Code: 13A04703 **R13**

B.Tech IV Year I Semester (R13) Regular Examinations November/December 2016

EMBEDDED SYSTEMS

(Common to ECE and EIE)

Time: 3 hours Max. Marks: 70

PART – A

(Compulsory Question)

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1 Answer the following: (10 X 02 = 20 Marks)

(a) What is an embedded system?
(b) Write the applications of embedded system.
(c) What is watchdog timer?
(d) Discuss about system clocks.
(e) What is real time clock?
(f) Write the applications of MSP430.
(g) Write about synchronous interfaces.
(h) Discuss about humidity sensor.
(i) Write the IoT applications.
(j) Discuss about Embedded Wi-Fi.

PART – B

(Answer all five units, 5 X 10 = 50 Marks)

UNIT – I

2 What are differences between CISC and RISC design philosophy?

OR

3 Write about below microcontroller:

(a) MSP430x2x.
(b) MSP430x4x.

UNIT – II

4 Discuss about MSP430x5x with neat diagrams.

OR

5 Write about I/O ports pull up and pull down registers.

UNIT – III

6 Explain about PWM control and timing generation.

OR

7 Write about Remote controller of air conditioner using MSP430.

UNIT – IV

8 Explain the UART protocol and I2C protocol.

OR

9 Explain the SPI interface using MSP430.

UNIT – V

10 Explain the user APIs for Wireless and networking applications.

OR

11 Discuss the implementation Wi-Fi connectivity in smart electric meter.

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