

PSG COLLEGE OF ARTS & SCIENCE  
(AUTONOMOUS)

BSc DEGREE EXAMINATION DECEMBER 2022  
(Fifth Semester)

Branch – ELETRONICS

**PIC MICROCONTROLLER**

Time: Three Hours

Maximum: 75 Marks

**SECTION-A (10 Marks)**

Answer ALL questions

ALL questions carry EQUAL marks (10 x 1 = 10)

- 1 A Microcontroller at least should consists of \_\_\_\_\_  
(i) RAM, ROM, I/O Ports And Timers (ii) CPU, RAM, I/O Ports and Timers  
(iii) CPU, RAM, ROM, I/O Ports and Timer (iv) CPU, ROM, I/O Ports And Timers
- 2 Which flags are more likely to get affected in status register by arithmetic and logic unit (ALU) of PIC 16CXX on the basis of instruction execution?  
(i) Carry (C) Flags (ii) Zero (Z)  
(iii) Digit Carry (DC) Flags (iv) All of the above
- 3 Which among the below specified register are addressable only from bank 1 of RFS?  
(i) PORT A (05H) (ii) PORT B (06H)  
(iii) PSR (04H) (iv) ADCON0 (07H)
- 4 Which Register acts as an input –output control as well as data direction register for PORT A in Bank 2 of RFS?  
(i) INDF (80H) (ii) TRISB (85H)  
(iii) TRISHA (85H) (iv) PCLATH (8AH)
- 5 Where is the result stored after an execution of increment and decrement operation over the special purpose register in PIC?  
(i) File Register (ii) Working Register  
(iii) Both (i) and (ii) (iv) Status Register
- 6 Where are the Prescaler assignment applied with a usage of PSA bit?  
(i) Only RTCC (ii) Only Watchdog Timer  
(iii) Either RTCC or Watchdog Timer (iv) Special Function Register
- 7 Which flag of status register are most likely to get affected by the single cycle increment and Decrement instruction?  
(a) P Flag (ii) Z Flag (iii) OV Flags (iv) C Flags
- 8 Which general purpose Register holds eight bit divisor and store the remainder especially after the execution of division operation?  
(i) A Register (ii) B Register  
(iii) Register R0 (iv) Register R7
- 9 Which lines are driven low under the software control during interfacing HEX Keyboard with PIC Microcontroller?  
(i) Scan lines (ii) Return lines  
(iii) Both (i) and (ii) (iv) Horizontal Lines
- 10 Which commands should be essentially written I2C input threshold selection and slew rate Control operations?  
(i) SSPSTAT (ii) SSPIF  
(iii) ACKSTAT (iv) All of the above

Cont...

**SECTION - B (25 Marks)**

Answer ALL questions

ALL questions carry EQUAL Marks (5 x 5 = 25)

- 11 a Explain about the origin of PIC Microcontroller.  
OR  
b Show the Applications of PIC Microcontroller.
- 12 a Analyze the working Register in PIC Microcontroller.  
OR  
b Produce the Program Concept in PIC Microcontroller.
- 13 a Describe the operation of Clock Oscillators.  
OR  
b Sketch the concept of Reset Circuitry.
- 14 a Bring out the Source Code Format And Labels in PIC Microcontroller.  
OR  
b Explain the function of Files with default Extension.
- 15 a Write a design Application of PIC to PIC Communication.  
OR  
b Show the Interface to a Stepper Motor with PIC Microcontroller.

**SECTION - C (40 Marks)**

Answer ALL questions

ALL questions carry EQUAL Marks (5 x 8 = 40)

- 16 a Analyze the concept of PIC Microcontroller.  
OR  
b Describe the function of RISC Concept.
- 17 a Compare the concept of Program Memory and Data Memory.  
OR  
b Sketch out the concept of status file selection Register.
- 18 a Classify the function of Prescaler and Instruction cycle in PIC Microcontroller.  
OR  
b Describe the concept of Power Down Mode/Sleep mode.
- 19 a Compare the Numeric Constants and Radix Key to PIC16 series Instruction set.  
OR  
b Describe about Concept Operators, Procedure, Radix, and Text Strings.
- 20 a Analyze the Design Application of 12C in PIC Microcontroller Monostable.  
OR  
b Summarize the Concept of Multichannel ADC in PIC Microcontroller.

Z-Z-Z

END