

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

MSc DEGREE EXAMINATION DECEMBER 2022
(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 Choose the abbreviation of RISC -----
(i) Reduced instruction set computer (ii) Reduced instruction set controller
(iii) Reduced instruction set compiler (iv) Reduced instruction set copier
- 2 Identify the high level programming language -----
(i) C (ii) Urkund
(iii) DOS (iv) Virus
- 3 Choose the ports in PIC -----
(i) 4 (ii) 5
(iii) 3 (iv) 6
- 4 State which convert the analog signal into digital -----
(i) D/A converter (ii) watchdog timer
(iii) A/D converter (iv) I²C bus
- 5 Find among the below which one is a output device?
(i) keyboard (ii) LCD
(iii) mouse (iv) pendrive

SECTION - B (15 Marks)

Answer ALL Questions

ALL Questions Carry EQUAL Marks

(5 x 3 = 15)

- 6 a Analyze Harvard Architecture VS Von Neumann Architecture.
OR
b State about the option register.
- 7 a Discuss about the Embedded C Program.
OR
b Explain the FUNCTION.
- 8 a Describe the Timer 0 function.
OR
b Illustrate the operation of parallel slave port.
- 9 a Write a short notes on the interrupts.
OR
b Describe the A/D conversion process in detail.
- 10 a Describe the I²C interface.
OR
b Illustrate the stepper motor interface with microcontroller.

Cont...

SECTION -C (30 Marks)

Answer ALL questions

ALL questions carry EQUAL marks

(5 x 6 = 30)

- 11 a Assess the PIC 16F87XX overview.
OR
b Describe the instruction set in PIC 16F87XX.
- 12 a Elucidate PIC 16 C functions and its structure.
OR
b Interpret pointers and arrays.
- 13 a Differentiate the features of all the ports in a PIC microcontroller.
OR
b Explain operation of a watchdog timer.
- 14 a Survey the priority of interrupt PIC.
OR
b What are the procedure for A/D conversion techniques.
- 15 a How LED is interfaced with PIC microcontroller with help of a diagram.
OR
b Interface a DC motor with PIC microcontroller with an aid of a block diagram.

Z-Z-Z

END