TED (10) 4051
(Revision 2010)

Reg.No. .....
Signature. .....

DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/MANAGEMENT/
COMMERCIAL PRACTICE- APRIL - 2018.

EMBEDDED SYSTEMS

(Maximum Marks : 100) Time : 3 Hrs

PART–A
(Maximum marks: 10)

Marks

I. Answer all questions in one or two sentences. Each question carries 2 marks.

1. List any two embedded products in home using microcontroller?
2. Give the name of a 32 bit microcontroller family.
3. State the use of out Instruction.
4. Give the use of RS232 standard.
5. Write about data conversion time in ADC. (5X2=10)

PART - B
(Maximum Marks : 30)

II Answer any five of the following questions . Each question carries 6 marks.

1. Differentiate between microcontroller and general purpose microprocessor.
2. List the characteristics of ATmega and Tiny AVR families.
3. Describe data format representation in AVR microcontroller.
4. List any six instructions effecting status register of AVR microcontroller.
5. List widely used data types of AVR used by C compilers.
6. Give the pin description of LCD.
7. Describe temperature sensors.

[5x6 =30]

PART - C
(Maximum marks : 60)
(Answer one full question from each unit. Each full question carries 15 marks)

UNIT I

III Describe the use of data memory space and its parts in detail with necessary diagram. (15)

OR

IV Illustrate the architecture of AVR microcontroller with block diagram. [15]

UNIT- II

V [a] Illustrate the role of rotate and shift instructions of AVR in detail with example. [10]

[b] Write short note on Stack and Stack pointer. [5]

OR

VI [a] Explain Harvard Architecture in AVR with block diagram. [7]

[b] Describe Branch instructions in AVR microcontroller. [8]

UNIT- III

VII [a] Write an AVR C program to send values 00 to FF to port B. [8]

[b] Describe programming timer interrupts. [7]

OR

VIII [a] Write an AVR C program to store 'k' into location 0x3C in EEPROM [10]

[b] Write about Interrupt priority in AVR. [5]

UNIT – IV

IX Explain keyboard interfacing with AVR in detail. [15]

OR

X [a] Explain the working of DC motor. [10]

[b] Give the use of PWM in DC Motor. [5]

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