



**B.E DEGREE EXAMINATIONS: APRIL /MAY 2024**

(Regulation 2018)

Sixth Semester

**ELECTRONICS AND INSTRUMENTATION ENGINEERING**

U18EIE0005: Wireless Sensor Measurement Systems

**COURSE OUTCOMES**

**CO1:** Describe the structure and configuration of various Buses used in transmission of DATA.

**CO2:** Analyze the suitable wireless data for various application.

**CO3:** Explain the fundamental concepts of various wireless IEEE protocol.

**CO4:** Analyze the specification details for the Smart data transmission.

**Time: Three Hours**

**Maximum Marks: 100**

**Answer all the Questions:-**

**PART A (10 x 2 = 20 Marks)**

**(Answer not more than 40 words)**

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|--|-----|-------------------|
| 1. List the Interface System used in computer-based measurement system.  | CO1 | [K <sub>2</sub> ] |
| 2. Sketch the buses and their junction in PC.  | CO1 | [K <sub>2</sub> ] |
| 3. State the features of the USB.  | CO1 | [K <sub>1</sub> ] |
| 4. Mention the layers of IEEE 1394 serial Bus Transmission protocol and write the types of transmission used . | CO1 | [K <sub>2</sub> ] |
| 5. Extend the DATA line commands used in RS232C Inteface.  | CO2 | [K <sub>1</sub> ] |
| 6. Tabulate the Frequency Bands and Signal Levels in the Power Line Communication System.                      | CO3 | [K <sub>3</sub> ] |
| 7. Classify digital data transmission services offered by GSM system.  | CO3 | [K <sub>2</sub> ] |
| 8. Express the operating band of UMTS – 3G mobile phone system.  | CO3 | [K <sub>2</sub> ] |
| 9. Indicate the features of IEEE-488 interface.  | CO4 | [K <sub>2</sub> ] |
| 10. Write in short about the three handshake line used in IEEE 488.2 standard for processing the data.         | CO4 | [K <sub>3</sub> ] |

**Answer any FIVE Questions:-**

**PART B (5 x 16 = 80 Marks)**

**(Answer not more than 400 words)**

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|---|----|-----|-------------------|
| 11. Illustrate about the digital data exchange using RS232C serial Interface.                                 | 16 | CO1 | [K <sub>3</sub> ] |
| 12. Summarize the general structure of the Universal serial bus and mention the kind of data transfer in USB. | 16 | CO2 | [K <sub>2</sub> ] |

13.	a)	Sketch the working of current loop in RS232C interface.	6	CO1	[K <sub>3</sub> ]
	b)	Explain an interface circuit for a Power Line Communication (PLC) measurement and control system for a smart home, with the aid of a case study.	10	CO2	[K <sub>4</sub> ]
14.	a)	Discuss about the measurement of digital data and transmission made with Radio modem with necessary block diagram.	8	CO3	[K <sub>2</sub> ]
	b)	Illustrate the transmission of data in IrDA infra link with neat sketch.	8	CO3	[K <sub>3</sub> ]
15.		By suitable example, Explain a Distributed measurement system with GSM-based Data transmission.	16	CO3	[K <sub>4</sub> ]
16.	a)	As recommended by National Instruments, Demonstrate a VXI measurement system.	8	CO4	[K <sub>3</sub> ]
	b)	Articulate the configuration of PXI Measurement system.	8	CO4	[K <sub>3</sub> ]

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