Code: EC6T2

III B.Tech - II Semester – Regular/Supplementary Examinations AUGUST 2021

MICROPROCESSORS & MICROCONTROLLERS
(ELECTRONICS & COMMUNICATION ENGINEERING)

Duration: 3 hours   Max. Marks: 70

PART – A

Answer *all* the questions.   All questions carry equal marks

$$11x\ 2 = 22\ M$$

1.

a) How many interrupts does 8085 have, mention them?

b) List the control and status signals available in 8085?

c) Write any two advantages of segment registers in 8086?

d) Differentiate between compare and SUB operations in 8086?

e) Can you make a distinction between STD and CLD instructions in 8086?

f) Write how many I/O modes of operations present in 8255.

g) Distinguish the difference between mask able and non-mask able interrupts with example?

h) What are the major differences between the Microprocessors and Microcontrollers?

i) How many modes are there in a timer? Mention them?

j) What is ARM microcontroller?

k) Mention the features of I2C bus?

PART – B

Answer any *THREE* questions. All questions carry equal marks.

3 x 16 = 48 M

2. a) Draw the Internal Architecture of 8085.   8 M

   b) Compare and contrast data transfer and arithmetic group of instructions in 8085 Microprocessor.   8 M

3. a) How would you discriminate between Minimum mode and Maximum mode of 8086? Explain the mode which is used for multiprocessor configuration?   8 M

   b) How could you convert unpacked BCD to ASCII with an assembly language program?   8 M

4. a) What are the architectural features of 8257 and describe how operations are performed?   8 M

   b) Which is a programmable communication interface? Explain how it is interfaced with 8086.   8 M

5. a) Discuss about the memory organization and special
   function registers in 8051 microcontroller.   8 M

   b) Describe the operation of I/O ports in 8051 with neat
   sketch.   8 M

6. a) How does the Thumb instruction set differ from ARM
   instruction set? Discuss in detail.   10 M

   b) Illustrate how to interface the stepper motor. Write an ALP
   to rotate the stepper motor 360 degrees clockwise and
   180 degrees anti- clockwise.   6 M