PRN:		Course Code:	PES301

Second Year **M. Tech** End Semester Examination Winter 2023

Embedded Linux

Day and Date: Tuesday, 28/11/2023 Max Marks: **100**

Time: 10.30 am to 1.30 pm Duration: **03** hrs

Instructions: All questions are compulsory.

			Marks	Bloom's Level	CO
Q.1		**Attempt the following**			
	a)	Organize the factors considered for choosing Linux.	08	L_2	CO1
	b)	Interpret the hardware support required for Embedded Linux.	08	L_3	CO2
		OR			
	b)	Compare and contrast different types of host/target development setups?	08	L_3	CO2
Q.2		**Attempt the following**			
	a)	Enlist and explain various development tools available for Embedded Linux.	08	L_3	CO3
	b)	Summarize the Components of an embedded Linux distribution.	08	L_5	CO3
		OR			
	b)	Compare and contrast various available bootloaders.	08	L_3	CO4
Q.3		**Attempt any two from the following**			
	a)	Illustrate the use of loadable modules. Also explain device driver architecture?	08	L_4	CO1
	b)	Explain the following module utilities a. lsmod b. modprobe c. modinfo	08	L_3	CO2
	c)	Demonstrate the use of fdisk utility for partitioning.	08	L_3	CO3
Q.4		**Attempt any two from the following**			
	a)	Analyze various tracing and profiling tools	08	L_3	CO4
	b)	Write a note on Hardware Assisted Debugging. Also write a note on SDRAM basics.	08	L_4	CO3
	c)	What are requirements of host system? Explain the methods by which target boards can be hosted.	08	L_4	CO4
Q.5		**Attempt any Two of the following**			
	a)	Explain the use of Pipes and Redirection with example.	09	L_6	CO2
	b)	Explain what is a Shell with example? Why to use Shell? What are different types of Shells?	09	L_2	CO2
	c)	Explain For loop and While loop in Shell programming along with syntax.	09	L_5	CO4
Q.6		**Attempt any Two of the following**			
	a)	How to set serial port signals using setSerialSignal? Also write the steps to compile and test setSerialSignal.	09	L_2	CO3
	b)	Write a note on USB interfacing. Explain the significance of USB interfacing in the Project Trailblazer.	09	L_4	CO2
	c)	Describe the hardware design process for the Project Trailblazer.	09	L_6	CO1

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