

QUESTION BANK
Class XII
Subject :COMPUTER SCIENCE
Session (2020-21)

CH-1 REVISION TOUR OF CLASS XI

Q1 Name the Python Library modules which need to be imported to invoke the following functions :

1. load ()
2. pow ()

Q2 Out of the following, find those identifiers, which cannot be used for naming Variables or functions in a Python program:

Total * Tax, While, Class, Switch, 3rd Row, finally, Column 31, Total.

Q3 Name the function / method required for

1. Finding second occurrence of m in madam.
2. get the position of an item in the list.

Q4 Rewrite the following while loop into for loop:

```
i = 10
while i<250:
    print i
    i = i+50
```

Q5 What is the difference between parameters and arguments?

Q6 What are keyword arguments? What are the advantages of keyword arguments?

Q7 Rewrite the following code in Python after removing all syntax errors(s).
Underline each correction done in the code

```
for Name in [Ramesh, Suraj, Priya]
if Name [0] = 'S':
Print (Name)
```

Q8 Observe the following Python code carefully and obtain the output, which will appear on the screen after execution of it.

```
def Findoutput ():
    L = "earn"
    X = " "
    count = 1
    for i in L:
        if i in ['a', 'e', 'i', 'o', 'u']:
            x = x + 1. Swapcase ()
        else:
            if (count % 2 != 0):
                x = x + str (len (L[:count]))
            else:
                x = x + 1
        count = count + 1
    print( x)
Findoutput ()
```

Q9 Find and write the output of the following Python code:

```
Number = [9,18,27,36]
for N in Numbers:
    print (N, "#", end = " ")
print ()
```

Q10 What are the possible outcome(s) executed from the following code? Also, specify the maximum and import random. [CBSE Delhi 2016]

```
PICK=random.randint (0,3)
CITY= ["DELHI", "MUMBAI", "CHENNAI", "KOLKATA"];
for I in CITY :
    for J in range (1, PICK)
print (I, end = " ")
Print ()
```

| (i) | (ii) |
|------------|-------|
| DELHIDELHI | DELHI |

| | |
|----------------|-----------------------|
| MUMBAIMUMBAI | DELHIMUMBAI |
| CHENNAICHENNAI | DELHIMUMBAICEHNNAI |
| KOLKATAKOLKATA | |
| (iii) | (iv) |
| DELHI | DELHI |
| MUMBAI | MUMBAIMUMBAI |
| CHENNAI | KOLKATAKOLKATAKOLKATA |
| KOLKATA | |

Q11 What are the possible outcome(s) executed from the following code? Also, specify the maximum and minimum values that can be assigned to variable SEL.

```
import random
SEL=random. randint (0, 3)
ANIMAL = ["DEER", "Monkey", "COW", "Kangaroo"];
for A in ANIMAL:
for AAin range (1, SEL):
print (A, end ="")
print ()
```

| (i) | (ii) | (iii) | (iv) |
|------------------|----------------|----------|--------------------------|
| DEERDEER | DEER | DEER | DEER |
| MONKEYMONKEY | DELHIMONKEY | MONKEY | MONKEYMONKEY |
| COWCOW | DELHIMONKEYCOW | COW | KANGAROOKANGAROOKANGAROO |
| KANGAROOKANGAROO | | KANGAROO | |

Q12 Rewrite the following Python code after removing all syntax error(s). Underline the corrections done.

def main():

```

r = input('enter any radius : ')
a = pi * math.pow(r,2)
print " Area = " + a

```

Q13 Write the output for the following codes:

```

A={10:1000,20:2000,30:3000,40:4000,50:5000}
print A.items()
print A.keys()
print A.values()

```

Q14 Write the output from the following code:

```

t=('a','b','c','A','B')
print max(t)
print min(t)

```

Q15 Write the output from the following code:

```
T1=(10,20,30,40,50)
T2 =(10,20,30,40,50)
T3 =(100,200,300)
cmp(T1, T2)
cmp(T2,T3)
cmp(T3,T1)
```

