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Code No: 156AV

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech III Year II Semester Examinations, August/September - 2021

EMBEDDED SYSTEM DESIGN

(Electronics and Communication Engineering)

Time: 3 Hours

Max. Marks: 75

Answer any five questions

All questions carry equal marks

- 1.a) Describe the general characteristics of embedded systems in detail. [7+8]
b) Relate the Application Specific Embedded system with an example
- 2.a) Narrate various purposes of embedded systems with illustrative examples.
b) What are different current technologies used for embedded system design? Explain briefly. [8+7]
- 3.a) What are different types of memories used in embedded systems? Explain with examples. [8+7]
b) Explain the different on-board communication interfaces in brief.
- 4.a) With a neat diagram, explain the architecture of a general purpose processor.
b) Explain about ASICs, PLDs and COTs. [8+7]
- 5.a) Justify the need of brown out protection circuit in Embedded systems.
b) Discuss the significance of Watchdog timer in an Embedded System. [7+8]
- 6.a) What is the need of an embedded firmware? Briefly explain the embedded firmware development languages.
b) Write a short note on Real Time Clock. [10+5]
- 7.a) What is task scheduling? Explain Round Robin scheduling algorithm.
b) What is a process? With a neat representation explain the process states and state transition. [7+8]
- 8.a) Explain message passing technique for inter process communication in detail.
b) Explain how semaphores are used for task synchronization. [8+7]

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