



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

EMBEDDED SYSTEMS

(Electrical & Electronics Engineering)

Time: 3 hours

Max. Marks: 70

PART – A

(Compulsory Question)

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