Q16 Find the output from the following code:

```
t=tuple()
t = t + ('Python',)
print t
print len(t)
t1=(10,20,30)
print len(t1)
```

Q17 Rewrite the following code in Python after removing all syntax error(s).
Underline each correction done in the code.

```
for student in [Jaya, Priya, Gagan]
    If Student [0] = 'S':
        print (student)
```

CH- 2 Functions

Q1

Observe the following Python code carefully and obtain the output, which will appear on the screen after execution of it.

```
def Findoutput():
    L = "earn"
    X=""
    L1=[]
    count = 1
    for i in L:
        if i in ['a','e','i','o','u']:
            X=X+i.swapcase()
        else:
            if (count%2!=0):
                X= X+str(len(L[:count]))
            else:
                X = X+i
            count = count+1
    print X
Findoutput()
```

Q2 Find the output of the following :

```
def ChangeList():
    L=[]
    L1=[]
    L2=[]
    for i in range(1,10):
        L.append(i)
    for i in range(10,1,-2):
        L1.append(i)
    for i in range(len(L1)):
        L2.append(L1[i]+L[i])
    L2.append(len(L)-len(L1))
    print L2
ChangeList()
```

Q3 Define the following with example:

i)Default Arguments

ii)Positional Arguments

iii)Keyword Arguments

Q4 Differentiate between the following:

i) formal parameters and actual parameters

ii) Positional and keyword arguments

iii)user defined and system defined

Q5 Differentiate between the round() and floor() functions with the help of suitable example.

Q6 Which string method is used to implement the following:

1. To count the number of characters in the string.
2. To change the first character of the string in capital letter.
3. To check whether given character is letter or a number.
4. To change lowercase to uppercase letter.
5. Change one character into another character

Q7 What do you mean by scope of the variables? Describe all types of scopes

Q8How many ways are there to import a module & its functions.

Q9 Consider the following unsorted list

95 79 19 43 52 3

Write the passes of bubble sort for sorting the list in ascending order till the 3rd iteration.

Q10 Kritika was asked to accept a list of even numbers but she did not put the relevant condition while accepting the list of numbers. You are required to write a code to convert all the odd numbers into even by multiplying them by 2.

Q11 Write a generator function generatesq() that displays the squareroots of numbers from 100 to n where n is passed as an argument .

Q12 Write the definition of a function Reverse(X) in Python, to display the elements in reverse order such that each displayed element is the twice of the original element (element * 2) of the List X in the following manner:

Example:

If List X contains 7 integers is as follows:

X[0] X[1] X[2] X[3] X[4] X[5] X[6]

4 8 7 5 6 2 10

After executing the function, the array content should be displayed as follows:

CH-3 DATA FILE HANDLING

Q1 Consider following lines for the file friends.txt and predict the output:

```
Friends are crazy, Friends are naughty !

Friends are honest, Friends are best !

Friends are like keygen, friends are like license key !

We are nothing without friends, Life is not possible without
friends !

f = open("friends.txt")
l = f.readline()
l2 = f.readline(18)
ch3=f.read(10)
print(l2)
print(ch3)
print(f.readline())
f.close()
```

Q2 Write a function count_lines() to count and display the total number of lines from the file. Consider above file – friends.txt.

Q3 Write two ways to import a csv module.

Q4 Explain following functions with example.

1. reader()
2. writer()
3. writerow()

Q5 Write python code to create a header row for CSV file "students.csv". The column names are : [Adm.No, StudentName, City, Remarks]

Q6 Observe the following code and fill in the given blanks:


```
import csv
with _____ as f:
    #1
    r = csv._____(f)
    #2
    for row in ____:
    #3
        print(____) #4
```

CH-4 DATA STRUCTURE IN PYTHON

Q1 How is linear search different from binary search?

Q2 Consider the following list 95 79 19 43 52 3

Write the passes of bubble sort sorting the list in ascending order till the 3rd iteration.

Q3 In the following list containing integers, sort the list using Insertion sort algorithm. Also show the status of the list after each iteration.

