INDIAN SCHOOL AL WADI AL KABIR

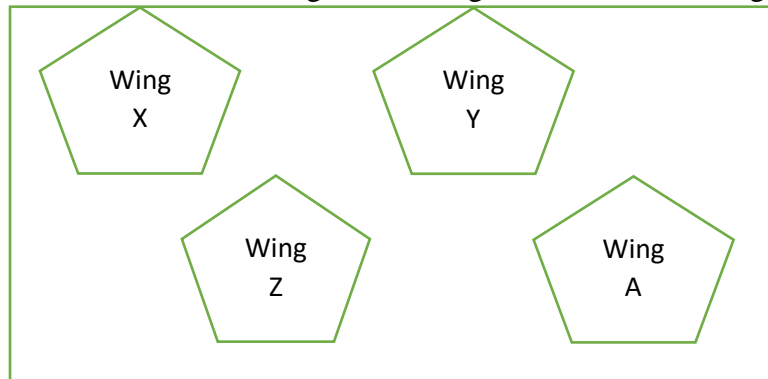| Class: XII Comp. Sci.	Department: Computer Science	Date of submission:20/04/2020
Worksheet No: 1	Topic: Computer Networks	Note:

Section A

1) What is a network? Why is it needed?
2) What is a communication channel? What choices do you have while choosing a communication channel for a network?
3) Identify the following device:
    a) a device that amplifies a signal being transmitted on the network.
    b) a device that works like a bridge but can handle different protocols.
4) What do you mean by Remote Login? Give Example.
5) Expand the following: a) HTTP b) FTP   c) SLIP d) PPP   e) NTP   f) SMTP g) POP h) IMAP
6) Give one advantage and disadvantages of coaxial cable and optical fiber cable.
7) Identify the term for the following:
a) a system designed to prevent unauthorized access to or from a private network.
b) a protocol used for uploading or downloading files between server and user's computer.
8) What is NIC?
9) Identify the Odd term amongst the following groups:
    Coaxial cable ii) Optical fiber iii) Microwave iv) Twisted Pair Wire
10) Write two characteristics of Wi-Fi.
11) Expand the following terms : i) GSM ii) GPRS
12) What is Spam?
13) Write any two characteristics of Cloud Computing.
14) Define the following : i)SCP ii) VoIP
15) What are the enabling technologies of IoT system?
16) What is a collision in a network> How does it impact the performance of a network?
17) What do you understand by parity checking?
18) Write a short note on IPv4 addressing and IPv6 addressing.
19) What is ping network tool?
20) What is tracert or traceroute command?
21) Which command is used to find the registration records for a specific domain name such as who is the owner, when it is registered and till when it is valid, etc.
22) What is MAC address? Explain its various parts.
23) What are the types of transmission media?
24) What is ICMP?
25) Write the difference between bridge and gateway.
26) What is cloud computing? Write any two benefits of cloud computing.
27) What is a cloud?
28) List the different data types used in cloud computing.

29) What are the advantages of cloud services?
30) What is secure communication?
31) Expand the following: a) VoIP   b) SMTP   c) TDMA   d) TCP/IP
32) Name the network tools used in the given situation:
   (i) to troubleshoot internet connection problem.
   (ii) to see the IP address associated with a domain name,
   (iii) to look up registration record associated with a domain name.

Section B

1) Johnson Group Organization has set up its new Branch at Hyderabad for its office and web based activities. It has 4 Wings of buildings as shown in the diagram:

Center to Center to Distances
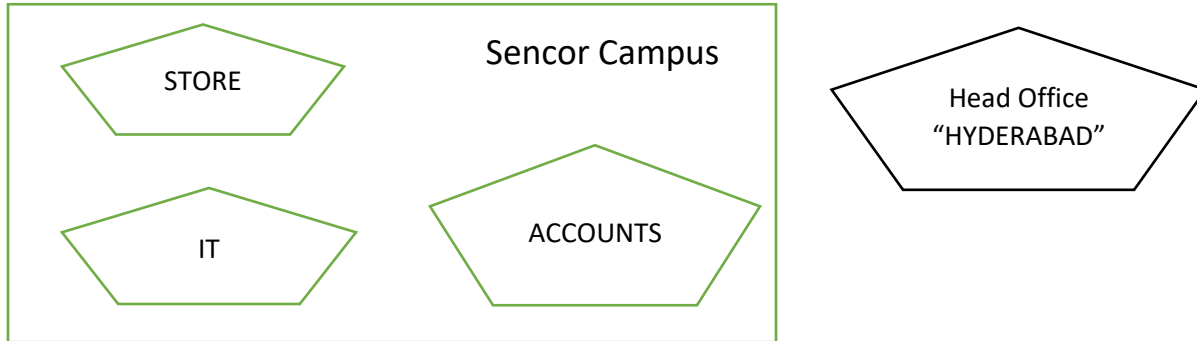Between various Blocks

Between Blocks	Distance
X TO Z	50 m
Z TO Y	70 m
Y TO X	125 m
Y TO A	80 m
X TO A	175 m
Z TO A	90 m

Number of Computers

Wing	No. Computers
X	50
Y	30
Z	150
A	15

i)   Suggest the most suitable cable layout of connections between the Wings, and topology.
ii) Suggest the most suitable place(i.e., Wing) to house the server of this organization with a suitable reason, with justification.
iii) Suggest the placement of the following devices with justification:
       a) Repeater   b) Hub/Switch
 b) The Organization is planning to provide a high-speed link with its head office situated in Mumbai using a wired connection. Suggest a cable type will be most suitable for this job?
 c) Which type of network out the following is formed by connecting the computers of these four blocks?
     i)   MAN   ii) PAN   iii) LAN   iv) WAN
 d) Which wireless channel out of the following should be opted by Johnson group to connect users different wings its campus with users from all over the world?
     i)   Infrared   ii) Microwave   iii) Satellite

e) Sencor Consultants are setting up a secure network for their office campus at Chennai for their day-to-day office and web-based activities. They are planning to have connectivity between 3 Buildings and the head office situated in Hyderabad. Answer the questions (i) to (iv) after going through the building positions in the campus and other details, which are given below.

Distances Between various Blocks

Between Building	Distance
STORE AND ACCOUNTS	110 m
STORE AND IT	45 m
IT AND ACCOUTNS	65 m
CAMPUS TO Head Office	625 KM

Number of Computers

Building	No. Computers
STORE	35
IT	175
ACCOUNTS	62
Head Office	15

i)   Suggest the most suitable place (i.e.,) building to house the server of this organization. Also give a reason to justify your suggested location.
ii) Suggest a cable layout of connections between the buildings inside the campus.
iii) Suggest the placement of the following devices with justification : 1. Switch   2. Repeater.
iv) The Organization is planning to provide an economical way of wired connection with its head office situated in Hyderabad using a wired connection. Which of the following cables will be most suitable for this job?
        1. Optical Fiber   2. Co-axial cable   3. Ethernet cable.
v)   Which one of the following will you suggest to establish online face-to-face communication between people in the IT office of Chennai campus and Hyderabad Head Office.
     i)   Cable TV   ii) Email   iii) videoconferencing   iv) Text Chat
vi) Which hardware device will you suggest to be procured by the company to be installed to protect and control internet usage within the campus.