B.E. (Computer Engineering) Eighth Semester (C.B.S.)
Elective-IV : Real Time Systems

P. Pages : 2

Time : Three Hours

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0810

NRT/KS/19/3715

Max. Marks : 80

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Notes : 1. All questions carry marks as indicated.
2. Solve Question 1 OR Questions No. 2.
3. Solve Question 3 OR Questions No. 4.
4. Solve Question 5 OR Questions No. 6.
5. Solve Question 7 OR Questions No. 8.
6. Solve Question 9 OR Questions No. 10.
7. Solve Question 11 OR Questions No. 12.
8. Assume suitable data whenever necessary.
9. Illustrate your answers whenever necessary with the help of neat sketches.

1. a) Define RTOS and discuss various issues of Real time computing in detail. **7**

b) Discuss the performance measures for RTOS and explain its proportion. **6**

OR

2. a) Explain detailed structure of Real time system. **7**

b) Explain various characteristics of Real time systems. **6**

3. a) Explain Task Assignment and Scheduling. **7**

b) Discuss fault tolerance scheduling. What are its advantages over other scheduling algorithm. **6**

OR

4. a) Explain EDF algorithm for optimal scheduling with suitable example. **7**

b) Explain priority driven approach for periodic and aperiodic task. **7**

5. a) What are the various concurrency control issues in Real Time Database. **7**

b) Discuss the requirements in a programming language. **6**

OR

6. a) Explain in detail Non-primality of the EDF and LST. **7**

b) Explain facilitating hierarchical decomposition of blocks, procedure and function. **7**

7. a) Explain Internet and resources reservation protocol. **7**

b) Write short note on **any two.** **6**

   i) Network Topologies

   ii) Network architecture issues

   iii) Fault Tolerant Routing

OR

8. a) Explain MAC Protocol of broadcast N/W. **7**

b) Briefly explain internet and resource reservation protocols. **6**

9. a) Explain in detail memory management and process management. **7**

b) Write a short note on Real Time Kernel. **6**

OR

10. a) Explain in detail about real time POSIX standard. **7**

b) Write note on. **7**

   i) Resource management   ii) Process management

11. a) Explain fault tolerance synchronisation and reliability. **7**

b) Explain Hardware and software redundancy. **7**

OR

12. a) Explain **any four.**

   i) Software error model   ii) Malicious failures

   iii) Integrated failure Handling   iv) Time and information redundancy

   v) Reversal checks

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