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B.Tech IV Year II Semester (R15) Regular Examinations April 2019

EMBEDDED SYSTEMS

(Electrical & Electronics Engineering)

Max. Marks: 70

Time: 3 hours

PART – A

(Compulsory Question)

- 1 Answer the following: (10 X 02 = 20 Marks)
 - (a) List the types of embedded processors.
 - (b) What is the need of Watchdog timer?
 - (c) What are the differences between Von-Neumann and Harvard architectures?
 - (d) What are the main features of ARM cores?
 - (e) Write few I/O devices of embedded systems.
 - (f) What is an In-circuit emulator?
 - (g) What is the function of hibernation module?
 - (h) What is GPIO control?
 - (i) Write the differences between synchronous and asynchronous communication interfaces.
 - (j) What Baud rate?

PART – B

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

UNIT – I

2 Explain the design process of embedded systems.

OR

3 Explain various forms of system memory and the functions assigned to these memories in the embedded systems.

UNIT - II

4 With neat block diagram, explain the architecture of TM4C microcontroller.

OR

5 Explain in detail about various addressing modes of TM4C microcontroller.

UNIT – III

6 What are various building blocks of embedded systems? Explain them in detail.

OR

7 Explain various modes of operation of microcontroller timer and counting devices.

UNIT – IV

8 Explain the operation of Watchdog timer using block diagram.

OR

9 Explain about the interrupt management of microcontroller system.

UNIT – V

10 Explain the working of UART communication interface. Mention the advantages and disadvantages of UART.

OR

11 Draw the block diagram of smart plug with remote disconnect and Wi-Fi connectivity and explain the operation.

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