Department IT

B. Tech. Mid Question Bank (R20 Regulation)

Academic Year: 2024-2025   **Semester: VII**

Subject Name: Real Time System

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PART-A

Q.No	Questions	Marks	BL	CO	Unit No
1	What are different operations performed on files?	2	L2	CO1	1
2	Explain Unix Architecture.	2	L2	CO1	1
3	What is the difference between wait(),waitpid() system call?	2	L3	CO1	1
4	What is the difference between orphan and zombie process?	2	L4	CO1	1
5	Give the correct syntax of Read()and and write() system calls.	2	L3	C01	1
6	Discuss briefly on various commands of Unix.	2	L4	C01	1
7	Define RTOS. Explain types of real time systems.	2	L2	C01	2
8	What are objects in RTOS?	2	L2	C02	2
9	Define Task in RTOS.	2	L3	C02	2
10	Explain the role of the scheduler in an RTOS.	2	L1	C02	2
11	Explain pre-emptive priority based scheduling.	2	L5	C02	2
12	Explain Round Robin scheduling.	2	L5	C02	2
13	Define a signal. State its importance.	2	L2	C03	3
14	What are pipes in RTOS?	2	L2	C03	3
15	What are the operations of Event Registers?	2	L3	C03	3
16	Explain briefly about event registers.	2	L3	C03	3
17	Discuss about pipe operations.	2	L2	C03	3
18	What is programmable timer?	2	L2	C03	3
19	Define spurious interrupt.	2	L1	C04	4
20	What are exception and interrupts?	2	L2	C04	4
21	What is programmable Interval timer?	2	L2	C04	4
22	What are the General Exception Priorities?	2	L2	C04	4
23	What is real time clocks? Explain.	2	L3	C04	4
24	Explain Processing of exceptions.	2	L2	C04	4
25	Define tiny OS.	2	L1	C05	5
26	What is Embedded linux?	2	L1	C05	5
27	What are the difference between Linux and RT Linux?	2	L2	C05	5
28	What are the task states of Micro Cps-II?	2	L2	C05	5

29	What is RT LINUX? Explain briefly.	2	L2	C05	5
30	How many steps involved to initialize timerchip?	2	L2	C05	5

PART-B

Q.No	Questions	Marks	BL	CO	Unit No
1	What is Unix and what are the file permissions of Unix?	3	L2	C01	1
2	Explain fork() and v fork() system calls. With example	3	L3	CO1	1
3	Explain about hard and soft real time systems.	3	L1	CO1	1
4	Write a c program copy file from one file to another file	3	L6	CO1	1
5	What are the Application and characteristics of RTS	3	L3	CO1	1
6	What is the difference between Exit and exec() process controls examples?	3	L3	CO1	1
7	Explain What are the file I/O system calls with examples.	6	L2	CO1	1
8	Explain about the Unix architecture and unix commands briefly.	6	L2	CO1	1
9	Explain What are the process controls with examples.	6	L3	CO1	1
10	What are the characteristics of RTOS?	3	L3	C02	2
11	Describe the task states and Scheduling.	3	L3	C02	2
12	What is Message Queue? Explain various Message Queue operations?	3	L2	C02	2
13	What are types of operating systems? Explain briefly about them.	3	L1	C02	2
14	Write briefly about inter task messaging and synchronization.	3	L4	C02	2
15	Explain briefly single shared resource access synchronization & recursive shared resource access synchronization.	3	L4	C02	2
16	Give a detail note on various parameters, states and data structures associated with a task in RTOS.	6	L3	C02	2
17	Define a semaphore. Discuss different types of semaphores supported by RTOS kernel.	6	L2	C02	2
18	How the priority based pre-emptive based scheduling is different from the round robin scheduling? Explain briefly.	6	L4	C02	2
19	Describe the working of signals.	3	L1	C03	3
20	What are the operations of typical condition variable?	3	L2	C03	3
21	What are the I/O services?	3	L2	C03	3

22	Explain the processing of exceptions and spurious interrupts.	3	L5	C03	3
23	Explain briefly about timer interrupt services routine.	3	L5	C03	3
24	Explain about soft timers and operations?	3		C03	3
25	What are the duties of ISR?	3	L2	C04	4
26	Explain Soft Timers and Timer Related Operations.	3	L1	C04	4
27	Explain the Nature of Spurious Interrupts.	3	L1	C04	4
28	Explain timer interrupt service routine.	3	L1	C04	4
29	Differences between ESR and ISR.	3		C04	4
30	Explain Loading and Invoking Exception Handlers.	3	L2	C04	4
31	What are the application of exceptions and interrupts?	6	L2	C04	4
32	What are the Closer Look at Exceptions and Interrupts?	6	L2	C04	4
33	Explain classification of general exception.	6	L2	C04	4
34	Explain the case study "Embedded System for a Smart card", briefly.	3	L5	C05	5
35	Give an example of RT LINUX.	3	L4	C05	5
36	Explain RTOS Vx works briefly.	3	L2	C05	5
37	What is Embedded Linux? Explain.	3	L2	C05	5
38	What are the task states of Micro Cos-II?	3	L5	C05	5
39	Differentiate between MicroC/OS-II	3	L3	C05	5
40	Explain about Micro C/os II briefly.	6	L2	C05	5
41	What are Tiny OS models? Explain.	6	L2	C05	5
42	What are the case studies of RTOS	6	L5	C05	5