

19. (a) Write short notes on switch interface.

Or

- (b) Explain USB interfacing with PIC microcontroller.

20. (a) Elucidate the registers in AVR microcontroller.

Or

- (b) Write short notes on data types supported by AVR microcontroller.

SECTION C — (3 × 10 = 30)

Answer any THREE questions.

21. Elucidate the architecture of PIC16F877A with necessary diagram.
22. Explain assembly code and syntax.
23. Describe about hardware design.
24. Explain the concept of interfacing LCD display with PIC16F877a.
25. With a neat diagram, explain the architecture of AVR microcontroller.

S.No. 6416

P 22 ELCC 32

(For candidates admitted from 2022–2023 onwards)

M.Sc. DEGREE EXAMINATION, NOVEMBER 2023.

Electronics

ADVANCED MICROCONTROLLERS

Time : Three hours

Maximum : 75 marks

SECTION A — (20 Marks)

Answer ALL questions.

- I. (A) Choose the correct answer : (5 × 1 = 5)
1. How many instructions are in PIC16F877A?
(a) 28 (b) 33
(c) 35 (d) 48
2. The letter "F" in the instruction set refers to

(a) file registers (b) full address
(c) flags (d) hex value
3. The source code tab displays the program text for

(a) reading (b) editing
(c) simulating (d) mapping

4. A simple switch needs _____ for correct operation.

- (a) debouncing (b) pullups
(c) pulldown (d) capacitor

5. DDRx is _____ register.

- (a) pin out
(b) data direction
(c) pin input
(d) general purpose

(B) Fill in the blanks : (5 × 1 = 5)

6. _____ register is used for indirect addressing in pic16f877a.

7. The _____ directive is generated by compiler directives inserted into the application's source code.

8. VSM stands for _____

9. _____ keys are present in HEX keyboard.

10. _____ instruction is used to set a hit in I/O register.

II. Answer the following : (5 × 2 = 10)

11. What is the length of address and data bus in pic16f877a?

12. What is ICPD?

13. What is the use of netlist?

14. What is DPDT?

15. Expand RISC.

SECTION B — (5 × 5 = 25)

Answer ALL questions.

16. (a) Discuss about the program counter in PIC16F877A.

Or

(b) Write short notes on timer().

17. (a) Explain CONFIG directive.

Or

(b) Write short notes on assembler code.

18. (a) Illustrate schematic capturing.

Or

(b) Discuss about ICPD requirements.