

Printed Pages: 02

Paper Id: 

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| 131284 |
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Sub Code: NEC803

Roll No. 

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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.