

**B.Tech. SEM -V Electrical 2014 Course (CBCS) : SUMMER - 2019**

**SUBJECT: MICROCONTROLLER**

Day: Saturday  
Date: 11/05/2019

S-2019-2663

Time: 10.00 AM TO 01.00 PM  
Max. Marks: 60

**N.B.:**

- 1) All questions are **COMPULSORY**.
- 2) Use of non-programmable calculator is **ALLOWED**.
- 3) Figures to the right indicate **FULL** marks.
- 4) Draw a neat and labeled diagram **WHEREVER** necessary.
- 5) Assume suitable data, if necessary.

- Q1. a)** Which are the various Microcontrollers widely used in industry nowadays. (05)  
**b)** Explain the selection criteria of Microcontroller. (05)  
**OR**
- Q1. a)** Draw and explain PSW register. (05)  
**b)** Differentiate between RISC and CISC architecture. (05)
- Q2. a)** Write a short note on ROTATE and SWAP instructions (05)  
**b)** Explain Stack related instructions. (05)  
**OR**
- Q2. a)** Explain following instructions with examples (05)  
a) JNZ Rel  
b) ACALL Label  
**b)** Explain RAM organization of 8051. (05)
- Q3.** Explain serial communication in detail with registers associated also explain various modes of serial communication of 8051. (10)  
**OR**
- Q3. a)** Draw and explain interrupt structure of 8051. (05)  
**b)** Explain bit and byte level operations with examples. (05)
- Q4.** Explain DC motor interfacing with 8051 to rotate clockwise and also draw diagram of interfacing. (10)  
**OR**
- Q4.** Explain application of Traffic light system with 8051 with a suitable diagram and program. (10)
- Q5. a)** Explain the architecture of PIC Microcontroller (05)  
**b)** Write a short note on addressing modes of PIC Microcontroller. (05)  
**OR**
- Q5. a)** Draw and explain CCP1CON register (05)  
**b)** Write a short note on Simulator and Assembler (05)
- Q6. a)** Explain in detail Interfacing of ADC with PIC Microcontroller. (05)  
**b)** Explain the interrupt structure of PIC Microcontroller (05)  
**OR**
- Q6. a)** Explain the functions of various ports of PIC Microcontroller. (05)  
**b)** Write the steps involved in receiving data serially. (05)

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