Answer the following:

Q1 Rewrite the following code in python after removing all syntax error(s). Underlining each correction done in the code.   2

```
30=x
For I in range(2,6)
if x>30:
print("true") else
Print("False")
```

Q2 Find and write the output of the following python code: 3
```
Msg="CompuTer" Msg1="
for i in range(0, len(Msg)):
    if Msg[i].isupper():
         Msg1=Msg1+Msg[i].lower()
     elif i%2==0:
          Msg1=Msg1+'*'
      else:
          Msg1=Msg1+Msg[i].upper() print(Msg1)
```

Q3 Find and write the output of the following python code: 3

```
def Alter(x,y=20):
    x=x*y
    y=x%y
    print (x,'*',y)
    return (x)

a=200
b=30
a=Alter(a,b)
print (a,'$',b)
b=Alter(b)
 print (a,'$', b)
a=Alter(a)
 print (a,'$',b)
```

Q4 Find the output of the following:

```
L1=[100,900,300,400,500]
START=1
SUM=0
For C in range (START, 4):
```

```
    SUM=SUM+L1[C]
     print(C,":",SUM)
     SUM=SUM+L1[0]*10
     print(SUM)
```

Q5 Write a user-defined function to generate odd numbers between a and b (including b). 2

Q6 ffile=open("Mydata","a")_____#Blank1   2

   ffile.close ()

      (i) What type(Text/Binary)of file is Mydata?
      (ii) Fill in the Blank1 with a statement to write "ABC" in the file "Mydata".

Q7 Daniel has to share the data among various computers of his two offices branches situated in the same city. Name the network (out of LAN, WAN, PAN and MAN) which is being formed in this process.   1

Q8 What are the enabling technologies of IoT system?   2

Q9 What is CSMA/CA? How does it works?   2

Q10 Differentiate between a text file and a binary file.   2
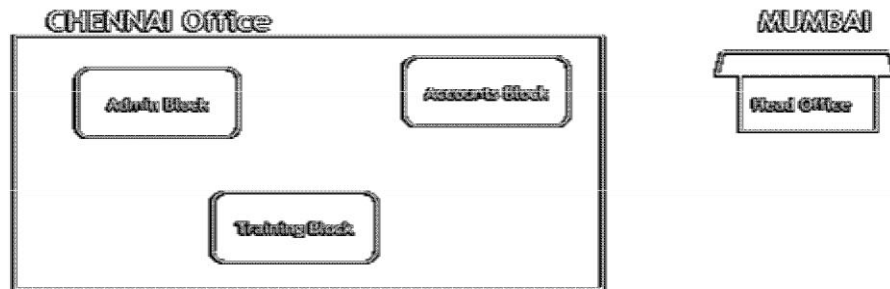
Q11 What is the difference between "w" and "a" modes?   1

Q12 Write the expanded name for the following abb.reviated terms used in Networking and Communication: 2
   (i)SMTP   (ii) NFC   (iii) FTP   (iv) V oIP

Q13 Identify the following 140.178.112.120. What is its use?   2

Q14 Hi Standard Tech Training Ltd is a Mumbai based organization, which is expanding its office set-upto Chennai. At Chennai office compound, they are planning to have 3 different blocks for Admin, Training and Accounts related activities. Each block has a number of computers, which are required to be connected in a network for communication, data and resource sharing.

As a network consultant, you have to suggest the best network related solutions for them for issues/problems raised by them in (i) to (iv), as per the distances between various blocks/locations and other given parameters.

Shortest distances between various blocks/locations:

Admin Block to Account Block   300 Metres

Accounts Block to Training Block   150 Metres

  Admin Block to Training Block   200 Metres

MUMBAI Head Office to CHENNAI Office   1300 KM

Number of computers installed at various blocks are as follows:

Training Block	150
Accounts Block	30
Admin Block	40

i) Suggest the most appropriate block/location to house the SERVER in the CHENNAI office (out of the 3 blocks) to get the best and effective connectivity. Justify your answer.   1

ii) Suggest the best wired medium and draw the cable layout (BlocktoBlock) to efficiently connect various blocks with in the CHENNAI office compound.   1

iii) Suggest a device/software and its placement that would provide data security for the entire network of the CHENNAI office.   1

iv)Suggest a device and the protocol that shall be needed to provide wireless Internet access to all smartphone/laptop users in the CHENNAI office.   1

