

**C. ABDUL HAKEEM COLLEGE (AUTONOMOUS),
MELVISHARAM - 632 509.
SEMESTER EXAMINATIONS, APRIL - 2018**

B.Sc., PHYSICS

SEMESTER VI

**U15EPH601 - MICROPROCESSOR AND MICROCONTROLLER
APPLICATIONS (ELECTIVE - II)**

Time: Three Hours

Maximum: 75 Marks

SECTION - A (10 X 2 = 20 Marks)

Answer **ALL** Questions.

1. Define microprocessor.
2. What is meant by memory subsystem?
3. Write any two logical instructions.
4. What is code composer studio?
5. Differentiate hardware and software interrupts.
6. What is meant by maskable interrupt?
7. What are peripheral devices?
8. What is USCI?
9. Write any two applications of embedded system.
10. What is RTC (Real Time Clock)?

SECTION - B (5 X 5 = 25 Marks)

Answer **ALL** Questions.

11. a) Distinguish RISC and CISC CPU architecture.

(Or)

- b) What are the key differentiating factors between families in MSP430.

12. a) Write any five data transfer instructions with examples.

(Or)

- b) What are the essentials of embedded C program?

13. a) Write a note on maskable and non maskable interrupts.

(Or)

- b) Write a program for I/O ports using C.

14. a) Write a note on RF capabilities of MSP430.

(Or)

- b) What are the features of USCI?

15. a) With a neat diagram, explain the interfacing of seven segment LED module.

(Or)

- b) Explain wired sensor network.

SECTION - C (3 X 10 = 30 Marks)

Answer **ANY THREE** Questions.

16. Explain the bus architecture of microcontroller.
17. Write an assembly language program for picking largest data in an array.
18. Explain the instructions related to stack and subroutine with examples.
19. With appropriate diagram, explain the interfacing of D/A converter.
20. Explain the classifications of embedded systems. Give the applications of embedded systems.
