A Reg. No. : | | | | | | | | | | |

Question Paper Code: 56502

B.E. / B.Tech. DEGREE EXAMINATION, APRIL 2019

Sixth Semester

Electronics and Instrumentation Engineering

15UEI602 – INDUSTRIAL DATA NETWORKS

(Regulation 2015)

Duration: Three hours Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 1 = 10 Marks)

1. A television broadcast is an example of _____ transmission. CO1- R

   (a) Half-duplex (b) Simplex (c) Automatic (d) Full-duplex

2. Which is the main function of transport layer? CO1- R

   (a) Node to node delivery

   (b) End to end delivery

   (c) Synchronization

   (d) Updating and maintaining routing tables

3. Bridges are also repeaters and_____. CO2- R

   (a) Regenerator (b) Preprocessor (c) Amplifier (d) Quantizer

4. The small box that gathers the signal from each individual device _____ CO2 -R

   (a) Gateway (b) Hub (c) Bridge (d) router

5. The HART uses _____ technique to carry digital information CO3- R

   (a) BPSK (b) ASK (c) PSK (d) FSK

6. Which device is used to remotely view local device data described in the object dictionary?. CO3 -R

   (a) Virtual Field Device (b) Variable Frequency Device

   (c) LCD (d) LED

7. _____ is an open communications protocol in industrial manufacturing that allows for communication between devices. CO4- R

(a) MODBUS (b) PROFI BUS (c) Field Bus (d) HART

8. Profibus DP is the main emphasis for____ Automation. CO4 -R

(a) Home (b) Factory (c) Fixed (d) Robotic

9. Fiber optic Ethernet is also known as _____. CO5 -R

(a) 10BASE2 (b) 10BASE5 (c) 10BASE-T (d) 10BASE-F

10. AS interface is_____oriented field bus. CO5 -R

(a)Bit (b) Byte (c) Nibbles (d) Words

PART – B (5 x 2= 10Marks)

11. Differentiate bridges and routers. CO1 -R

12. What are the different types of Networking Devices? CO2 -R

13. Differentiate Interoperability and Interchangeability CO3- R

14. Write about Master/Slave Concept of PROFIBUS CO4 -R

15. Define Industrial Ethernet. CO5 -R

PART – C (5 x 16= 80Marks)

16. (a) Describe the functions performed by various layers of ISO-OSI reference model. CO1- App (16)

Or

(b) Illustrate the role of CSMA/CD protocol in collision detection with neat diagram. CO1 -App (16)

17. (a) Explain the features of Bridges, Routers and Gateways with a neat diagram CO2 -App (16)

Or

(b) Detail about ARCNET configuration with its special requirement for networks used for control. CO2 -Ana (16)

18. (a) Explain in general the field bus architecture. Draw the topologies and discuss. CO3 -Ana (16)

Or

(b) Discuss about the HSE and H1 in FIELDBUS architecture with neat diagram. CO3 -Ana (16)

19. (a) Explain about Function Codes of MODBUS CO4 -U (16)

Or

	(b)	Explain the structure of Modbus in detail.	CO4 -Ana	(16)
20.	(a)	Write a detailed note on the radio spectrum and frequency allocation	CO5 -U	(16)

Or

	(b)	Compare 10 Mbps Ethernet with 100 Mbps Ethernet in detail	CO5 -U	(16)