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B.E. (Computer Science & Engineering) Seventh Semester (C.B.S.)

Elective - II : Real Time Operating System

P. Pages : 2 **NRT/KS/19/3579**

Time : Three Hours * 0 2 6 4 * Max. Marks : 80

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) Write down the difference between Hard and soft real time system. **7**

b) Give the applications of Real time systems. **6**

OR

2. a) What are the Hardware requirement for Real time applications. **6**

b) Explain all the parameters which tell about Job's timing and Behaviour constraints of Real time workload. **7**

3. a) Explain preemptive and non-preemptive priority driven scheduling approach with an example. **7**

b) Explain weighted Round Robin approach for time shared application. **6**

OR

4. a) Explain Earliest Deadline First (EDF) algorithm in details. **7**

b) Write short note an: **6**
i) Absolute deadline
ii) Soft timing constraints

5. a) What are the scheduling problems of RTOS. Explain in details. **7**

b) What do you mean by optimistic concurrency control for Real time system. **7**

OR

6. a) What are the issues, designer have to face which designing Real time system. **7**

b) Write short note on Petrinets based designing for real time systems. **7**

7.	a)	What is the difference between error and exception? Explain how to handle run time error in Real time system.	**7**
	b)	Write down and explain the features of Real time object oriented programming language.	**7**

OR

8.	a)	What is overloading? How it is different from overriding?	**7**
	b)	Explain types of packages used for Real time system.	**7**
9.	a)	Write short note on Fault detection method.	**7**
	b)	State various causes of the failures. Explain same techniques to avoid them.	**6**

OR

10.	a)	Discuss fault tolerant scheduling? What are its different advantages over other scheduling algorithm?	**6**
	b)	What is software redundancy? Draw and explain different software fault tolerance structure.	**7**
11.	a)	What is non-preemptive Kernel in UNIX real time operating system.	**7**
	b)	Write a care study on windows as RTOS.	**6**

OR

12.	a)	Write short note on software error model.	**6**
	b)	Write short note on window as a real time OS.	**7**

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Itâ€™s hard to beat a person who never gives up.

~ Babe Ruth