Total No. of Questions : 8]

SEAT No. :

P3940

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M.E. (E & TC) (VLSI and Embedded System)

EMBEDDED SYSTEM DESIGN

(2017 Credit Pattern) (Semester - I) (504203)

Time : 3 Hours] *[Max. Marks :50*

Instructions to the candidates:

1) ***Answer any five questions from total eight questions.***
2) ***Figures to the right side indicate full marks.***
3) ***Assume suitable data if necessary.***

Q1) a) List the different design metrics for the embedded systems and explain any four in detail. **[5]**

b) Draw and explain the waterfall design model for the embedded system. **[5]**

Q2) a) Compare the different types of Processor technologies with the help different parameters. **[5]**

b) Compare the different types of development Platform Trends in terms of IDE, board Details and applications. **[5]**

Q3) a) Draw and explain the Cortex Microcontroller Software Interface Standard (CMSIS) structure of Cortex series. **[5]**

b) Write down the features of Arduino Microcontroller and discuss its IDE and applications. **[5]**

Q4) a) Explain the different features of LPC 1768 ARM Cortex. **[5]**

b) Explain the CAN protocol with suitable diagram and frame structure with reference to ARM M3 microcontroller. **[5]**

P.T.O.

Q5) a) What is Embedded Linux? Explain development tools required for Linux application Development. **[5]**

b) Compare the BIOS v/s Boot loader. **[5]**

Q6) a) Explain how kernel initialization and space initialization is carried out in Embedded Linux. **[5]**

b) What are the different types of device drivers? Explain any one with reference to Embedded Linux. **[5]**

Q7) a) Discuss an Automated Meter Reading (AMR) as embedded system case study with its design considerations. **[5]**

b) What is EMI/ RFI analysis? Discuss steps involved in certification and documentation of EMI/RFI. **[5]**

Q8) a) Design an embedded system for Digital Camera and explain its design and algorithm in detail. **[5]**

b) Explain testing process documentation carried out for embedded system? **[5]**

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