DG-3186
Third Year B. Sc. (Sem. V) Examination
March/April – 2016
Electronics : Paper - VIII
(Introduction to Microcontrollers)

Time : Hours] [Total Marks : 50

Instruction :

Fill up strictly the details of signs on your answer book.

Name of the Examination :
T. Y. B. Sc. (SEM. 5)
Name of the Subject :
Electronics : Paper - 8
Subject Code No. : 3 1 8 6 - Section No. (1, 2, ....) Nil

Seat No. :

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 he 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