

Code No.: EC57103PE2

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**CMR ENGINEERING COLLEGE : HYDERABAD**  
**UGC AUTONOMOUS**  
**I-M.Tech-I-Semester End Examinations (Regular) July- 2021**  
**COMMUNICATION BUSES AND INTERFACES**  
**(VLSI System Design)**

[Time: 3 Hours]

[Max. Marks: 70]

1. Answer Any **FIVE** Questions. Each Question Carries 14 Marks
2. Illustrate your answers with NEAT sketches wherever necessary.

5 x 14M=70M

- 1 a. Explain I2C protocol in detail. [7M]  
b. Compare RS232 standards with RS485 standards. [7M]
- 2 a. Explain interfacing PIC microcontroller with CAN bus [7M]  
b. what are the different types of errors in CAN bus. [7M]
- 3 a. Elaborate any one of the application of PCIe. [7M]  
b. Explain about data link layer used in PCIe. [7M]
- 4 a. Explain different transfer types in USB [7M]  
b. Write short notes on USB 2.0 transaction [7M]
- 5 a. Explain data transfer process in serial FPD<sub>P</sub> [7M]  
b. Explain different control signals in serial FPD<sub>P</sub>. [7M]
- 6 a. Explain data and error frame formats in CAN [7M]  
b. Define bit stuffing in CAN bus [7M]
- 7 a. Write short notes on PCI express. [7M]  
b. Write short notes on SPI. [7M]
- 8 a. Define copy mode and copy/loop mode in SFPD<sub>P</sub>. [7M]  
b. Write short notes on device drivers. [7M]

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