

JK Lakshmipat University Jaipur
INSTITUTE OF ENGINEERING AND TECHNOLOGY

End Term Examination, May 2022

B. Tech. (CSE/ECE), Semester VI, BCA, Semester IV, 2020-22

Roll No.....

EE1219: Cyber Security

Time: 2 hours

Max. Marks: 30

OPEN BOOK/OPEN NOTES

Instructions to students:

1. Do not write anything other than your roll number on question paper.
2. Mention all the assumptions for your answers clearly.

Q1. Answer the following questions related to Cyber Forensics

[LO EE1219.4]

- (a) Compare Digital evidence with electronic evidence mentioning few examples of each type. 3M
- (b) Explain how memory forensic can be carried out, mentioning tool used? What kind of information can be retrieved from RAM forensic? 4M
- (c) What is Windows registry? What information can be retrieved from registry forensics? 3M

Q2. Explain the following with reference to Cyber vulnerabilities

[E1219.5]

10 M

(a) What is Zero Trust Model? Recommend an architecture for Cyber Safe campus where following servers and workstations are present by using segmentation (decide the number of zones and plan locations of server or workstation) and deploying suitable firewalls at suitable positions.

Antivirus Server
SIEM server
Active Directory Server
Classified HR data Server
Account Manager workstation
Network Administrator workstation
Mail Server
University Professor workstation
External Web server
Internal DNS server
IT employee workstation
Computer laboratory workstations
Research scholars workstation
Students chat server
Canteen managers workstation

Draw the schematic diagram showing the segmentation and firewall(s). Give reasons for choosing specific type of firewalls.

Q3 Answer the following questions related to Cyber Vulnerabilities and Prevention [LO EE1219.]

5 M

- (a) What is Broken Access Control, how can it be prevented? What are the effects?
- (b) What are cryptographic failures? Recommend some suitable cryptographic algorithm for Intensive Care Unit with 20 sensors sending high priority data like ECG every 20 seconds for a admitted patient. What should be distinct features of the algorithm used for this application.