

B.Tech IV Year I Semester (R13) Supplementary Examinations June 2017

EMBEDDED SYSTEMS

(Common to ECE and EIE)

Time: 3 hours

Max. Marks: 70

PART – A

(Compulsory Question)

- 1 Answer the following: (10 X 02 = 20 Marks)
- (a) Mention the functions of PC and SP in MSP430.
 - (b) List out two differences between RISC and CISC.
 - (c) What is the speed of MSP430x5xx?
 - (d) What is LPM3?
 - (e) Name two registers in Timer_A/B.
 - (f) List out four modes of Timer_A.
 - (g) Name two protocols for serial communication.
 - (h) Expand I2C and UART.
 - (i) Expand and define API.
 - (j) Give two applications of CC3100.

PART – B

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

UNIT – I

- 2 (a) Discuss about register organization of MSP430.
(b) Write in detail about status register of MSP430.
- OR**
- 3 (a) Discuss about the addressing modes of MSP430 with examples.
(b) Explain about memory organization of MSP430.

UNIT – II

- 4 (a) Explain about the Watchdog Timer in MSP430.
(b) Explain about interrupts and interrupt vector table in MSP430.
- OR**
- 5 (a) Explain in detail about low power modes of operation of MSP430.
(b) Discuss about digital I/O ports in MSP430.

UNIT – III

- 6 (a) Explain about functioning of Timers in MSP430.
(b) With a neat diagram, explain about RTC.
- OR**
- 7 (a) Discuss about analog and digital peripherals in MSP430.
(b) Explain about PWM operation in Timer_A/B.

UNIT – IV

- 8 (a) Discuss about functioning of UART.
(b) Explain about I2C protocol in detail.
- OR**
- 9 (a) Discuss about functioning of SPI.
(b) Explain about SPI protocol in detail.

UNIT – V

- 10 With an example, discuss building an IoT application using CC3100.

OR

- 11 Discuss about embedded Wi-Fi in detail.