

Code No: 137CH

R16

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech IV Year I Semester Examinations, October/November - 2020

EMBEDDED SYSTEM DESIGN

(Common to ECE, EIE)

Time: 2 Hours

Max. Marks: 75

**Answer any Five Questions
All Questions Carry Equal Marks**

- 1.a) Explain the classification of embedded systems based on different criteria in detail and give an example for each.
- b) What is the purpose of embedded systems? [8+7]
- 2.a) What is an embedded system? Explain the different applications of embedded systems.
- b) Explain the quality attributes of embedded system. [8+7]
- 3.a) Explain the different factors that need to be consider in the selection of memory for Embedded Systems.
- b) List the advantages of high level language based development. [8+7]
- 4.a) Explain the different on-board communication interfaces in brief.
- b) What are the differences between user level and kernel level threads? [7+8]
- 5.a) What is the role of reset circuit and Brown-out Protection Circuit in embedded system?
- b) Discuss the functions of device driver. [8+7]
6. Explain the different Embedded Firmware Design Approaches. [15]
- 7.a) Explain Round Robin process scheduling with interrupts.
- b) Explain the different multitasking models in the operating system context. [7+8]
- 8.a) Explain the different methods of handling deadlocks.
- b) Explain the mutex based process synchronization under windows OS. [7+8]

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