 3 Hours

June 2019

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. ALE stands for ?

(A) Address Latch Enable	(B) Address Latch Disable
(C) Arithmetic Logic Enable	(D) None of these

- b. 8085 microprocessor has _____ number of pins.

(A) 24	(B) 42
(C) 40	(D) 38

- c. In 8085 microprocessor name of 16-bit register is

(A) Stack Pointer	(B) Program counter
(C) Both (A) and (B)	(D) None of these

- d. Which of the following statements for intel 8085 is correct?

(A) Program Counter (PC) specifies the address of the instruction last executed	(B) PC specifies the address of the instruction to be executed
(C) PC specifies the address of the instruction being executed	(D) PC specifies the number of instructions executed so far

- e. Processor status word of 8085 microprocessor has five flags?

(A) S, Z, AC, P, CY	(B) S, OV, AC, P, CY
(C) S, Z, OV, P, CY	(D) S, Z, AC, P, OV

- f. In an intel 8085A, which is the first machine cycle of an instruction?

(A) An op-code fetch cycle	(B) A memory read cycle
(C) A memory write cycle	(D) An I/O read cycle

- g. The stack pointer register in a microprocessor

(A) Counts the number of programs being executing on the microprocessor	(B) Counts the number of instructions being executing on the microprocessor
(C) Keeps the address of the next instruction to be fetched	(D) Holds the address of the top of the stack

- h. Which of the following interrupt is both level and edge sensitive?
 (A) RST 5.5 (B) INTR
 (C) RST 7.5 (D) TRAP
- i. The data lines of 8085 microprocessor are multiplexed with
 (A) higher order address lines (B) lower order address lines
 (C) status lines (D) None of these
- j. Identify the programmable interval timer from the following
 (A) 8252 (B) 8253
 (C) 8279 (D) 8275

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

- Q.2** a. What is a Microprocessor? List the various features of 8085 microprocessor (6)
- b. Explain the following set of instructions of 8085 microprocessor (10)
 (i) PUST H (ii) MVI B,08H
 (iii) DAD B (iv) LHLD 2000H
 (v) LDAX B
- Q.3** a. Explain the function of the following pins of 8085 microprocessor (10)
 (i) AD₆ – AD₇ (ii) SID and SOD
 (iii) HOLD (iv) INTA
- b. Explain the role of the following in 8085 microprocessor (6)
 (i) Instruction Decoder (ii) Program Status Word (PSW)
- Q.4** a. Write an 8085 Assembly Language Program to add multi byte binary numbers. The numbers are stored from memory location X and Y in byte reversal from (higher order byte first followed by lower order byte). The size (in bytes) of a multi byte number is provided at location SIZE. Store the result at memory location starting from Z. (8)
- b. Write an 8085 Assembly Language Program to perform block movement. The blocks are assumed to be non-overlapping. The block starting at location 'X' is to be moved to the block starting at 'Y'. The block size is provided in the location, SIZE. (8)
- Q.5** a. What do you mean by interrupt? Explain different types of maskable interrupts of 8085 microprocessor? (8)
- b. Explain the following instructions used in interrupt process. (2×4)
 (i) EI (ii) DI
 (iii) CALL (iv) RIM

- Q.6** a. List the various features of 8255 Programmable Peripheral Interface (8)
b. Explain the control word for operating 8255 in MODE1 (8)
- Q.7** a. Explain the different types of registers used in PIC 8259 (6)
b. Draw and explain the pin diagram of Intel 8257 DMA controller. (10)
- Q.8** a. Explain the control word format of 8253. (8)
b. Distinguish between asynchronous and synchronous data transfer. (8)
- Q.9** a. Explain the PORT3 of 8051 microcontroller. (6)
b. Explain memory structure of 8051 microcontroller in detail. (10)