



MODEL PRACTICE PAPER

Class 11

Informatics Practices [065] Python



Time: 3 hrs

M.M: 70

Note: Programming Language: **Python**

Do all questions. Attempt the answers serial wise.

PART A SECTION – I

Attempt any 15 questions from questions 1 to 21.

1. Which of the following are legitimate variable declarations? 1
(i) for (ii) While
2. Which of the following is used to produce large copies of print? 1
(i) Drum Printer (ii) Inkjet Printer (iv) Plotter (iv) Laser Printer
3. If a database "Employee" exists, which MySql command helps you to start working in that database? 1
4. One KB = _____ bits 1
5. A table "Stock" in a database has 5 columns and contains 17 records. What is the degree and cardinality of this table? 1
6. Can a table have multiple Primary Keys? 1
7. Write full form of (i) BIOS (ii) OCR 1
8. What are the two types of ROM? 1
9. What is the result of an arithmetic operation containing NULL value in MySQL? 1
10. Roli wants to display the names of all the tables in her database named 'Gadgets'. Which command (s) she should use to get the desired result. 1
11. _____ is the data type used to store fractional numbers in Python. 1
(i) String (ii) int (iii) float (iv) boolean
12. What are keywords in Python? 1
13. What is difference between == and = operators? 1
14. Write the following arithmetic expressions using operators in Python: 1
$$a = \frac{b + c}{2b}$$
15. _____ memory speeds up access to data and instructions stored in RAM. 1
16. Identify the category (system, application and programming tool) of the following software: a. Compiler b. Assembler 1



17. A company interested in cloud computing is looking for a provider who offers a set of basic services such as virtual server provisioning and on-demand storage that can be combined into a platform for deploying and running customised applications. What type of cloud computing model fits these requirements? 1

- a. Platform as a Service
- b. Software as a Service
- c. Infrastructure as a Service

18. Which is not one of the features of IoT devices? 1

- a. Remotely controllable
- b. Programmable
- c. Can turn themselves off if necessary

All of the above

19. How are your digital activities contributing to generation of Big data? 1

20. Name any two components of a microprocessor. 1

21. A collection of 4 bits is called 1

SECTION – II

Both the case study based questions (22 & 23) are compulsory.

Attempt any four sub parts from each question. Each sub question carries 1 mark.

22. Consider the following List:

`myList = [22,4,16,38,13]`

Answer any four questions from i – v

i. Select the correct statement from below to insert a new element at the desired position in the list `myList`:

- a. `myList.insert(element)`
- b. `myList.append(element)`
- c. `myList.insert(position, element)`
- d. `myList.append(position, element)`

ii. Which of the following statements will sort the values in `myList` in descending order?

- a. `myList.append( )`
- b. `myList.sort( )`
- c. `myList.sort(reverse = True)`
- d. `myList.sor(order = reverse)`

iii. Select the statement to delete a given value stored in a variable *element* on position *pos* from `myList`:

- a. `myList.remove(element)`
- b. `myList.remove(pos)`
- c. `myList.delete(element)`
- d. `myList.delete(pos)`



MODEL PRACTICE PAPER

Class 11

Informatics Practices [065] Python



iv. Select the correct statement to delete a value by its position from myList:

- a. `element = myList.pop(position)`
- b. `myList.pop(position)`
- c. `element = myList.pop( )`
- d. `myList.remove(position)`

v. What is the purpose of the following statement?

```
val = eval(input("Enter the value: "))
```

```
myList[3] = val
```

- a. Insert a new element at the end of list myList
- b. Replace the value16 by the value in val
- c. Insert a new element without removing the existing value
- d. Replace the value38 by the value in val

23. Consider the table STUDENT given below:

RollNo	Name	Class	DOB	Gender	City	Marks
1	Anand	XI	6/6/97	M	Agra	430
2	Chetan	XII	7/5/94	M	Mumbai	460
3	Geet	XI	6/5/97	F	Agra	470
4	Preeti	XII	8/8/95	F	Mumbai	492
5	Saniyal	XII	8/10/95	M	Delhi	360
6	Maakhiy	XI	2/12/94	F	Dubai	256
7	Neha	X	8/12/95	F	Moscow	324
8	Nishant	X	12/6/95	M	Moscow	429

i. State the command that will give the output as :

Name
Anand
Chetan
Geet
Preeti

- i. select name from student where class='XI' and class='XII';
- ii. select name from student where not class='XI' and class='XII';
- iii. select name from student where city="Agra" OR city="Mumbai";
- iv. select name from student where city IN("Agra", "Mumbai");



MODEL PRACTICE PAPER

Class 11

Informatics Practices [065] Python



Choose the correct option:

- a. Both (i) and (ii) b. Both (iii) and (iv).
c. Any of the options (i), (ii) and (iv) d. Only (iii)

ii. What will be the output of the following command?

