Reg. No. :

Question Paper Code: 35405

B.E. / B.Tech. DEGREE EXAMINATION, DEC 2021

Fifth Semester

Electronics and Communication Engineering

01UEC505 – MICROPROCESSORS, MICROCONTROLLERS AND APPLICATIONS

(Regulation 2013)

Duration: Three hours   Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 2 = 20 Marks)

1. What is microprocessor? What is the difference between an microprocessor and CPU?

2. Write short notes on DMA.

3. List any two external hardware synchronization instructions of 8086 µP?

4. What are the different types of interrupts supported in 8086?

5. Why interfacing is needed for I/O devices.

6. How DMA is initiated.

7. What are the features of 8051 microcontroller?

8. Differentiate microprocessor with microcontroller and advantages of microcontroller over microprocessor.

9. List the interrupts of 8051 microcontroller and what is the need for DAC?

10. What is the necessity of using driver circuit in microcontroller based stepper motor control?

PART - B (5 x 16 = 80 Marks)

11. (a) (i) Explain about the pin description of 8 bit microprocessor with a neat diagram.

(10)

(ii) Write an assembly program to add two numbers using 8085. (6)

Or

(b) Draw the architecture of 8085 Processor and explain the various blocks. (16)

12. (a) Enumerate about the architecture of 8086 microprocessor with a block diagram and also explain its functions in detail. (16)

Or

(b) Discuss the maximum mode configuration of 8086 by a neat diagram. Mention the functions of various signals. (16)

13. (a) Explain with necessary diagrams the operation of 8255 programmable peripheral interface. (16)

Or

(b) Explain the operation of keyboard and display controller in detail. (16)

14. (a) Describe in detail about 8051 microcontroller memory. (16)

Or

(b) (i) Explain the architecture and different modes of operation of 8255 PPI. (8)

(ii) Explain about logical and control transfer instructions of 8051. (8)

15. (a) With a complete example, explain the design of traffic light controller using microcontroller. (16)

Or

(b) Explain how a stepper motor is interfaced with 8051 microcontroller and also make assembly language program to control the direction of rotation of the stepper motor along with interfacing diagram. (16)

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