Hall Ticket Number :										

R-19

Code: 19B42FT

M.Tech. II Semester Regular Examinations November 2020

Real Time Operating Systems

(Embedded Systems)

Max. Marks: 60 Time: 3 Hours

Answer *any five* questions from the following (5 x 12 = 60 Marks)

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1.		Describe the process control functions in Unix	12M
2.	a)	What are signals? Explain signal concepts in Unix	6M
	b)	Discuss about FIFOs in IPC	6M
3.		Describe the characteristics and requirements of i. Real-time databases ii. Multimedia applications	12M
4.		Discuss in detail about the system resources.	12M
5.	a)	Compare dynamic and static systems	6M
	b)	Explain about weighted round robin scheduling algorithm	6M
6.	a)	Define the following i. Thread ii. task	2M
	b)	Elaborate the functions of kernel with the help of structure	10M
7.		Summarize the commonalities of real-time operating systems	12M
8.		What are different types of faults? Explain in detail.	12M

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Hall Ticket Number :										

R-19

Code: 19B42BT

M.Tech. II Semester Regular Examinations November 2020

Nano Materials and Nano Technology

(Embedded Systems)

Max. Marks: 60 Time: 3 Hours

Answer *any five* questions from the following (5 x 12 = 60 Marks)

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			Marks	CO	Blooms Level
1.	a)	Discuss lithographic techniques with block diagram?	6M	CO1	L1
	b)	Explain different Etching methods.	6M	CO1	L2
2.	a)	Discuss about fabrication of CNTs and it's electrical properties.	8M	CO1	L2
	b)	Write the applications of CNT.	4M	CO1	L1
3.	a)	Discuss super conductor digital electronics.	6M	CO2	L2
	b)	Explain the application of CNTs for data processing.	6M	CO2	L2
4.		Describe in detail about the use of high permittivity materials for DRAMs.	12M	CO2	L2
5.		Discuss briefly two types of emerging Random Access Memories.	12M	CO2	L2
6.	a)	What do you understand about Holography?	3M	CO3	L2
	b)	Explain the operation and structures of Holographic data storage.	9M	CO3	L2
7.		Discuss the photonic networks for data transmission.	12M	CO3	L1
8.	a)	Illustrate the principles and applications of Liquid Crystal Displays.	6M	CO3	L2
	b)	With relevant diagrams explain about organic LEDs	6M	CO3	L1

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Hall Ticket Number :										

R-19

Code: 19B421T

M.Tech. II Semester Regular Examinations November 2020

Internet of Things and its Applications

(Embedded Systems)

Max. Marks: 60 Time: 3 Hours

Answer *any five* questions from the following (5 x 12 = 60 Marks)

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			Marks	CO	Blooms Level
1.	a)	Define IoT and explain the Physical Design of IoT and its protocols with help of block diagram?	6M	CO1	L2
	b)	Describe the REST based communication APIs in IoT?	6M	CO1	L3
2.	a)	List out the various Enabled IoT Technologies? Explain any one in detail?	8M	CO1	L3
	b)	Determine the IoT -levels for designing Home Automation?	4M	CO1	L3
3.	a)	Differentiate between Software Defined Networking (SDN) and Network Function Virtualization (NFV)?	8M	CO2	L4
	b)	List out the difference between a physical and virtual entity?	4M	CO2	L3
4.	a)	Why 6LoWPAN? List out the benefits of 6LoWPAN technology?	8M	CO3	L3
	b)	Explain the 6LoWPAN with architecture?	4M	CO3	L3
5.	a)	Explain the various types of RFID system with working example?	8M	CO2	L3
	b)	What is ZigBee protocol and briefly explain the basics and applications of ZigBee technology?	4M	CO2	L4
6.		Explain the various Control Flow Statements in Python and write the difference between a Python Module and Package?	12M	CO3	L3
7.	a)	What is an IoT device and explain its building block with neat block diagram?	6M	CO3	L4
	b)	Explain and how to develop the Python Programming on Raspberry Pi?	6M	CO3	L4
8.	a)	Explain the interfacing a LED with Raspberry Pi and write the Python Program for blinking of LED?	6M	CO3	L4
	b)	Write short notes on other IoT devices?	4M	CO3	L3

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Hall Ticket Number :										

R-19

Code: 19B422T

M.Tech. II Semester Regular Examinations November 2020

Embedded Software Design

(Embedded Systems)

Max. Marks: 60 Time: 3 Hours

Answer *any five* questions from the following (5 x 12 = 60 Marks)

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1.	a)	Discuss functions of special registers in a Pentium processor.	6M
	b)	What are features of super scalar architecture of a Pentium processor?	6M
2.	a)	Explain about Pentium microprocessor organization with neat sketch.	6M
	b)	Explain functioning of memory management unit in a Pentium processor.	6M
3.		Outline embedded design life cycle with related example.	12M
4.		Describe Basic tool set used in development environment of embedded system.	12M
5.	a)	Write note on Interrupt and Interrupt service routines.	6M
	b)	Write note on Memory organization.	6M
6.	a)	Discuss functional tests and their importance.	6M
	b)	List the advantages and the disadvantages of back ground debug mode.	6M
7.	a)	Explain the importance of Emulation and Debugging techniques in embedded system.	6M
	b)	Distinguish between Native compilers and Cross Compliers.	6M
8.		Write note on Linked lists, FIFOS and circular buffers.	12M

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