Code No: R163205E **R16** SET - 1

III B. Tech II Semester Regular/Supplementary Examinations, October/November - 2020

EMBEDDED SYSTEMS

(Common to Computer Science and Engineering, Information Technology)

Time: 3 hours Max. Marks: 70

Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B**)
2. Answer **ALL** the question in **Part-A**
3. Answer any **FOUR** Questions from **Part-B**

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PART –A (14 Marks)

1. a) Define the Embedded system. [2M]
   b) Write the difference between microprocessor and microcontroller. [2M]
   c) Define the thread of RTOS. [2M]
   d) What are memory-mapped objects? [3M]
   e) What is meant by semaphore? [3M]
   f) Define ARM. [2M]

PART –B (56 Marks)

2. a) Explain the Core of the embedded system. [7M]
   b) Explain the classification of an embedded system with examples. [7M]

3. a) Explain application-specific and domain-specific embedded systems. [7M]
   b) Explain the source current and sinking current of the 8051 microcontrollers. [7M]

4. a) Explain the multiprocessing and multitasking of RTOS. [7M]
   b) What is RTOS? Explain about RTOS with examples? [7M]

5. a) Explain the Task communication of RTOS. [7M]
   b) Explain the RPC and sockets of RTOS. [7M]

6. a) Explain the different types of Simulators and emulators. [7M]
   b) Explain about message passing and message queue of RTOS. [7M]

7. a) Explain the producer-consumer problem with an example. [7M]
   b) Discuss the Integration and testing of embedded hardware and fire ware. [7M]

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