15 -5 20 -10 10

Q4 Consider the following unsorted list: 90 78 20 46 54 1 Write the list after:

1. 3rd iteration of selection sort
2. 4th iteration of bubble sort
3. 5th iteration of insertion sort

Q5 Consider the following unsorted list:

10 5 55 13 3 49 36

Write the position of elements in the list after:

- (i) 5th iteration of bubble sort
- (ii) 7th iteration of insertion sort
- (iii) 4th iteration of selection sort

Q6 Expand the following:

1. LIFO
2. FIFO

Q7 Write Add(Fruit) and Remove (Fruit) methods in Python to insert name of a Fruit and to delete name of a Fruit considering them to act as push and pop operations of the data structure Stack.

Q8 Write the pop operation of stack containing numbers

Q9

.. Write a function push(student) and pop(student) to add a new student name and remove a student name from a list student, considering them to act as PUSH and POP operations of stack Data Structure in Python.

Q10

Write a menu based program to add, delete and display the record of hostel using list as stack data structure in python. Record of hostel contains the fields : Hostel number, Total Students and Total Rooms

CH-5 SQL

Q1 Observe the following STUDENTS and EVENTS tables carefully and write the name of the RDBMS operation which will be used to produce the output as shown in LIST. Also, find the Degree and Cardinality of the LIST.

| Table: STUDENTS | |
|-----------------|---------------|
| NO | NAME |
| 1 | Tara Mani |
| 2 | Jaya Sarkar |
| 3 | Tarini Trikha |

| Table: EVENTS | |
|---------------|-------------|
| EVENTCODE | EVENTNAME |
| 1001 | Programming |
| 1002 | IT Quiz |

| Table: LIST | | | |
|-------------|---------------|-----------|-------------|
| NO | NAME | EVENTCODE | EVENTNAME |
| 1 | Tara Mani | 1001 | Programming |
| 1 | Tara Mani | 1002 | IT Quiz |
| 2 | Jaya Sarkar | 1001 | Programming |
| 2 | Jaya Sarkar | 1002 | IT Quiz |
| 3 | Tarini Trikha | 1001 | Programming |
| 3 | Tarini Trikha | 1002 | IT Quiz |

Q2 Observe the following table carefully and write the names of the most appropriate columns, which can be considered as

(i) Candidate keys and (ii) Primary key.

| Id | Product | Qty | Price | Transaction Date |
|-----------|----------------------|------------|--------------|-------------------------|
| 101 | Plastic Folder 12" | 100 | 3400 | 2014-12-14 |
| 104 | Pen Stand Standard | 200 | 4500 | 2015-01-31 |
| 105 | Stapler Medium | 250 | 1200 | 2015-02-28 |
| 109 | Punching Machine Big | 200 | 1400 | 2015-03-12 |
| 103 | Stapler Mini | 100 | 1500 | 2015-02-02 |

Q3 Observe the following table and answer the parts (i) and (ii):

| Item Code | Item | Qty | Rate |
|------------------|-----------------|------------|-------------|
| 10 | Gel Pen Classic | 1150 | 25 |
| 11 | Sharpener | 1500 | 10 |
| 12 | Ball Pen 0.5 | 1600 | 12 |
| 13 | Eraser | 1600 | 5 |
| 15 | Ball Pen 0.25 | 800 | 20 |

(i) In the above table, can we have Qty as primary key? [Answer as yes/no]. Justify your answer.

(ii) What is the cardinality and degree of the above table?

Q4 Explain the concept of Cartesian Product between two tables, with the help of appropriate example.

Q5 What do you understand by candidate key in a table? Give a suitable example of candidate key from a table containing some meaningful data.

Q6 Differentiate between Data Definition Language and Data Manipulation Language.

