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[5670]-713

B.E. (Computer Engineering)
EMBEDDED & REAL TIME OPERATING SYSTEM
(2015Pattern) (Semester II) (410252C) (Elective - III) (END Sem.)

Time : 2½ Hours]   *[Max. Marks : 70*

Instructions to the candidates:

1) Attempt Q.No. 1 or Q.No. 2; Q.No.3 or Q.No.4; Q.No.5, or Q.No. 6., Q.7,or Q.8, Q.9, or Q.10, Q.11, or Q.12.

2) Neat diagrams must be drawn wherever necessary.

3) Figures to the right indicate full marks.

4) Assume suitable data, if necessary.

Q1) Explain block diagram of Embedded systems?   **[6]**

OR

Q2) Explain timing diagram of Analog to Digital Converter (ADC)?   **[6]**

Q3) Explain ZigBee protocol in detail?   **[6]**

OR

Q4) Explain register architecture of ARM?   **[6]**

Q5) Explain Serial protocol RS-232C in detail with neat diagram?   **[8]**

OR

Q6) Write short notes on ISA and PCI?   **[8]**

P.T.O.

Q7) a) Explain Hard versus soft real -time systems and their timing constraints.

[8]

b) Explain Latest - Release - Time (LRT)? **[8]**

OR

Q8) a) Explain Precedence constraints and data dependency among real -time tasks. **[8]**

b) Explain Earliest- Deadline - First (EDF)? **[8]**

Q9) a) Explain shared data problem in interrupts handling? **[8]**

b) Explain semaphores message queues, mailboxes? **[8]**

OR

Q10) a) Explain priority inversion with neat diagram? **[8]**

b) Explain with example Interrupts enabling and disabling in embedded system? **[8]**

Q11) a) Explain Architecture and design of an embedded system? **[9]**

b) Write short notes on Microc/OS -II, Windows CE? **[9]**

OR

Q12) a) Write short notes on RT Linux, Vx Works? **[9]**

b) Explain Validation and debugging of embedded systems? **[9]**

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