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P616

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BE/Insem/APR - 249

B.E. (Computer Engineering)

EMBEDDED AND REAL TIME OPERATING SYSTEM

(2015 Pattern) (Semester - II) (Elective - III)

Time : 1 Hour] *[Max. Marks : 30*

Instructions to the candidates :

1) ***Solve Q.1 or 2, Q.3 or 4, Q.5 or 6.***
2) ***Neat diagrams must be drawn wherever necessary***
3) ***Figures to the right indicate full marks.***
4) ***Assume suitable data, if necessary.***

Q1) a) List and Explain software tools used for designing of an embedded system. **[5]**

b) With neat diagram, explain Embedded hardware units and devices in a system. **[5]**

OR

Q2) a) What are different characteristics and challenges of embedded system? **[5]**

b) List and explain various types of embedded system processors. **[5]**

Q3) a) What the main characteristics of CAN bus standards? Draw and explain the CAN data frame format. **[6]**

b) What is Embedded System on Chip (SoC). Explain all components embedded in SoC. **[4]**

OR

Q4) a) Explain in detail ARM Processor Architecture with core architectural block diagram. **[6]**

b) Enlist various Wireless and mobile system Protocols and explain any one with its features and diagram. **[4]**

P.T.O.

Q5) a) What is HDLC? Explain different frame types and data transfer modes of HDLC. **[5]**

b) Compare ISA and PCI buses based on their features such as data rate, data size, connector size and applications. **[5]**

OR

Q6) a) Differentiate : **[5]**

i) Serial and Parallel communication.

ii) Synchronous and asynchronous communication.

b) Draw and Explain Parallel ports and its interfacing with the stepper motor. **[5]**