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Question Paper Code : 80535

B.E./B.Tech. DEGREE EXAMINATIONS, APRIL/MAY 2024.

Fourth/Fifth/Sixth Semester

Electronics and Communication Engineering

EC 8691 – MICROPROCESSORS AND MICROCONTROLLERS

(Common to : Biomedical Engineering/ Computer Science and Engineering/
Computer and Communication Engineering/ Medical Electronics/ Artificial
Intelligence and Data Science/ Information Technology)

(Regulations 2017)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. List the 16 – bit registers of 8085 microprocessor.
2. List the allowed register pairs of 8085.
3. Compare Procedure and Macro.
4. What is the purpose of segment registers in 8086?
5. What is the various programmed data transfer method?
6. Give the different types of command words used in 8259A.
7. What are the modes used in keyboard Display Interface?
8. What is synchronous data transfer?
9. Specify the single instruction, which clears the most significant bit of B register 8051, without affecting the remaining bits.
10. Give the DJNZ instruction of Intel 8051 microcontroller.

PART B — (5 × 13 = 65 marks)

11. (a) Describe in detail with the necessary Architecture, the Pin Configuration of the 8085 Processor with its functions.

Or

- (b) Explain in detail with appropriate examples, the addressing modes of 8085 Microprocessor.

12. (a) Explain about the Architecture of 8086 Microprocessor with a block diagram and also its functions in detail.

Or

- (b) Write an 8086 ALP to sort an array of ten bytes in ascending order. Add comments to your Program.

13. (a) (i) Using the model, write a program to communicate between two microprocessors using 8255. (8)

- (ii) Show the control word format of 8255 and explain how each bit is programmed. (5)

Or

- (b) Describe in detail with appropriate block diagram, the constructional features and functions of the Interrupt Controller 8259.

14. (a) Explain with appropriate architecture how the 8-Bit Processor in detail the interfacing of Temperature Controller using 8085 Processor.

Or

- (b) Explain in detail the procedure and the block diagram involved in the Traffic Light Controller using 8085.

15. (a) Explain about the Architecture of 8051 Microcontroller with a block diagram and also explain its functions in detail.

Or

- (b) Explain in detail with appropriate block diagram the various modes available for timer in 8051.

PART C — (1 × 15 = 15 marks)

16. (a) Describe in detail with detailed Pin Configuration, the Closely Coupled Multiprocessor Configuration used in the 8086 Bus System Structure.

Or

- (b) Discuss in detail with appropriate configuration, the serial port programming procedures involved in the 8051 Microcontroller.
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