AR13

CODE: 13EE4025 **SET-1**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKEKALI

(AUTONOMOUS)

IV B.Tech I Semester Regular & Supplementary Examinations, October-2017

HIGH VOLTAGE ENGINEERING

(Elective – II)

(Electrical & Electronics Engineering)

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

Answer All Questions **[1 x 10 = 10M]**

PART – A

1. a) Mention various numerical methods for electric field computation.
   b) Define uniform and non-uniform field and give examples of each.
   c) List out the High Voltage DC Generation techniques in Laboratory for testing of insulators.
   d) Define front time and tail time of an impulse waveform.
   e) Draw the Tesla Coil circuit and its waveform.
   f) Define Withstand Voltage
   g) What is the break down voltage of air?
   h) Mention the different electrical tests done on power transformers.
   i) What is Electrostatic separator?
   j) Mention two applications of Electro static copying

PART-B

[5x12=60M]

Answer one Question from each Unit:

UNIT – I

2. a). Mention the basic equations of electric filed and electric potential in electrostatic field. [4M]
   b). Explain the numerical techniques applied to solve the equations of electric filed and electric potential in electrostatic field. [8M]

(OR)

3. Discuss briefly the "Charge Simulation Method" and "Boundary Element Method" and for solving Field problems and estimation of potential distribution? [12M]

UNIT – II

4. a) State Pasche's law, draw the Paschen's curve also mention the applications of Paschen's law?
   b) Explain two important conditions to be satisfied for a collision of an electron with an atom to be an ionizing one. [8M + 4M]

(OR)

5. Explain the breakdown mechanism of Liquids and Composite Insulators. [12M]

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UNIT – III

6. a) Explain with neat circuit the arrangement of Marx circuit for multistage impulse generators.
   b) How the basic arrangement of Marx Circuit is modified to accommodate the wave time control resistances? [6M+6M]

(OR)

7. a) Derive the expression for ripple and regulation in voltage multiplier circuits. How the ripple and regulation are minimized and also derive expression for optimum number of stages for minimum voltage regulation? [9M]
   b) State the merits and demerits of CVT measurement for HVAC measurements. [3M]

UNIT – IV

8. a) Explain the method of Impulse Voltage test of High Voltage Transformers. How a fault of insulator is located in this test. [6M+6M]
   b) Explain the testing methods of Surge Arrester

(OR)

9. Mention the different electrical tests done on isolators and circuits breakers. [12M]

UNIT –V

10. a) Explain the working principle of Electrostatic precipitator. [6M]
    b) Explain how the Electrostatic coating is done using high voltages. [6M]

(OR)

11. a) Briefly explain various Electro static applications to high voltage engineering. [6M]
    b) Explain the working of an electrostatic photo copier. [6M]

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CODE: 13EC4031 **SET-1**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI
(AUTONOMOUS)
IV B.Tech I Semester Regular & Supplementary Examinations, October-2017

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) Differentiate between pure ALOHA and slotted ALOHA.
   b) What is near-far problem?
   c) Give the link layer characteristics for CDPD.
   d) What is the use of common channel signalling?
   e) What is tunnelling?
   f) Define home agent and foreign agent.
   g) Define protocol.
   h) What is the need of MAC address?
   i) What are the requirements of HIPERLAN?
   j) Give the specifications of WPAN.

PART-B

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

UNIT-I

2. a Discuss salient features of a TDMA system and compare it with that of FDMA system. 6M
   b If US AMPS cellular operator is allocated 12.5 MHz for each simplex band, and if B_t is 12.5MHz, B guard is 10KHz , and B_c is 30KHz. Find the number channels available in a FDMA system. 6M

(OR)

3. What is spread spectrum multiple access? Explain different types of spread spectrum multiple access techniques. 12M

UNIT-II

4.	a	What is ISDN? What are the services provided by ISDN? Explain about it.	6M
	b	Draw the protocol architecture of SS7. Explain about different layers of SS7.	6M

(OR)

5.	a	Give the channel characteristics for ADRIS and RAM mobile data	6M
	b	What are the services offered by the SS7 network?	6M

UNIT-III

6.	a	List and briefly define capabilities provided by the mobile IP.	6M
	b	What is the relationship between mobile IP discovery and ICMP?	6M

(OR)

7.	a	What are the functional areas supported by WML?	6M
	b	What are the services provided by WSP?	6M

UNIT-IV

8.	a	List and briefly define the IEEE 802 protocol layers.	6M
	b	Give the architecture of IEEE 802.11.	6M

