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Question Paper Code : 11292

B.E./B.Tech. DEGREE EXAMINATIONS, APRIL/MAY 2026.

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Fourth Semester

Electrical and Electronics Engineering

EE3404 – MICROPROCESSOR AND MICROCONTROLLER

(Common to Electrical and Computer Engineering)

(Regulations 2021)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Mention the flags of 8085 microprocessor.
2. What is meant by memory interfacing in 8085?
3. Give an example for conditional and unconditional jump instruction with respect to 8085 microprocessor.
4. Write an Assembly language program in 8085 to add two 16 bit numbers.
5. State the 8 bits of control word register in 8255.
6. How to find the End of conversion in ADC.
7. Distinguish between the microprocessor and microcontrollers.
8. How the serial communication in 8051 is performed?
9. What are the main features of PIC 16 microcontrollers?
10. Define memory organization in PIC 18 microcontrollers.

PART B — (5 × 13 = 65 marks)

11. (a) Explain the architecture of the 8085 microprocessor with a neat diagram.

Or

(b) Draw the timing diagram for the instruction STA 4200H with respect to 8085 microprocessor and explain the same.

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12. (a) Classify and explain the instruction sets of 8085 with examples in each types.

Or

(b) Write an Assembly language program in 8085 to add two multiply and divide the two 8 bit numbers.

13. (a) With the help of neat diagram explain the working of 8259 and its interfacing with 8085 microprocessor.

Or

(b) Write an Assembly language program in 8085 to generate the triangle waveform with the DAC interfacing details.

14. (a) Discuss the instruction format and addressing modes of 8051.

Or

(b) Explain the interrupt structure and timer operation in 8051.

15. (a) Discuss programming techniques used in PIC microcontrollers with examples.

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Or

(b) Explain timers, I/O ports and interrupts programming in PIC.

PART C — (1 × 15 = 15 marks)

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16. (a) Write an assembly language program in 8085 to control the traffic light signals with necessary diagram.

Or

(b) Analyze how the 8051 microcontroller can be used to implement an automated temperature control system.

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