

Code No: R164124D

R16

Set No. 1

IV B.Tech I Semester Advanced Supplementary Examinations, May - 2022

MICROPROCESSORS AND MICRO CONTROLLERS

(Automobile Engineering)

Time: 3 hours

Max. Marks: 70

Question paper consists of Part-A and Part-B

Answer ALL sub questions from Part-A

Answer any FOUR questions from Part-B

PART-A(14 Marks)

1. a) Draw the timing diagram of maximum mode write operation [2]
- b) Discuss differences between Assembler macro and Procedure. [3]
- c) State the role of In-service register of 8259 interrupt controller. [2]
- d) List the uses of USART. [2]
- e) Describe the external memory and its interfacing with 8051 [3]
- f) Draw the interfacing diagram of LCD with 8051 controller. [2]

PART-B(4x14 = 56 Marks)

2. a) Explain Register Organization of 8086 Microprocessor. [7]
- b) Explain the different maximum mode pins of 8086 microprocessor. [7]
3. a) Explain IF_THEN_ELSE and WHILE_DO Structures With example programs. [7]
- b) Explain REPEAT_UNTIL and WHILE_DO Structures With example programs [7]
4. a) Compare closely coupled configuration with loosely coupled configuration. [7]
- b) Explain ICW's and OCW's of 8259 Priority interrupt controllers [7]
5. a) Draw the PIN diagram of RS-232 serial communication and explain the function of each pin in detail. [7]
- b) Explain the advantages of using the USART chips in microprocessor-based systems. [7]
6. a) Explain the internal and external data memory organization of 8051. [7]
- b) Write a program to generate Fibonacci series. [7]
7. a) How do you interface 8051 microcontrollers with keyboard? Explain in detail. [7]
- b) How to interface and display an LCD with microcontroller? [7]

