ROLL No:

Total number of pages:[ ]
Total number of questions:06

B.Tech. || ECE || 5th Semester
Microprocessors & Microcontrollers (RP.)
Subject Code: BTEC-504A
Paper ID: M\18
(2015 batch onwards)

Max Marks: 60

Time allowed: 3 Hrs

Important Instructions:
- All Questions are Compulsory
- Assume any missing data

PART A (2×10)

All COs

Q. 1.   Short-Answer Questions:

a)   What is the use of SOD and SID pins of 8085?

b)   Why address and data lines are multiplexed?

c)   Define T-state, instruction cycle and machine cycle?

d)   What do you mean by pipelining in context to 8086?

e)   Differentiate between 8085 and 8086 microprocessors?

f)   What do you know about register banks used in 8051 microcontroller?

g)   What is the size of internal RAM and internal ROM in 8051 microcontroller?

h)   What is the need of IC 8253?

i)   What is USART? Why MAX232 is required for serial communication?

j)   Differentiate between Synchronous and Asynchronous mode of data transfer?

PART B (8×5)

Q. 2.   How the instruction set of 8085 is classified? Discuss about different   CO1
addressing modes of 8085 giving an example of each?
OR
Draw the architecture of 8086 microprocessor and explain the significance of   CO1
different registers being used in 8086?

Q. 3.   How does a microcontroller differ from a microprocessor? Draw pin diagram   CO2

of 8051 micro-controller and explain the functions of different pins?

OR

How many flags are used in 8051? What is the significance of flags and PSW? **CO2**
Explain briefly?

Q. 4.   Write a technical short note on 8051 interrupts? Explain significance of IP **CO3**
and IE special function registers in detail?

OR
CO3
Explain the following instructions of 8051:
  (a) MOV @R2,30H
  (b) INC DPTR
  (c) MUL AB
  (d) XRL A,R1
  (e) SETB C

Q. 5.   What is the difference between BSR mode and Input/ Output mode of **CO4**
8255PPI? Write a program to blink LED connected at Port C bit 4 of 8255?
Assume address of control word register of 8255 as 83H. Use BSR mode?

OR

Draw a neat interfacing diagram to show how ADC0808/0809 is interfaced **CO4**
with 8051? Write steps used to get data from ADC0808/0809?

Q. 6.   Discuss about different types of timer registers used in 8051? Write the steps **CO3**
used to program timer in mode 1 to generate a time delay?

OR

Explain the different Jump, Loop and Call instructions used in 8051? **CO3**

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