SAKET COLLEGE OF ARTS,SCIENCE AND COMMERCE, KALYAN (EAST)
T.Y.B.SC (CS) SEMESTER VI PRELIMINARY EXAM MARCH 2018
SUBJECT: Advanced Networking & Security

TIME : $2^{1/2}$ HOURS **MARKS : 75**

NOTE: 1) ALL QUESTIONS ARE COMPULSORY.
2) DRAW NEAT LABELLED DIAGRAMS WHEREVER NECESSARY.
3) ALL QUESTIONS CARRY EQUAL MARKS.

Q.1.Attempt any three of the following: (15 marks)

a) What is dotted decimal notation in IPv4 addressing? What is the number of byte in an IPv4 address represent in dotted decimal notation? What is hexadecimal notation in IPv6 addressing? What is the number of digit in an IPv6 address representation in hexadecimal notation?
b) Briefly define sub-netting and super-netting? How do the subnet mask and supernet mask differ from a default mask in classful addressing?
c) Compare IPv4 and IPv6 packet header.
d) Explain working of RIP protocol?.
e) Explain any one transition strategy.
f) Explain the following links:
   i) Transition
   ii) Stub

Q.2.Attempt any three of the following: (15 marks)

a) Explain connection establishment using Three way handshaking in TCP.
b) Compare the TCP header and UDP header. List the field in TCP header that are missing from UDP header.
c) What do you mean by open loop congestion control policy? Explain any two policies.
d) Explain window concept in TCP.
e) Explain types of characteristic attribute to low of data?
f) What are the task of a DNS protocol.

Q.3.Attempt any three of the following: (15 marks)

a) Explain any five types of attack.
b) Write a short note on need of network Security.
c) Explain the characteristics and limitation of firewall.
d) Explain various strategies for Intruder detection.
e) What are typical phases of operation of a virus?
f) Explain the following services.
   i) Non-repudiation
   ii) Authentication iii) Integrity

Q.4.Attempt any three of the following: (15 marks)

a) Define DES with neat diagram Discuss general structure of DES.
b) What are Cipher? What is the differences between " Transposition Cipher" and "Substitution Cipher"?
c) Write in brief about " Digital Signature".
d) Discuss the working of IPSec.
e) Explain RSA algorithm.
f) What is mean by Message digest? Explain encryption using message digest method.

Q.5.Attempt any three of the following: (15 marks)

a) Explain why most of the addresses in class A are wasted. explain why medium - size or large size corporation does not want block of lass c addresses.
b) Explain method to convert logical address to physical address.
c) Write a short note on ElGAMAL.
d) Explain SMTP in detail.
e) Write a short note on "hacking".
f) An organization is granted the block 130.56.0.0/16. the administration want to create 1024 subnet.
   i) Find the subnet mask
   ii) Find the number of address in each subnet
   iii) Find the first and last address