Code No: **R164104D**

R16

Set No. 1

IV B.Tech I Semester Supplementary Examinations, February - 2020
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) Define embedded system? What are its components?   [3]
    b) What is watchdog timer?   [2]
    c) Differentiate between C and Embedded C.   [3]
    d) Define Real time operating system.   [2]
    e) Write the types of files generated on cross-compilation.   [2]
    f) What is a pre-processor?   [2]

PART–B *(4x14 = 56 Marks)*

2. a) Explain the typical Embedded system architecture with a neat sketch.   [7]
    b) Explain the role of embedded systems in automotive domain.   [7]

3. a) Discuss about real time clock with respect to Embedded Hardware.   [7]
    b) Explain the merits and demerits of parallel port over serial interface.   [7]

4. a) What is ISR? Explain Interrupt servicing mechanism.   [7]
    b) Explain the concepts of compiler and cross compiler relevant to an Embedded
        Firmware.   [7]

5. a) Explain various factors to be considered for the selection of scheduling criteria. [7]
    b) With the help of examples, explain computational models in embedded design. [7]

6. a) With the help of neat sketch explain embedded Software development process. [7]
    b) What is Debugging? Explain the Boundary Scan based hardware debugging in
        details.   [7]

7. a) What is Quality assurance and testing of the design? Explain in detail.   [7]
    b) Explain about Compilers and Linkers.   [7]

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