

## Solution : Paper-2

## Section-A

1. (B)  
Explanation: or() function overloads the bitwise OR operator
2. (D)  
Explanation: rshift() overloads the >> operator
3. (B)  
Explanation: The type() function returns the class of the argument the object belongs to. Thus, type(int) returns which is of the type 'type' object.
4. (C)  
Explanation: There is no operator ++ in Python
5. (D)
6. (D)  
Explanation: Python explicitly defines the None object that is returned if no value is specified.
7. (C)
8. (A)  
Explanation: lambdas are concise functions and thus, result = 6 \* 8
9. (A)  
Explanation: This function returns a dictionary that contains all the matches.
10. (i) & (iii) Minimum value of C is 0 and Maximum value is 3
11. (a)
12. (b)
13. (a)
14. (b)
15. (b)
16. (d)
17. (d)
18. (a)
19. (a)
20. (a)
21. (d)
22. (a) SELECT NAME, FEE, GENDER, JOINYEAR FROM APPLICANTS WHERE JOINYEAR<2010;  
(b) SELECT NAME FROM APPLICANTS WHERE FEE>30000;  
(c) SELECT NAME FROM APPLICANTS ORDER BY JOINYEAR;  
(d) SELECT JOINYEAR, COUNT(\*) FROM APPLICANTS GROUP BY JOINYEAR;  
(e) SELECT C\_ID, COUNT(\*) FROM APPLICANTS GROUP BY C\_ID;  
(f) SELECT NAME, COURSE FROM APPLICANTS, COURSES WHERE APPLICANTS.C\_ID =COURSES.C\_ID;  
(g) (i) NAME JOINYEAR  
Avisha 2009  
(ii) MIN (JOINYEAR)  
2009  
(iii) AVG (FEE)  
31666.666  
(iv) SUM(FEE) CJD  
55000 A01

23. (a) (i) SELECT CarName FROM CARDEN WHERE Col or=' SILVER' ;  
 (ii) SELECT CarName, Make, Capacity FROM CARDEN ORDER BY Capacity DESC;  
 (iii) SELECT MAX(Charges) FROM CARDEN;  
 (iv) SELECT CUSTOMER.CName, CARDEN.CarName FROM CARDEN, CUSTOMER WHERE CARDEN.Ccode=CUSTOMER.Ccode;

(b) (i)	<table border="1"> <thead> <tr> <th>COUNT (DISTINCT Make)</th> </tr> </thead> <tbody> <tr> <td>4</td> </tr> </tbody> </table>	COUNT (DISTINCT Make)	4	(ii)	<table border="1"> <thead> <tr> <th>MAX (Charges)</th> <th>MIN (Charges)</th> </tr> </thead> <tbody> <tr> <td>35</td> <td>12</td> </tr> </tbody> </table>	MAX (Charges)	MIN (Charges)	35	12
COUNT (DISTINCT Make)									
4									
MAX (Charges)	MIN (Charges)								
35	12								
(iii)	<table border="1"> <thead> <tr> <th>Make(*)</th> </tr> </thead> <tbody> <tr> <td>5</td> </tr> </tbody> </table>	Make(*)	5	(iv)	<table border="1"> <thead> <tr> <th>CarName</th> </tr> </thead> <tbody> <tr> <td>SX4</td> </tr> <tr> <td>C-Class</td> </tr> </tbody> </table>	CarName	SX4	C-Class	
Make(*)									
5									
CarName									
SX4									
C-Class									

### Section-B

24. Floating point literals or real literals or floats represent real numbers and are written with a decimal point dividing the integer and fractional parts to represent numbers having fractional parts.  
 These can be written either in :  
 Fractional form e.g -13.0 ,.75,7. etc  
 Exponent form e.g 0.17E5 ,3.E2, .6E4 etc
25. A string literal is a sequence of characters surrounded by quotes(single or double or triple quotes) String literals can either be single line strings or multi line strings.
26. A Python program contains various components such as Expressions, Statements, Comments, Functions, Block(s) or suite(s) etc
27. Global names : invaders , pos ,level ,res  
 Local names : max\_level
28. Strings in Python are stored as individual characters in contiguous locations ,with two way index for each location.
29. The real life data is of many types .so to represent various types of real-life data programming languages provide ways and facilities to handle these, which are known as data types. Python Built –in core data types belong to:  
 1.Numbers (integers, floating –point ,complex numbers, booleans)  
 2. String 3. List 4. Tuple 5.Dictionary
30. Comments provide explanatory notes to the readers of the program. Compiler of interpreter ignores the comments but they are useful for specifying additional descriptive information regarding the code and logic of the program  
 Indentation makes the program more readable and presentable .Its main role is to highlight nesting of groups of control statements
31. (a) server  
 (b) Protocol  
 (c) Gateway  
 (d) Internet
32. Advanced Research Project Agency Network  
 File Transfer Protocol  
 World Wide Web  
 Domain Name System  
 Registered Jack-45  
 Global system for mobile communication  
 Simple Mail Transfer Protocol  
 Post Office Protocol

