AR13

CODE: 13EE4025 **SET-2**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI

(AUTONOMOUS)

IV B.Tech I Semester Regular & Supplementary Examinations, Nov / Dec-2018

HIGH VOLTAGE ENGINEERING

(Elective-II)

(Electrical & Electronics Engineering)

Time: 3 Hours **Max Marks: 70**

PART-A

ANSWER ALL QUESTIONS **[1 x 10 = 10 M]**

1. a) Write the relation between elect field and voltage.
   b) Define surge voltage.
   c) What are the properties of electric field?
   d) Write the criterion for breakdown in non-uniform fields.
   e) Define the front and tail times of an impulse wave .
   f) How is the stray effect reduced in resistive shunt type of measurement?
   g) Define partial discharge
   h) Define Paschen's law?
   i) Define spark discharge.
   j) What is an electroshock technique?

PART-B

Answer one question from each unit **[5x12=60M]**

UNIT-I

2. a) Explain charge simulation method of calculating electric field. 6M
   b) Explain finite difference method. 6M

(OR)

3. a) Describe the types of surge voltages with a neat sketch. 6M
   b) Explain the distribution and control of surge voltage in detail. 6M

UNIT-II

4. a) Explain townsend's breakdown mechanism. 6M
   b) Explain the phenomena of electric conduction in liquid dielectrics. 6M

(OR)

5.	a)	Explain Electro mechanical breakdown mechanism in solids.	6M
	b)	Describe the treeing and tracking phenomenon in detail.	6M

UNIT-III

6.	a)	Explain voltage doubler and cascaded voltage multiplier circuits used for generation of high DC voltages.	6M
	b)	Explain the Hall generator for measuring high dc current	6M
		(OR)	
7.	a)	Discuss elaborately the principle and operation of Cascaded transformers for generating high AC voltages	6M
	b)	Explain series impedance, series capacitance and capacitance potential dividers used for measurement of high ac voltages.	6M

UNIT-IV

8.	a)	What are the tests conducted on isolators and circuit breakers? Explain in detail.	6M
	b)	Discuss the power factor test and partial discharge test conducted on high voltage cables.	6M
		(OR)	
9.	a)	Briefly explain about pollution and impulse testing of Insulators	6M
	b)	Explain the sphere gap method of high voltage measurement.	6M

UNIT-V

10.	a)	Explain the principle of electrostatic precipitator.	6M
	b)	Describe thermoplastic power coating in detail.	6M
		(OR)	
11.	a)	Explain how the mixed plastics can be separated using electrostatic separator	6M
	b)	What is the necessity of electrostatic precipitator in cement industry? Explain.	6M

***

AR13

CODE: 13EC4031 **SET-2**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI

(AUTONOMOUS)

IV B.Tech I Semester Regular & Supplementary Examinations, Nov / Dec-2018

WIRELESS COMMUNICATION NETWORKS

(ELECTIVE-II)

(Electronics & Communication Engineering)

Time: 3 Hours **Max Marks: 70**

PART-A

ANSWER ALL QUESTIONS **[1 x 10 = 10 M]**

1. a) What are the types of Spread spectrum multiple access techniques
   b) Differentiate Circuit switching and Packet switching.
   c) What are the services offered by SS7
   d) What are the advantages of OFDM.
   e) What are the different types of encapsulation in mobile IP.
   f) What is WDP? What are the services offered by WDP.
   g) List the security services provided by IEEE 802.11
   h) How does GPRS provides a variety of data rates.
   i) Mention any two similarities between HIPERLAN-1 and HIPERLAN-2
   j) What are the different methods for communication between mobile and fixed terminals.

PART-B

Answer one question from each unit **[5x12=60M]**

UNIT-I

2. a) Explain about CSMA in detail 8
   b) If a GSM uses a frame structure where each frame consists of eight time slots and each time slot contains 156.25 bits and data is transmitted at 270.833kbps in the channel. Find, 4
      (i) Time duration of a bit
      (ii) Time duration of a slot
      (iii) Time duration of a frame
      (iv) How long must a user occupying a single time slot wait between two successive transmission?

(OR)

3. a) Explain the difference between datagram and virtual circuit operation. 6
   b) What are the Strengths and Weaknesses Infrared LANs 6

UNIT-II

4. a) Draw the block schematic of ISDN and explain two interfaces used in network 6
   b) Explain the error correction schemes used in Bluetooth baseband 6

(OR)

5. a) Write a short note on the performance of SS7 6
   b) Explain the Packet format of L2CAP 6

UNIT-III

6. a) If local anchor is the technique used to reduce registration cost, how do you choose the local anchor as the mobile migrates from one foreign network to another 6
   b) Explain in detail the higher layer protocols of WTLS. 6

(OR)

7. a) Compare the advantages and disadvantages of two routing schemes in mobile IP 6
   b) Briefly explain the architecture of WAP 6

UNIT-IV

8. a) Explain IEEE 802.11 MAC frame format. 6
   b) What is the difference between the MAC layers of GPRS and CDPD. 6

(OR)

9. a) What is the difference between MAC address and an LLC address 6
   b) Write short note on the following in GPRS. 6
      (i) Location Management
      (ii) Mobility Management

UNIT-V

10. a) What are the differences between IEEE 802.11a and HIPERLAN-2 6
    b) Explain any one routing protocol in adhoc networking 6

(OR)

11. a) Explain the protocol stack of WATM 6
    b) Discuss about the MAC layer of HIPERLAN-1 6

***