Reg. No. : | | | | | | | | | | | | |

Question Paper Code: U9373

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2024

Open elective

Electrical And Electronics Engineering

21UEE973 - PRINCIPLES OF EMBEDDED COMPUTING SYSTEM

(Common to All branches)

(Regulations 2021)

Duration: Three hours | Maximum: 100 Marks

Answer All Questions

PART – A (5 x 20= 100 Marks)

1.	(a)	How will components be integrated for testing in embedded system explain briefly?	CO1-U	(20)
		Or		
	(b)	Name two key aspects of platform-level performance analysis and briefly describe their significance.	CO1-U	(20)
2.	(a)	Explain the features of the LPC 214X microcontroller family, focusing on its peripherals such as the timer unit, PWM unit, and UART. Provide examples of programming and using these peripherals in embedded applications	CO2-U	(20)
		Or		
	(b)	What is the significance of the duty cycle in a Pulse Width Modulation (PWM) signal?	CO2-U	(20)
3.	(a)	Explore methods for identifying high-power-consuming components, such as processors, peripherals, and memory. What techniques are used to profile and analyze energy consumption at the component level?	CO3-U	(20)
		Or		
	(b)	Illustrate is the purpose of program validation and testing in embedded computing systems?	CO3-U	(20)

4.	(a)	Explain the role of error detection and correction codes in maintaining fault tolerance in embedded systems.	CO4-U	(20)
		Or		
	(b)	Under the check pointing and rollback techniques enhance fault tolerance in embedded systems?	CO4-U	(20)
5.	(a)	Name and briefly describe two common IPC mechanisms used in embedded systems	CO5-U	(20)
		Or		
	(b)	How does message passing facilitate communication between processes in an embedded computing system?	CO5-U	(20)