



RAN - 2003000205020093

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**T.Y.B.Sc. (Electronics) Examination October - 2023**

**Electronics : Paper - VIII**

**Introduction to Microcontrollers**

**[ Total Marks: 50**

**सूचना : / Instructions**

(१)

नीचे दशविवेक निशानीवाणी विगतो उत्तरवली पर अवश्य लपववी.  
**Fill up strictly the details of signs on your answer book**

Name of the Examination:

**T.Y.B.Sc. (Electronics)**

Name of the Subject :

**Electronics : Paper - VIII Introduction to Microcontrollers**

Subject Code No.: **2003000205020093**

Seat No.:

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Student's Signature

- (2) Figure on the right indicates full marks
- (3) All symbols and abbreviations have their usual meaning.
- (4) Non-programmable calculators are allows.
- (5) Q. 1 is compulsory.
- (6) Assume data, if necessary.

**Q. 1 Answer in short:**

**08**

- (a) Explain the function of following pins:
  - (i) ALE
  - (ii) RST
- (b) How can you access external memory address space?
- (c) What is the function of B register?
- (d) Explain the following instructions:
  - (i) SETB C
  - (ii) RRC A

**Q. 2 (a) Write note on internal memory organization of 8051 microcontroller.**

**10**

- (b) Why we need a crystal frequency of 11.0592 MHz for serial data communication?

**04**

**OR**

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**[ 1 ]**

**[ P.T.O. ]**

**P1319**

- Q. 2** (a) How many modes of operation are there for timer 8051 ? Explain any two of them. **10**
- (b) Name the alternate functions of Port 3 pins. **04**
- Q. 3** (a) Explain arithmetic instructions with example. **10**
- (b) Write a program to find number of 1's in a given byte. **04**
- OR**
- Q. 3** (a) Explain JUMP & CALL instructions with example. **10**
- (b) Write the function of 16-bit registers in 8051. **04**
- Q. 4** **Write short note on. (Any TWO)** **14**
- (a) Features of 8051 microcontroller
- (b) Flag bits and PSW register
- (c) Serial modes of operation
- (d) Bit level and Byte level instructions
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