Q7 Write SQL queries for (a) to (f) and write the output for the SQL queries mentioned in (g) parts (i) to (iv) on the basis of tables ITEMS and TRADERS

TABLE: ITEMS

| Code | IName | Qty | Price | Company | TCode |
|------|--------------------|-----|-------|-----------|-------|
| 1001 | DIGITAL PAD 121 | 120 | 11000 | XENITA | T01 |
| 1006 | LED SCREEN 40 | 70 | 38000 | SANTORA | T02 |
| 1004 | CAR GPS SYSTEM | 50 | 2150 | GEOKNOW | T01 |
| 1003 | DIGITAL CAMERA 12X | 160 | 8000 | DIGICLICK | T02 |
| 1005 | PEN DRIVE 32 GB | 600 | 1200 | STOREHOME | T03 |

TABLE: TRADERS

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

- (a) To display the details of all the items in ascending order of item names (i.e. I NAME).
 (b) To display item name and price of all those items, whose price is in the range of 10000 and 22000 (both values inclusive).
 (c) To display the number of items, which are traded by each trader. The expected output of this query should be:

T01 2
 T03 1
 T02 2

- (d) To display the Price, item name (i.e. IName) and quantity (i.e. Qty) of those items, which have quantity more than 150.
 (e) To display the names of those traders, who are either from DELHI or from MUMBAI.
 (f) To display the name of the companies and the name of the items in descending order of company names.
 (g) Obtain the outputs of the following SQL queries based on the data given in tables ITEMS and TRADERS above.

```
(i) SELECT MAX(Price), MIN(Price) FROM ITEMS;
(ii) SELECT Price * Qty AMOUNT .
      FROM ITEMS WHERE Code=1004;
(iii) SELECT DISTINCT TCode FROM ITEMS;
(iv) SELECT IName, TName
      FROM ITEMS I, TRADERS T
      WHERE I.TCode = T.TCode AND Qty < 100;
```

Q8 Write SQL queries for (a) to (f) and write the outputs for (g) parts (i) to (iv) on the basis of tables APPLICANTS and COURSES.

TABLE: APPLICANTS

| No. | NAME | FEE | GENDER | C_ID | JOINYEAR |
|------|----------|-------|--------|------|----------|
| 1012 | Amandeep | 30000 | M | A01 | 2012 |
| 1102 | Avisha | 25000 | F | A02 | 2009 |
| 1103 | Ekant | 30000 | M | A02 | 2011 |
| 1049 | Arun | 30000 | M | A03 | 2009 |
| 1025 | Amber | 40000 | M | A02 | 2011 |
| 1106 | Ela | 40000 | F | A05 | 2010 |
| 1017 | Nikita | 35000 | F | A03 | 2012 |
| 1108 | Arluna | 30000 | F | A03 | 2012 |
| 2109 | Shakti | 35000 | M | A04 | 2011 |
| 1101 | Kirat | 25000 | M | A01 | 2012 |

TABLE: COURSES

| C_ID | COURSE |
|------|-------------------|
| A01 | FASHION DESIGN |
| A02 | NETWORKING |
| A03 | HOTEL MANAGEMENT |
| A04 | EVENT MANAGEMENT |
| A05 | OFFICE MANAGEMENT |

- (a) To display NAME, FEE, GENDER, JOINYEAR about the APPLICANTS, who have joined before 2010.
- (b) To display the names of applicants, who are paying FEE more than 30000.
- (c) To display the names of all applicants in ascending order of their joinyear.
- (d) To display the year and the total number of applicants joined in each year from the table APPLICANTS.
- (e) To display the CJD and the number of applicants registered in the course from the APPLICANTS table.
- (f) To display the applicant's name with their respective course's name from the tables APPLICANTS and COURSES.
- g) Give the output of the following SQL statements:

```
(i) SELECT NAME, JOINYEAR FROM APPLICANTS WHERE GENDER = ' F' AND C_ID=
' A02 ' ;
(ii) SELECT MIN (JOI NYEAR) FROM APPLICANTS WHERE GENDER = ' M' ;
(iii) SELECT AVG(FEE) FROM APPLICANTS WHERE C_ID='A01 ' OR C_ID='A05';
(iv) SELECT SUM( FEE), C_ID FROM APPLICANTS GROUP BY C_ID HAVING
COUNT(*)=2;
```

