

Code No: R164104D

**R16**

**Set No. 1**

**IV B.Tech I Semester Supplementary Examinations, July/Aug - 2021**

**EMBEDDED SYSTEMS**

**(Electronics and Communication Engineering)**

**Time: 3 hours**

**Max. Marks: 70**

*Question paper consists of Part-A and Part-B*

*Answer ALL sub questions from Part-A*

*Answer any FOUR questions from Part-B*

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**PART-A (14 Marks)**

1. a) What is the Purpose of Embedded Systems? [2]
- b) What is watch dog timer? [2]
- c) Compare the concepts of C versus Embedded C [3]
- d) What is kernel? What are the services of Kernel? [3]
- e) What high-level categories do development tools typically fall under? [2]
- f) What is the difference between a loader and a linker? [2]

**PART-B (4x14 = 56 Marks)**

2. a) What are the Operational Quality Attributes? Explain with examples. [7]
- b) What are the unique Characteristics of Embedded systems? [7]
3. a) List different input devices? Explain the significance of input devices. [7]
- b) What are the analog and digital electronic components? Explain [7]
4. a) What are the basic approaches for the design and implementation of embedded firmware? Explain any one approach. [7]
- b) Discuss about interrupt servicing mechanism. [7]
5. a) What are the different types of Operating Systems? Explain [7]
- b) What is IPC? Mention the two methods available for it. [7]
6. a) What are the Embedded software development tools? Discuss about Target machines. [7]
- b) What are some features that differentiate compiling needs in embedded systems versus in other types of computer systems? [7]
7. a) List and define the four models under which testing techniques fall. Within each of these models, what are five types of testing that can occur? [7]
- b) List and describe four real-world examples of each type of debugging tool [7]

