

2003000205020093
EXAMINATION OCTOBER 2024
BACHELOR OF SCIENCE (FIFTH SEMESTER)
ELECTRONICS – VIII LEVEL-2
INTRODUCTION TO MICROCONTROLLERS

[Time: As Per Schedule]

[Max. Marks : 50]

Instructions:

1. Fill up strictly the following details on your answer book

- a. Name of the Examination : **BACHELOR OF SCIENCE (FIFTH SEMESTER)**
 - b. Name of the Subject : **ELECTRONICS - VIII LEVEL-2
INTRODUCTION TO MICROCONTROLLERS**
 - c. Subject Code No : **2003000205020093**
2. Sketch neat and labelled diagram wherever necessary.
 3. Figures to the right indicate full marks of the question.
 4. All questions are compulsory.
 5. All symbols and abbreviations have their usual meaning.
 6. Non-programmable calculators are allowed.
 7. Assume data, if necessary.
 8. Q.1 is compulsory.

Seat No:

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Student's Signature

Q.1 Answer in short:

8

- (a) Which bits of the PSW register is user definable?
- (b) Explain the difference between a carry and an overflow.
- (c) What is the purpose of REN bit in SCON SFR?
- (d) Explain the function of following pins: (i) ALE (ii) PSEN

Q.2

- (a) Write note on internal memory organization of 8051 microcontroller. **10**
- (b) What are the special features of Microcontroller? **4**

OR

- (a) What is the purpose of special function register? Explain the special function register like PC and DPTR and flag and PSW register. **10**

- (b) Differentiate between microprocessor and microcontroller. **4**
- Q.3** (a) Draw & explain internal circuit of Port 0. **10**
- (b) Differentiate Idle mode and Power down mode of 8051 microcontroller. **4**

OR

- (a) Explain timer/counter control logic in detail. **10**
- (b) Explain the following instructions: **4**
MOVC A, @A + DPTR XRL 30H, #2FH
- Q.4** **Write short note on (Any TWO)** **14**

- (a) Branch group of instructions
- (b) Serial modes of operation
- (c) PCON register of 8051
- (d) The 8051 Interrupts
