Solution : Paper-1

Section-A

1. (a)
2. (a) Keyword   (b) Identifier
3. (a) math   (b) random
4. (c)
5. (c)
6. (a)
7. (c)
8. (c)
9. (c)
10. (a) math   (b) pickle
11. (a)
12. (b)
13. (a)
14. (a)
15. (d)
16. (a)
17. (d)
18. (c)
19. (d)
20. Expressions are any legal combination of symbol that represents a value statements are programming instructions.
21. DELETE command is used to remove information from a particular row or rows. If used without condition, it will delete all row information but not the structure of the table. It is a DML command.
    DROP table command is used to remove the entire structure of the table and information. It is a DDL command.

22.
(a) SELECT GCODE, DESCRIPTION FROM GARMENT ORDER BY GCODE DESC;
(b) SELECT*FROM GARMENT
WHERE READYDATE BETWEEN '08-DEC-07' AND '16-JUN-08';
(c) SELECT AVG(PRICE) FROM GARMENT WHERE FCODE = 'E03' ;
(d) SELECT FCODE, MAX(PRICE), MIN(PRICE) FROM GARMENT GROUP BY FCODE;
(e) MAX(FCODE)
    F04
(f) COUNT (DISTINCT PRICE)
    7

23.
(a) SELECT SenderName FROM SENDER WHERE SenderCity = 'Mumbai';
(b) SELECT RecID, SenderName, SenderAddress, RecName, RecAddress
FROM RECIPIENT, SENDER WHERE RECIPI ENT.Sender ID = SENDER.Sender ID;
(c) SELECT * FROM RECIPIENT ORDER BY RecName;
(d) SELECT COUNT(*) As "No. of Recipients", RecCity FROM RECIPIENT
GROUP BY RecCity;

(e) SenderName	RecName
R Jain	H Singh
SJha	P K Swamy

(f) RecName	RecAddress
S Mahajan	116, AVihar
S Tripathi	13.B1D, Mayur Vihar

(g) RecID	RecName
ND08	S Mahajan
ND48	S Tripathi

Section-B

24. To =30   # variable name should be LHS
      for k in range (0,To) :
   print (k * 4)
   else :   # else should be in lower case
   print (k+3)

25.   Jayes
   Finished!
   Ramya
   Finished!
   Taruna
   Got it!

26. The function round() is used to convert a fractional number into whole as the nearest next whereas the function floor() is used convert to the nearest lower whole number,
   e.g., round (5.8) = 6, round (4.1) = 5 and floor (6.9) = 6, floor (5.01) = 5

   OR

   math
   pickle

27. a=25
    while a < 500:
      print ("a")
    a = a + 25

28. A tuple is immutable whereas a list is a mutable.
   A tuple cannot be changed whereas a list can be changed internally.

A tuple uses parentheses (()) whereas a list uses square brackets ([]).

tuple initialization: a = (2, 4, 5)

list initialization: a = [2, 4, 5]

29. a=25
   while a < 500:
      print ("a")
   a = a + 25

30. (a) Microsoft Azure
   (b) IOT (Internet of Things)
   (c) ROUTERS
   (d) Bandwidth

31. Transmission Control Protocol
   Internal Protocol
   Media Access Control
   Local Area Network
   Metropolitian Area Network
   Wide Area Network
   Near Field Communication
   Network Interface Card

32. A protocol is a system of rules that allow two or more entities of a communications system to transmit information via any kind of variation of a physical quantity. For example ,there are protocols for the data interchange at the hardware device level and protocols for data interchange at the application program level.

   Network protocols govern the end to end processes of timely ,secure network communication . Network protocols in corporate all the processes, requirements and constraints of initiating and accomplishing communication between computers ,servers, routers and other network enabled devices.

33. The wildcard operators are used with the LIKE operator to search a value similar to a specific pattern in a column. There are 2 wildcard operators.

   % – represents 0,1 or many characters – – represents a single number or character

34. Various Integrity Constraints are -
   NOT NULL- Ensures value for the column is not left unassigned
   UNIQUE-ensures that all values in a column are distinct or no two rows can have the same values for a column having UNIQUE constraint.
   CHECK-ensures that value s for a particular column satisfy the specified condition.
   DEFAULT-ensures that the default value is assumed if value for the column is not specified.
   PRIMARY KEY –Automatically applies UNIQUE and NOT NULL for uniquely identifying rows /records in a table.

