

**B.TECH SEM – V (2007 COURSE) (ELECTRICAL ENGG.) :**

**SUMMER - 2018**

**SUBJECT : MICRO CONTROLLER**

Day : **Wednesday**  
Date : **23/05/2018**

**S-2018-2666**

Time : **10.00 AM TO 01.00 PM**  
Max. Marks : 80

---

**N. B. :**

- 1) **Q.No.1 and Q.No.5 are COMPULSORY.** Out of the remaining questions attempt **ANY TWO** questions from each section.
  - 2) Answers to both the sections should be written in the **SEPARATE** answer books.
  - 3) Figures to the right indicate **FULL** marks.
  - 4) Draw neat and labeled diagrams **WHEREVER** necessary.
  - 5) Assume suitable data if necessary.
- 

**SECTION – I**

- Q.1** a) What is stack? Explain the stack related instructions? [05]  
b) Explain ROTATE and SWAP instructions. [05]  
c) Explain how interrupt is serviced by microcontroller. [04]
- Q.2** a) Draw the pin diagram of 8051 and explain each pin in detail. [06]  
b) Explain memory organization of 8051. [07]
- Q.3** a) What are bit level and byte level instructions? Explain any two such instructions. [06]  
b) Explain any two JUMP instructions of 8051. [07]
- Q.4** a) Explain the SCON register of 8051. [06]  
b) How many interrupts are supported by 8051? State their priorities and vector address? Explain each interrupt in brief. [07]

**SECTION – II**

- Q.5** a) Explain instructions of 8051 which affect flags. [05]  
b) Explain SCON SFR of 8051. [05]  
c) State the significance of microcontroller based system over current relay. [04]
- Q.6** a) Explain the call instructions of 8051 with suitable example. [06]  
b) What are external interrupts? Explain interrupt related to SFR in detail. [07]
- Q.7** a) What is the role of simulator and emulator? [06]  
b) Explain with suitable diagram how serial communication is achieved in microcontroller. [07]
- Q.8** a) Draw a neat diagram to interface 8051 to ADC 0809. Write the algorithm to program the same. [06]  
b) State the significance of microcontroller for power system. [07]

\* \* \* \*