33. The data transmission characteristics of co-axial cable are considerably better than twisted pair but not better in relation to optical fibre. The co-axial cable is being used as a shared cable network, with part of the bandwidth being used for data traffic. Optical fibre is difficult to install because they are fragile and need special care to install. One of the major advantage of optical fibre over co-axial cable is its complete immunity to noise, because the information is travelled on a modulated light beam.
34. A global variable is a variable that is accessible globally. A local variable is one that is only accessible to the current scope ,such as temporary variables used in a single function definition. A variable declared outside of all the functions or in a global scope is known as global variable . A global variable can be accessed inside or outside of the function where as local variable can be used only inside the function, if a function has a local variable name as a global variable , then in that function scope, the local variable will be hide the global variable with the same name. We can access a global variable having the same name as a local variable by declaring its name with keyword global, e.g global A.

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)
```

35. `i=1`  
`while i < 100:`  
`if i % 4 == 2:`  
`print i, "mod", 4 , "= 2"`  
`i = i +1`

36.

S.No.	Parameters	Arguments
1	Values provided in function header	Values provided in function call.
2	(eg) <code>def area (r):</code> → r is the parameter	(eg) <code>def main() radius = 5.0 area (radius)</code> → radius is the argument

37. RELATIONAL DATABASE TERMS

Relation (Table) A Relation or Table is Matrix like structure arranged in Rows and Columns. It has the following properties-

Atomicity : Each column assigned a unique name and must have atomic(indivisible) value i.e. a value that can not be further subdivided.

No duplicity: No two rows of relation will be identical i.e. in any two rows value in at least one column must be different. All items in a column are homogeneous i.e. same data type.

Ordering of rows and column is immaterial.

Domain :It is collection of values from which the value is derived for a column.

Tuple / Entity / Record - Rows of a table is called Tuple or Record.

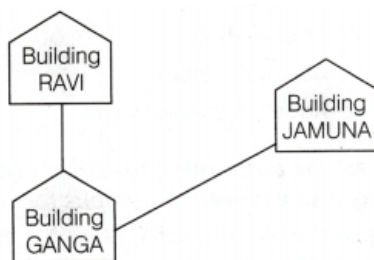
Attribute/ Field- Column of a table is called Attribute or Field.

Degree - Number of columns (attributes) in a table.

Cardinality - Number of rows (Records) in a table

38. 1. The most suitable place to house the server in JAMUNA because it has maximum number of computers.

2.



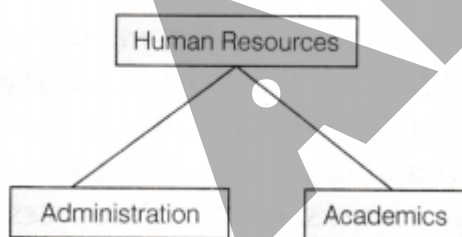
3. (a) Switches are needed in every building to share bandwidth in every building.

(b) Repeaters may be skipped as per above layout, (because distance is less than 100 m) however, if building RAVI and building JAMUNA are directly connected, we can place a repeater there as the distance between these two buildings is more than 100 m.

4. (b) Co-axial cable.

OR

1. Human Resources, because it has maximum number of computers.



2.

3. Hub/Switch.

4. Satellite.

39. (a) (i) SELECT Name, Price

FROM ACCESSORIES

ORDER BY Price;

(ii) SELECT Id, SName

FROM SHOPPE

WHERE Area ='Nehru Place';

(iii) SELECT MIN(Price) "Minimum Price",

MAX(Price)"Maximum Price", Name

FROM ACCESSORIES

GROUP BY Name;

(iv) SELECT Name, Price, SName

FROM ACCESSORIES A, SHOPPE S

WHERE A.Id = S.Id;

but this query enable to show the result because A.Id and S.Id are not identical.

(b) (i)

NAME
Mother Board
Hard Disk
LCD

(ii)

AREA	COUNT(*)
GK II	1
Nehru Place	2
CP	2

(iii)

COUNT (DISTINCTAREA)
3

(iv) The given query will result in an error as there is no column named SNo in ACCESSORIES table.

#### 40. MySQL Features

**Open Source & Free of Cost:** It is Open Source and available at free of cost.

**Portability:** Small enough in size to instal and run it on any types of Hardware and OS like Linux,MS Windows or Mac etc.

**Security :**Its Databases are secured & protected with password.

**Connectivity :**Various APIs are developed to connect it with many programming languages.

**Query Language:**It supports SQL (Structured Query Language) for handling database