

B.TECH SEM – V (2007 COURSE) (ELECTRICAL ENGG.) :
WINTER - 2017
SUBJECT: MICROCONTROLLER

Day: **Tuesday**
Date: **16/01/2018**

Time: **02.30 PM TO 05.30 PM**
Max Marks. **80**

W-2017-2461

N.B.

- 1) **Q. No.1 and Q. No. 5 are COMPULSORY.** Out of the remaining attempt any **TWO** questions from each section.
- 2) Figures to the right indicate **FULL** marks.
- 3) Answers to both the sections should be written in **SEPARATE** answer book
- 4) Use of non programmable **CALCULATOR** is allowed
- 5) Assume suitable data if necessary.

SECTION – I

- Q.1**
- a) Compare Microprocessor and microcontroller. **(05)**
 - b) What are the different data transfer instructions? Explain any four in detail. **(04)**
 - c) Which is the master control bit of one of the SFRs to activate or deactivate all interrupts? Explain it in brief. **(04)**
- Q.2**
- a) Draw a neat labeled pin diagram of 8051. **(07)**
 - b) What are SFRs? Explain any two in detail. **(06)**
- Q.3**
- a) Explain any four addressing modes in detail along with examples. **(06)**
 - b) Explain any four bit level instructions in detail. **(07)**
- Q.4**
- a) Explain modes of communication in 8051 in brief. Which mode is not suitable for communications in 8051? **(07)**
 - b) Explain why stop bits are used in asynchronous communications. **(06)**

SECTION - II

- Q.5**
- a) Discuss the ROTATE instructions in brief. **(05)**
 - b) Explain the role of logic analyzer. **(05)**
 - c) Define and explain RS 232 in detail **(04)**
- Q.6**
- a) Explain in brief any four arithmetic instructions. **(07)**
 - b) What is the difference in RET & RET1 instructions. **(06)**
- Q.7**
- a) Define & explain the following terms. **(06)**
i) Simulator ii) Assembler iii) Emulator
 - b) Explain the serial interface of 8051 with PC along with neat block diagram. **(07)**
- Q.8**
- a) Explain in detail the 8051 interfacing with keyboard. **(07)**
 - b) Explain any one application of microcontroller based system for power system. **(06)**