Question Paper Code	12644

M.E. / M.Tech. - DEGREE EXAMINATIONS, APRIL / MAY 2024
Second Semester
M.E. - Embedded System Technologies
20PESPC201 - REAL TIME OPERATING SYSTEMS
Regulations - 2020

Duration: 3 Hours   Max. Marks: 100

PART - A (10 × 2 = 20 Marks)
Answer ALL Questions

		Marks	K-Level	CO
1.	List the Top-down structured layers of operating system.	2	K1	CO1
2.	Differentiate between process and threads.	2	K2	CO1
3.	Illustrate the concept of context switch.	2	K2	CO2
4.	Define deadlock.	2	K1	CO2
5.	When do we need task synchronization?	2	K2	CO3
6.	What are the advantages and disadvantages of polling technique?	2	K1	CO3
7.	Mention any two distinct features of VX works.	2	K1	CO4
8.	Give the difference between nanokernel and microkernel.	2	K2	CO4
9.	What is the goal of alliance and how android serves the purpose?	2	K1	CO5
10.	List the steps to create preferences for an application.	2	K1	CO6

PART - B (5 × 13 = 65 Marks)
Answer ALL Questions

11. a)	Explain file system organization and implementation issues pertaining to an operating system.	13	K2	CO1

OR

b)	What do you mean by RPC? How RPC is implemented in a network communication environment.	13	K2	CO1

12. a)	Give solutions for the problems involved in sharing data by multiple tasks and routines?	13	K3	CO2

OR

b)	What is critical section problem? How can it be solved using semaphore? Explain the tow process solution to problem.	13	K3	CO2

13. a)	Explain the strategies of interrupt routine handling in RTOS.	13	K2	CO3

OR

K1 – Remember; K2 – Understand; K3 – Apply; K4 – Analyze; K5 – Evaluate; K6 – Create

12644

b)	Explain the Bin Packing Scheduling algorithm.	13	*K2 CO3*
14. a)	Discuss in detail porting of RTOS in to target.	13	*K2 CO4*
	OR		
b)	Elaborate on the principles and design issues of a real time kernel.	13	*K2 CO4*
15. a)	Distinguish the different layouts in Android user interface.	13	*K2 CO5*
	OR		
b)	With a neat sketch explain Android stack.	13	*K2 CO5*

PART - C (1 × 15 = 15 Marks)

16. a)	Develop a standardized menu option for Android user interface.	15	*K3 CO6*
	OR		
b)	Build a Yamba application using the main Android building blocks.	15	*K3 CO6*