



DG-3186

Third Year B. Sc. (Sem. V) Examination

March/April – 2016

Electronics : Paper - VIII

(Introduction to Microcontrollers)

Time : Hours]

[Total Marks : 50

Instruction :

नीचे दशांशिक निशानीवाणी विगतो उत्तरवही पर अवश्य लक्षणी. Fillup strictly the details of signs on your answer book.	Seat No. :
Name of the Examination :	<input type="text"/>
← T. Y. B. Sc. (SEM. 5)	<input type="text"/>
Name of the Subject :	<input type="text"/>
← Electronics : Paper - 8	<input type="text"/>
← Subject Code No. : <input type="text" value="3"/> <input type="text" value="1"/> <input type="text" value="8"/> <input type="text" value="6"/>	<input type="text"/>
← Section No. (1, 2,.....) : <input type="text" value="Nil"/>	
Student's Signature	

- Q.1 Write very short answers [08]
1. To what address the PC register is initialised on reset operation?
 2. What is the address of R6 in register bank 0?
 3. Explain the DJNZ instruction of 8051?
 4. What is the size of code memory in a standard 8051 microcontroller?
- Q.2 A What is the difference between a microprocessor and a microcontroller? [10]
Discuss the architecture of the RAM of 8051.
- B Write a program to add two numbers in the registers R0 and R1 and store the result in R2 [04]

, OR

- Q.2 A Discuss the following logical instructions [10]
1. ORL A,#0AAH
 2. CLR A
 3. CPL A
 4. XRL A,@Rp
- B Write a program to compute the sum of three consecutive bytes stored in memory locations 37h, 38h and 39h and put the sum in 3Ah [04]
- Q.3 A Discuss the modes of operations of the timer counter modules of 8051 and hence explain the TMOD register [08]
- B A two digit number in ASCII format is stored in R6 and R7 write an ALP to convert in packed BCD format [06]

OR

- Q.3 A Discuss the Rotate and Swap instructions of 8051 [08]
B Write a program to calculate the number 1's in a byte given in register B [06]
- Q.4 Write Short Notes (**ANY TWO**) [14]
1. Addressing modes
 2. 8051 pin diagram
 3. Arithmetic instructions
 4. Call and the stack operations
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