



QP CODE: 25011160



25011160

Reg No : .....

Name : .....

**B.Sc DEGREE (CBCS) SPECIAL REAPPEARANCE EXAMINATIONS, FEBRUARY  
2025**

**Fifth Semester**

**CORE COURSE - EL5CRT14 - MICROCONTROLLERS AND APPLICATIONS**

Common for B.Sc Electronics and Computer Maintenance Model III & B.Sc Electronics Model III

2022 Admission Only

8A2C5AB0

Time: 3 Hours

Max. Marks : 80

**Part A**

*Answer any **ten** questions.*

*Each question carries **2** marks.*

1. On power up, 8051 uses which RAM locations for registers R0 to R7 ?
2. Define addressing modes.
3. What is indexed addressing mode in 8051?
4. What CPU action occurs by the instruction SUBB A,Rn?
5. What are assembler directives?
6. What does the following instruction do? MOV A,0F0 H ?
7. Write instructions to rotate the data 55 H stored in register A to one bit position to the left.
8. What is meant by baud rate in serial communication?
9. What memory address in the interrupt vector table is assigned to INT0 interrupt ?
10. What is IP register?
11. What is the meaning of WR signal in an ADC ?
12. What is a DAC?

(10×2=20)

**Part B**

*Answer any **six** questions.*

*Each question carries **5** marks.*





13. What are the uses of RS0 and RS1 bits in the PSW register?
14. Explain SFRs of 8051.
15. Explain the instruction XRL A,Rn with an example.
16. Explain the instruction ACALL target with an example.
17. Subtract the contents of RAM location 13H from RAM location 2B H. Put the result in RAM location 3C H.?
18. Write a program to divide the data in RAM location 3E H by the number 12 H; put the quotient in R4 and remainder in R5.
19. Explain the timer and counter operation in 8051.
20. Explain TCON register.
21. Draw the diagram of a 4X4 matrix key board connected to the two ports of 8051.

(6×5=30)

### Part C

*Answer any **two** questions.*

*Each question carries **15** marks.*

22. Explain the functional block diagram of 8051.
23. Explain the memory organisation of 8051.
24. Explain the direct,Indirect,Immediate addressing modes of 8051 with suitable examples.
25. What are the steps involved in programming the 8051 to receive data serially? Show the setting of SCON register also.

(2×15=30)