35. import mysql.connector as a
   mydb = a.connect(host="localhost",user="root",
   password="portal express", database = "Student")
   cur = mydb.cursor()
   run = "select * from Student where grade = 'A' "
   cur . execute(run)
   data = cur.fetchall()

```
        for i in data :
           print(i)
        mydb.close()
```

36.
```
        fruit={}
        f1=['Apple','Banana','apple','Banana']
        for index in f1 :
           if index  in fruit :
               fruit[index] +=1
        else:
                fruit[index]=1
           print(fruit)
        print(len(fruit))
        solution     {'Apple':1 }
                       {'Apple': 1,'Banana':1}
                       {'Apple': 1,'Banana':1,'apple': 1}
                       {'Apple': 1,'Banana':2,'apple': 1}
                       3
```
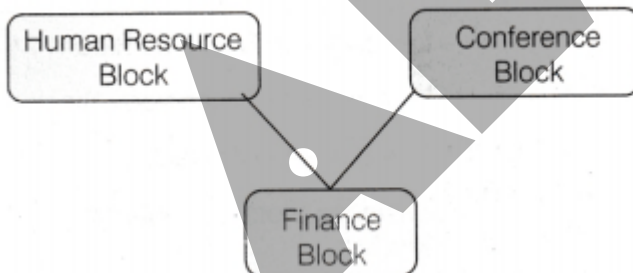
37.
```
        str = "Honesty is the best policy"
        words = str.split()
         print (len(words))
```

OR

```
        n=input("Enter no. of values")
         num=[]
         for i in range (n):
         number=input("Enter the number")        num.append(number)
         newno = input("Enter the number to be inserted")
         pos = input("Enter position") num.insert(newno,pos)
         print (num)
```

38. 1. TC should install its server in finance block as it is having maximum number of computers.
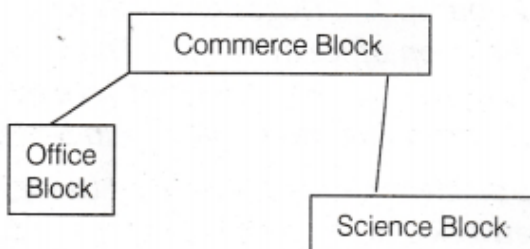

2. The above layout is based on minimum cable length required, which is 120 metres in the above case.
3.Satellite Link.
4.Switch.

OR

1. The most suitable place to house the server is Science Block as it has maximum number of computers. Thus, reducing the cabling cost and increases efficiency of network.
2. (b) Switch is the device to be installed in each of the blocks to connect all the computers.
3. Satellite connection.

39. The ORDER BY keyword is used to sort the result-set in ascending or descending order. The ORDER BY keyword sorts the records in ascending order by default. To sort the records in descending order, use the DESC keyword.
(b) The alter command is used when we want to modify a database or any object contained in the database. The drop command is used to delete databases from MySQL server or objects within a database. The rename command is used to change the name of a table to a new table name.
(c) SQL delete duplicate Rows using Group By and having clause
In this method, we use the SQL GROUP BY clause to identify the duplicate rows. The Group By clause groups data as per the defined columns and we can use the COUNT function to check the occurrence
(d) Primary key describes the unique and most important attribute of a relation whereas candidate key provides candidates among which one can be taken as the primary key. Every primary key is a candidate key but every candidate key is not the primary key.

40. DDL
1 = DDL is Data Definition Language
2 = These are used to define data structure
3 = It is used to define database structure or schema
4 = Commands are: CREATE, ALTER, DROP, TRUNCATE, RENAME
5 = It works on whole table
6 = It do not have a where clause to filter
7 = Changes done by DDL commands cannot be rolled back
8 = Example -- Drop table student
DML –
1 = It is Data Manipulation Language
2 = It is used to manipulate the existing databases.
3 = It is used for managing data within schema objects
4 = Commands are: SELECT, INSERT, DELETE, UPDATE, MERGE, CALL
5 = It works on one or more rows
6 = It have where clause to filter records
7 = Changes can be rolled back
8 = It is further classified as procedural and non procedural
9 = Example --- Select * from student