Code No.: EC57103PE | R20 | H.T.No. | | | 8 | R | | | | | | |

CMR ENGINEERING COLLEGE: : HYDERABAD
UGC AUTONOMOUS
I–M.TECH–I–Semester End Examinations (Supply) – September - 2022
COMMUNICATION BUSES AND INTERFACES (PE-I)
(VLSI SD)

[Time: 3 Hours] **[Max. Marks: 70]**

Note: *1. Answer any FIVE questions. Each question carries 14 marks.*
2. All questions carry equal marks.
3. Illustrate your answers with NEAT sketches wherever necessary.

5X14=70

1.	a)	Describe the need and importance of networking in an embedded system and explain in detail about serial communication.	[7M]
	b)	Differentiate between I2C and SPI Protocols.	[7M]
2.	a)	Discuss in detail about CAN Architecture and its working.	[7M]
	b)	Discuss in detail about CAN bus frames, bit stuffing and nominal bit timing.	[7M]
3.	a)	Explain Peripheral Component Interconnect Express (PCIe) bus architecture with neat diagram.	[7M]
	b)	Illustrate the read bus & write bus timing diagram of ISA/PCI bus protocol.	[7M]
4.	a)	Explain in detail about USB connector pin diagram and list out the various kinds of USB signalling schemes and data packets.	[7M]
	b)	Explain about USB enumeration.	[7M]
5.	a)	Explain in detail about serial front panel data port.	[7M]
	b)	Describe the data frame of SFPDP using copper cable.	[7M]
6.	a)	Explain data and control signal frames of RS232.	[7M]
	b)	List out applications and limitations of I2C.	[7M]
7.	a)	Explain CAN protocol data transmission process.	[7M]
	b)	Describe CAN protocol different layers.	[7M]
8.	a)	Explain PCIe Configuration space.	[7M]
	b)	Discuss PCIe Enumeration.	[7M]

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