(OR)

9.		Explain briefly about MAC layer of IEEE 802.11	12M

UNIT-V

10.	a	Give the basic architecture of WATM.	6M
	b	Draw the frame format of the WATM and explain about all the fields.	6M

(OR)

11.		What is HIPERLAN? Explain about its architecture.	12M

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Code No: 13CS4022 **SET-2**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI
(AUTONOMOUS)
IV B.Tech I Semester Regular & Supplementary Examinations, October-2017
OPEN SOURCE SOFTWARE
(Computer Science& Engineering)

Time: 3 hours **Max.Marks:70**

PART A

Answer all Questions **[1 x 10 = 10M]**

1. a. Define Kernel.
   b. What is signals in LINUX?
   c. 'What are the data types in MySQL?
   d. What is sorting Query in MySQL?
   e. What is meant by PHP parser?
   f. How to call a PHP function?
   g. Define a Slicing String.
   h. What is Constructor?
   i. What is Perl Identifier?
   j. What is Perl Interpreter?

PART B

Answer one question from each unit **[5 x 12=60]**

UNIT-I

2. a. Explain in detail about File management in LINUX OS. 6M
   b. Discuss about Scheduling in LINUX OS. 6M

(OR)

3. a. Write about the Features of open source software and Explain about Cloning and Personalities. 6M
   b. Write about Kernel mode and user mode. 6M

UNIT-II

4. Write SQL program to demonstrate String Operations 12M

(OR)

5. a. Explain about Record selection Technique in MySQL 6M
   b. Write about working with Metadata. 6M

UNIT-III

6. What is Function in PHP? Explain about functions related to files (OPEN, READ, WRITE, CLOSE) with suitable examples. 12M

(OR)

7. Explain about conditional and control statements in PHP with suitable examples 12M

UNIT-IV

8. What is an Exception? Demonstrate the use of Exception Handling in Python with program example 12M

(OR)

9. Explain about
   a) Python List 6M
   b) Pyhton String Operations 6M

UNIT V

10. a. Elaborate about the Perl Data Types. 6M
    b. Discuss about Perl Subroutine with example 6M

(OR)

11. a. Discuss about working with files in Perl 6M
    b. Write about Perl Packages and Modules. 6M

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CODE: 13IT4010 **SET-2**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI
(AUTONOMOUS)
IV B.Tech I Semester Regular & Supplementary Examinations, October-2017

NETWORK SECURITY AND CRYPTOGRAPHY
(Information Technology)

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

PART-A

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

1. a) Define cryptanalysis.
   b) Define SQL injection.
   c) What is chosen plaintext attack?
   d) Mention various block cipher modes of operation.
   e) What is RSA?
   f) Write the fields of IPSec AH header.
   g) What is the purpose of change cipher spec protocol?
   h) Write the functions of PGP.
   i) Define Worm.
   j) Define Zombie.

PART-B

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

UNIT-I

2. a) List and explain X.800 security mechanisms. 7M
   b) Draw and explain network access security model. 5M

(OR)

3. a) What is substitution technique? With examples explain playfair and Hill ciphers. 7M
   b) Write about software vulnerabilities. 5M

UNIT-II

4. a) Explain IDEA algorithm in detail. 7M
   b) With neat sketches explain key distribution mechanisms of conventional encryption. 5M

(OR)

5. a) Describe the process of HMAC algorithm. 6M
   b) Explain the man in the middle attack of Diffie and Hellman key exchange algorithm. 6M

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CODE: 13IT4010 **SET-2**

UNIT-III

6.	a)	Write the summary of Kerberos v4 message exchanges and explain each message in detail.	8M
	b)	Draw the format of X.509 certificate revocation list.	4M
		(OR)	
7.	a)	Draw the general format of PGP message and explain the structure of private and public key rings.	8M
	b)	Write about the cryptographic algorithms used in S/MIME.	4M

UNIT-IV

8.	a)	Draw and explain the basic combinations of IPSec security associations.	5M
	b)	Write about SSL handshake and alert protocols.	7M
		(OR)	
9.	a)	List and explain the function of SET participants.	5M
	b)	Write in detail about SET payment authorization and payment capture.	7M

UNIT-V

10.	a)	Explain about statistical and rule based intrusion detection techniques.	6M
	b)	Write about virus phases and structure.	6M
		(OR)	
11.	a)	Explain firewall characteristics and types.	8M
	b)	Explain how to build a trusted system.	4M

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