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Paper Id: 131284

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B TECH

**(SEM-VIII) THEORY EXAMINATION, 2018-19
EMBEDDED SYSTEMS****Time: 3 Hours****Total Marks: 100**

Note: 1. Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

1. **Attempt all questions in brief.** **2 x 10 = 20**

- Explain the need of watchdog timer.
- What do you mean by Real time scheduling?
- What are the different components of embedded system hardware?
- Define fault tolerance.
- What are the challenges faced in designing an embedded system?
- What is the need of sampling?
- Classify I/O devices briefly.
- What are the functions of RTOS?
- Give name of different embedded processor.
- Define signal conditioning in embedded system.

SECTION B

2. **Attempt any three of the following:** **10x3=30**

- Explain different types of memories required in an embedded system.
- Explain Task, process and threads in context to RTOS.
- Explain characterization of embedded computation system.
- Explain flow control mechanism in embedded system.
- Explain different services of OS.

SECTION C

3. **Attempt any one part of the following:** **10x1=10**

- Explain the application of washing machine using embedded system.
- What are the various characteristics of an embedded system?

4. **Attempt any one part of the following:** **10x1=10**

- Describe various strategies of communication for embedded system.
- Explain embedded control in detail.

5. **Attempt any one part of the following:** **10x1=10**

- Explain various Task scheduling models in RTOS.
- Explain various timer functions in operating system of embedded system.

6. **Attempt any one part of the following:** **10x1=10**

- Discuss various techniques of DAC with its advantage and disadvantages.
- Explain Frequency spectrum and sampling with necessary block diagram.

7. **Attempt any one part of the following:** **10x1=10**

- Explain recent trends in embedded processor.
- Which is the best programming language used as the development language in embedded system. justify your answer with valid reasons.