PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

MSc DEGREE EXAMINATION MAY 2023
(First Semester)

Branch – **APPLIED ELECTRONICS**

MICROCONTROLLER

Time: Three Hours   Maximum: 50 Marks

SECTION-A (5 Marks)
Answer ALL questions
ALL questions carry EQUAL marks   (5 x 1 = 5)

1 PIC is ----------
    (i) preferrable interrupt controller (ii) peripheral instruction controller
    (iii) proper interrupt controller   (iv) peripheral interrupt controller

2 Choose the following one for embedded system ------
    (i) tape recorder   (ii) digital camera
    (iii) punching machine   (iv) watches

3 How many timers are in PIC ----------
    (i) 2   (ii) 3
    (iii) 5   (iv) 4

4 State the process of PIC performance stopped inbetween the work done by called -----
    (i) conversion   (ii) acquisition
    (iii) interrupt   (iv) process

5 Find among the below which one is input device ------
    (i) keyboard   (ii) LCD
    (iii) LED   (iv) pendrive

SECTION - B (15 Marks)
Answer ALL Questions
ALL Questions Carry EQUAL Marks   (5 x 3 = 15)

6 a Explain the status register.
              OR
   b State about the CISC VS RISC.

7 a Discuss about the types of variables.
              OR
   b Produce the control statement.

8 a Justify the Timer 1 function.
              OR
   b Illustrate the TRIS registers.

9 a Justify the registers related to interrupts.
              OR
   b Evaluate the A/D acquisition requirements.

10 a Describe the resistive ladder DAC interface.
              OR
   b Illustrate the LCD interface.

SECTION -C (30 Marks)
Answer **ALL** questions
ALL questions carry **EQUAL** Marks   (5 x 6 = 30)

11 a   Assess the program and data memory organization in PIC 16F87XX.

OR

   b   Criticize the PIC Microcontroller family and Option register.

12 a   Elucidate PIC 16 C data operations.

OR

   b   Interpret data types and storage classes.

13 a   Draw the block diagram of I/O ports and explain.

OR

   b   Justify the Timer programming operations.

14 a   Criticize the interrupt programming.

OR

   b   Recommend selecting the A/D conversion clock and its related register selection.

15 a   Determine matrix keyboard interface with PIC.

OR

   b   Predict the RS232 interface with PIC.

Z-Z-Z   END