Q9 Consider the following tables CUSTOMER and ONLINESHOP. Write SQL commands for the statements

(a) to (d) and give outputs for SQL queries (e) to (h). Delhi 2012C

TABLE: CUSTOMER

| CID | CNAME | GENDER | SID | AREA |
|------|-----------------|--------|-----|-------|
| 1001 | R SHARMA | FEMALE | 101 | NORTH |
| 1002 | M R TIWARY | MALE | 102 | SOUTH |
| 1003 | M K KHAN | MALE | 103 | EAST |
| 1004 | A K SINGH | MALE | 102 | EAST |
| 1005 | S SEN | FEMALE | 101 | WEST |
| 1006 | R DUBEY | MALE | 104 | NORTH |
| 1007 | M AGARWAL | FEMALE | 104 | NORTH |
| 1008 | S DAS | FEMALE | 103 | SOUTH |
| 1009 | R K PATIL | MALE | 102 | NORTH |
| 1010 | N KRISHNA MURTY | MALE | 102 | SOUTH |

TABLE: ONLINESHOP

| SID | SHOP |
|-----|---------------|
| 101 | MY BUY |
| 102 | ECO BUY |
| 103 | JUST SHOPPING |
| 104 | SHOPPING EASY |

- (a) To display CNAME, AREA of all female customers from CUSTOMER table.
 (b) To display the details of all the CUSTOMERS in ascending order of CNAME within SID.
 (c) To display the total number of customers for each AREA from CUSTOMER table.
 (d) To display CNAME and corresponding SHOP from CUSTOMER table and ONLINESHOP table.

- (e) `SELECT COUNT(*), GENDER FROM CUSTOMER GROUP BY GENDER;`
 (f) `SELECT COUNT(*) FROM ONLINESHOP;`
 (g) `SELECT CNAME FROM CUSTOMER WHERE CNAME LIKE 'L%';`
 (h) `SELECT DISTINCT AREA FROM CUSTOMER;`

Q10 Consider the table PERSONS given below. Write commands in SQL for (i) to (iv) and write output for

(v) to (viii).

TABLE PERSONS

| PID | SurName | FirstName | Gender | City | PinCode | BasicSalary |
|-----|---------|-----------|--------|-------------------|---------|-------------|
| 1 | Sharma | Geeta | F | Udhamwara | 182141 | 50000 |
| 2 | Singh | Surinder | M | Kupwara Nagar | 193222 | 75000 |
| 3 | Jacob | Peter | M | Bhawani | 185155 | 45000 |
| 4 | Alvis | Thomas | M | Ahmed Nagar | 380025 | 50000 |
| 5 | Mohan | Garima | M | Nagar Coolangatta | 390026 | 33000 |
| 6 | Azmi | Simi | F | New Delhi | 110021 | 40000 |
| 7 | Kaur | Manpreet | F | Udhamwara | 182141 | 42000 |

- (i) Display the SurName, FirstName and City of people residing in Udhamwara city.
(ii) Display the Person IDs (PID), Cities and Pincodes of persons in descending order of Pincode.
(iii) Display the FirstName and City of all the females getting Basic salaries above 40000.
(iv) Display FirstName and BasicSalaries of all the persons whose first name start with 'G'.
(Delhi 2012c)

(v) `SELECT SurName FROM PERSONS WHERE BasicSalary >= 50000;`
(vi) `SELECT SUM (BasicSalary) FROM PERSONS WHERE Gender = 'F';`
(vii) `SELECT Gender, MIN (BasicSalary) FROM PERSONS GROUP BY Gender;`
(viii) `SELECT Gender, COUNT (*) FROM PERSONS GROUP BY Gender;`

Q11 Define the following functions:

1. fetch()
2. fetchall()
3. commit()
4. cursor()

Q12 What are joins ? Explain all types of joins with example?

