EX/IT/T/411/2017

B. INFORMATION TECHNOLOGY

4TH YEAR 1ST SEMESTER EXAM 2017

PAPER NAME : REAL TIME EMBEDDED SYSTEMS

Full Marks: 100   **Time: 3 hours**

Answer any Five Question

1. Answer the following questions:
   A. What are the differences between Real Time Database and standard Database?
   B. Which disadvantages can the employment of RT Database bring with itself?
   C. What special requirement leads to the development of RT Database?   [20]

2. Explain with the help of diagrams Three Types of Communication Network.   [20]

3. Answer the following questions.
   A. Explain QoS parameters in communication medium.
   B. Compare Soft vs. Hard Real Time Communication in terms of Protocols used.   [20]

4. Compare any three Real Time Operating System in terms of given parameter: [20]

Name of the OS			
Scheduler			
Synchronization Mechanism			
POSIX Support			
Scalable			
Custom HW Support			
Kernel Size			
Multiprocessor Support			

5. What is Real Time Scheduling? What are the different types of Real Time Scheduling? Explain the different types Event Driven Scheduling Algorithms with examples.   [20]

6. A System has three processes P0,P1 and P2 with total execution time 10ms,20ms and 30ms. Every process has first 10% I/O next 70%cpu and last 20%I/O. Assume all the process arrived at t=0. and used SRTF algorithm. Calculate the turnaround time, waiting time and percentage of time cpu is idle.   [20

7. Explain p-Thread Scheduling supported by Vxworks with pseudo code.   [20]

***** Best of Luck *****