Q15 Rehana Medicos Centre has set up its new centre in Dubai. It has four buildings as shown in the diagram given below:

Accounts		Research Lab	

Store		Packaging unit	

Distance between various building are as follows:

Accounts to research Lab	55m
Accounts to store	150m
Store to packaging unit	160m
Packaging unit to research lab	60m
Accounts to packaging unit	125m
Store to research lab	80m

Number of Computers

Accounts	25
Research Lab	100
Store	15
Packaging Unit	60

As a network expert, provide the best possible answer for the following queries:

1. i) Suggest a cable layout of connections between the buildings.   1
2. ii) Suggest the most suitable place (i.e. buildings) to house the server of this organization.   1
3. iii) Suggest the placement of the following device with justification: a) Repeater b) Hub/Switch   1
4. iv) Suggest a system (hardware/software) to prevent unauthorized access to or from the network.   1

Q16 Define degree and cardinality. Based upon given table write degree and cardinality. 2
                    PATIENTS

PatNo	PatName	Dept	DocID
1	Leena	ENT	100
2	Supreeth	Ortho	200
3	Madhu	ENT	100
4	Neha	ENT	100
5	Deepak	Ortho	200

Q17 What is secured data transmission? What technical ways are used to ensure the secure data 2 transmission?   2

Q18 What is intellectual property? What do you understand by intellectual property right? 2

Q19 What is cybercrime? Give example.   2

Q20 What is identity theft?   2

Q21 Write a python program to copy file1.txt into file2.txt   2

Q22 Write SQL queries for (a) to (f) and write the outputs for the SQL queries mentioned shown in (g1) to (g4)   parts on the basis of tables ITEMS and TRADERS   1*9=9

Table   Items

CODE	INAME	QTY	PRICE	COMPANY	TCODE
1001	DIGITAL PAD 12i	120	11000	XENITA	T01
1006	LED SCREEN 40	70	38000	SANTORA	T02
1004	CAR GPS SYSTEM	50	21500	GEOKNOW	T01
1003	DIGITAL CAMERA	160	8000	DIGICLICK	T02
1005	PEN DRIVE 32GB	600	1200	STOREHOME	T03

Table: TRADERS

TCode	TName	CITY
T01	ELECTRONIC SALES	MUMBAI
T03	BUSY STORE CORP	DELHI
T02	DISP HOUSE INC	CHENNAI

i)   To display the details of all the items in the ascending order of item names (i.e. INAME).

ii)   To display item name and price of all those items, whose price is in range of 10000 and 22000 (both values inclusive).

iii)   To display the number of items, which are traded by each trader. The expected output of this query should be:

   T01   2

   T02   2

   T03   1

iv)   To display the price, item name and quantity (i.e. qty) of those items which have quantity more than 150.

v) To display the names of those traders, who are either from DELHI or from MUMBAI.

vi) To display the names of the companies and the names of the items in descending order of company names.

Give the output:-

g1) SELECT MAX(PRICE), MIN(PRICE) FROM ITEMS;

g2) SELECT PRICE*QTY AMOUNT FROM ITEMS WHERE CODE-1004; g3) SELECT DISTINCT TCODE FROM ITEMS;

g4) SELECT INAME, TNAME FROM ITEMS I, TRADERS T WHERE I.TCODE=T.TCODE AND QTY<100;

Q23 A text file "Quotes.Txt" has the following data written in it:

Living a life you can be proud of
Doing your best
Spending your time with people and activities that are important to you Standing up for things that are right even when it's hard Becoming the best version of you

Write a user defined function to display the total number of words present in the file.   2
Q24 Write a program to take the details of book from the user and write the record in the end of the text file   2
Q25 Write the following programs using text file :   5*2 = 10

(a) Count the number of characters from a file. (Don't count white spaces)
(b) Count the number of words in a file

(c) Count number of lines in a text file.

(d) Count number of vowels in a text file.

(e) Count the number of 'is' word in a text file.