Ch-7 NETWORKING

Q1 Give two examples of PAN and LAN type of networks.

Q2 Which protocol helps us to browse through Web pages using Internet browsers? Name any one Internet browser.

Q3 Write two advantages of 4G over 3G Mobile Telecommunication Technologies in terms of speed and services.

Q4 Write two characteristics of Web 2.0

Q5What is the basic difference between Trojan Horse and Computer Worm?

Q6What is the difference between video conferencing and chat?

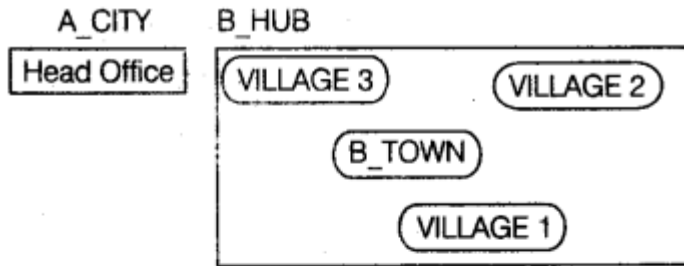
Q7What is the difference between domain name and IP address?

Q8Write one advantage of star topology of network. Also, illustrate how 5 computers can be connected with each other using star topology of network

Q9What term we use for a software/ hardware device, which is used to block, unauthorised access while permitting authorised communications. This term is also used for a device or set of devices configured to permit, deny, encrypt, decrypt, or proxy all (in and out) computer traffic between different security domains based upon a set of rules and other criteria

Q10 What is protocol? Which protocol is used to copy a file from/to a remotely server ?

Q11 Uplifting Skills Hub India is a knowledge and skill community which has an aim to uplift the standard of knowledge and skills in the society. It is planning to set-up its training centers in multiple towns and villages pan India with its head offices in the nearest cities. They have created a model of their network with a city, a town and 3 villages as follows. As a network consultant, you have to suggest the best network related solutions for their issues/problems raised in (i) to (iv) keeping in mind the distances between various locations and other given parameters.



Shortest distances between various locations:

| | |
|-----------------------------|--------|
| VILLAGE 1 to B_TOWN | 2 KM |
| VILLAGE 2 to B_TOWN | 1.0 KM |
| VILLAGE 3 to B_TOWN | 1.5 KM |
| VILLAGE 1 to VILLAGE 2 | 3.5 KM |
| VILLAGE 1 to VILLAGE 3 | 4.5 KM |
| VILLAGE 2 to VILLAGE 3 | 2.5 KM |
| A_CITY Head Office to B_HUB | 25 KM |

Number of Computers installed at various locations are as follows:

| | |
|---------------|-----|
| B_TOWN | 120 |
| VILLAGE 1 | 15 |
| VILLAGE 2 | 10 |
| VILLAGE 3 | 15 |
| A_CITY OFFICE | 6 |

NOTE : In Villages, there are community centers, in which one room has been given as training center to this organisation to install computers.

The organisation has got financial support from the government and top IT companies.

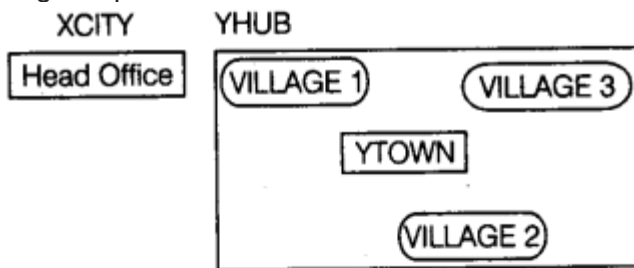
1. Suggest the most appropriate location of the SERVER in the B_HUB (out of the 4 locations), to get the best and effective connectivity. Justify your answer.
2. Suggest the best wired medium and draw the cable layout (location to location) to efficiently connect various location within the B_HUB.
3. Which hardware device will you suggest to connect all the computers within each location of B_HUB?
4. Which service/protocol will be most helpful to conduct live interactions of Experts from Head Office and people at all locations of B_HUB? Delhi 2016

Q12 Intelligent Hub India is a knowledge community aimed to uplift the standard of skills and knowledge in the society. It is planning to set-up its training centers in multiple towns and villages pan India with its head offices in the nearest cities.

