

E (ELEX) Sem IV R/o c-scheme 19-05-2025

Duration 3 Hours

Maximum marks 80

- 1) Question 1 is compulsory
- 2) Attempt any three from the remaining questions
- 3) All questions carry equal marks.
- 4) Assume suitable data if necessary.



- Q.1. Attempt any **four** from the following questions 20
- a Differentiate Harvard and Von Neumann architecture? 5
 - b Draw and explain Program Status Word register of 8051 5
 - c Explain Arithmetic instructions with example? 5
 - d What is stack? How it is implemented in 8051? 5
 - e Compare AJMP, SJMP and LJMP instruction of 8051 5
- Q.2.a Write short note on "Assembler Directives in 8051". 10
- b Draw interfacing of keyboard matrix with 8051 in detail with diagram. Write a program to generate Hexadecimal values. 10
- Q.3.a Draw and explain the interrupt structure of 8051 10
- b. Write a program to rotate the DC motor clockwise and anticlockwise 10
- Q.4.a Explain Addressing modes in 8051 with examples? 10
- b. Interface a 7 segment LED to port 1 and write a program to display a countdown from 9 to 0. 10
- Q.5 a Draw and explain internal structure of port 0 of 8051 microcontroller 10
- b Interface a 16X 2 line LCD unit to 8051 and write program to display "Happy Diwali". 10
- Q.6 a Draw and explain internal memory organization of 8051 microcontroller 10
- b Write a program to find the highest in a series of 10 numbers stored from 20H to 29H. Store result after the series at 2AH. 10

Q. P. Code**82343**

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Prag. code
1 TO 1134