They have created a model of their network with a city, a town and 3 villages as follows.

As a network consultant, you have to suggest the best network related solutions for their

issues/problems raised in (i) to (iv), keeping in mind the distance between various locations and other given parameters.



Shortest distances between various locations:

| | |
|--------------------------|--------|
| VILLAGE 1 to YTOWN | 2 KM |
| VILLAGE 2 to YTOWN | 1.5 KM |
| VILLAGE 3 to YTOWN | 3 KM |
| VILLAGE 1 to VILLAGE 2 | 3.5 KM |
| VILLAGE 1 to VILLAGE 3 | 4.5 KM |
| VILLAGE 2 to VILLAGE 3 | 3.5 KM |
| CITY Head office to YHUB | 30 KM |

Number of Computers installed at various locations are as follows:

| | |
|-------------|-----|
| YTOWN | 100 |
| VILLAGE 1 | 10 |
| VILLAGE 2 | 15 |
| VILLAGE 3 | 15 |
| CITY OFFICE | 5 |

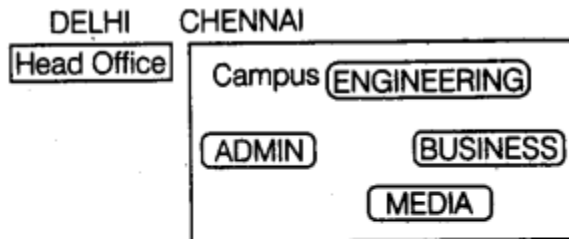
NOTE In Villages, there are community centers, in which one room has been given as training center to this organisation to install computers. The organisation has got financial support from the government and top IT companies.

1. Suggest the most appropriate location of the SERVER in the YHUB (out of the 4 locations), to get the best and effective connectivity. Justify your answer.
2. Suggest the best wired medium and draw the cable layout (location to location) to efficiently connect various locations within the YHUB.
3. Which hardware device will you suggest to connect all the computers within each location of YHUB?
4. Which service/protocol will be most helpful to conduct live interactions of Experts from Head Office and people at YHUB locations?

Q13 Perfect Edu Services Ltd. is an educational organisation. It is planning to set-up its India campus at Chennai-with its head office at Delhi. The chennai campus has 4 main buildings- ADMIN, ENGINEERING, BUSINESS and MEDIA.

You as a network expert have to suggest the best network related solutions for their problems raised in

(i) to (iv), keeping in mind the distance between the buildings and other given parameters.



Shortest distance between various buildings:

| | |
|-------------------------------------|--------|
| ADMIN to ENGINEERING | 55 m |
| ADMIN to BUSINESS | 90 m |
| ADMIN to MEDIA | 50 m |
| ENGINEERING to BUSINESS | 55 m |
| ENGINEERING to MEDIA | 50 m |
| BUSINESS to MEDIA | 45 m |
| DELHI Head Office to CHENNAI Campus | 2175 m |

Number of computers installed at various buildings are as follows:

| | |
|-------------------|-----|
| ADMIN | 110 |
| ENGINEERING | 75 |
| BUSINESS | 40 |
| MEDIA | 12 |
| DELHI Head Office | 20 |

1. Suggest the most appropriate location of the server inside the CHENNAI campus (oof the 4 buildings), to get the best connectivity for maximum number of computers. Justify your answer.
2. Suggest and draw the cable layout to efficiently connect various buildings within the CHENNAI campus for connecting the computers.
3. Which hardware device will you suggest to be procured by the company to be installed to protect and control the Internet uses within the campus?
4. Which of the following will you suggest to establish the online face-to-face communication between the people in the Admin Office of CHENNAI campus and DELHI Head Office?
 - (a) Cable TV
 - (b) E-mail
 - (c) Video Conferencing
 - (d) Text Chat