Select * from student where gender = "F" order by marks;

a.

RollNo	Name	Class	DOB	Gender	City	Marks
4	Preeti	XII	8/8/95	F	Mumbai	492
3	Geet	XI	6/5/97	F	Agra	470
7	Neha	X	8/12/95	F	Moscow	324
6	Maakhiy	XI	12/12/94	F	Dubai	256

b.

RollNo	Name	Class	DOB	Gender	City	Marks
6	Maakhiy	XI	12/12/94	F	Dubai	256
7	Neha	X	8/12/95	F	Moscow	324
3	Geet	XI	6/5/97	F	Agra	470
4	Preeti	XII	8/8/95	F	Mumbai	492

c.

Gender	Marks
F	256
F	324
F	470
F	492

d.

Gender	Marks
F	492
F	470
F	324
F	256

iii. Prachi has given the following command to obtain the highest marks Select max(marks) from student where class;

But she is not getting the desired result. Help her by writing the correct command.

- a. Select max(marks) from student where class;
b. Select max(marks) from student;
c. Select highest(marks) from student;
d. Select Class, max(marks) from student;



- iv. Help Ritesh to write the command to display the name of the youngest student?
- a. select name, min(DOB) from student ;
 - b. select name, max(DOB) from student ;
 - c. select name, min(DOB) from student group by name ;
 - d. select name, maximum(DOB) from student;
- v. Which of the following statement will display the average marks of students?
- a. select average(marks) from student;
 - b. select name, average(marks) from student;
 - c. select avg(marks) from student;
 - d. select name, avg(marks) from student;

PART B

Section – I

Each question carries 2 marks

24. Consider the following SQL string: "Preoccupied"

Write commands to display:

- a. "occupied"
- b. "cup"

OR

Considering the same string "Preoccupied"

Write SQL commands to display:

- a. the position of the substring 'cup' in the string "Preoccupied"
- b. the first 4 letters of the string

25. Write a program to count the number of times a character appears in a given string.

26. List any two health hazards related to excessive use of the Internet.

27. Name any 2 devices used to capture data in digital form.

28. Differentiate between append() and extend() methods of list.

29. State any two differences between single row functions and multiple row functions on MySQL.

OR

What is the use of DISTINCT clause in MySQL? Explain with an example.

30. Anjali writes the following commands with respect to a table employee having fields, empno, name, department, commission.

Command1: Select count(*) from employee;

Command2: Select count(commission) from employee;

She gets the output as 4 for the first command but gets an output 3 for the second command. Explain the output with justification.



31. Consider the following dictionary stateCapital:

```
stateCapital = {"Assam": "Guwahati", "Bihar": "Patna", "Maharashtra": "Mumbai",  
"Rajasthan": "Jaipur"}
```

Find the output of the following statements:

a. `print(stateCapital.get("Bihar"))`

b. `print(stateCapital.keys())`

32. How NLP is helping differently abled persons?

33. Consider the decimal number x with value 8459.2654. Write commands in SQL

a. To round it off to a whole number

b. To round it to 2 places before the decimal.

Section – II

Each question carries 3 marks

34. Write a program to read a list of n integers and find their median.

Note: The median value of a list of values is the middle one when they are arranged in order. If there are two middle values then take their average.

Hint: Use an inbuilt function to sort the list.

35. Write a program to input your friend's, names and their phone numbers and store them in the dictionary as the key-value pair. Perform the following operations on the dictionary:

a. Display the Name and Phone number for all your friends.

b. Add a new key-value pair in this dictionary and display the modified dictionary

36. Write down the type of memory needed to do the following:

a. To store data permanently

b. To execute the program

c. To store the instructions which cannot be overwritten.

OR

A company interested in cloud computing is looking for a provider who offers a set of basic services such as virtual server provisioning and on-demand storage that can be combined into a platform for deploying and running customised applications. What type of cloud computing model fits these requirements?

a. Platform as a Service

b. Software as a Service

c. Infrastructure as a Service



MODEL PRACTICE PAPER

Class 11

Informatics Practices [065] Python



37. Consider the following MOVIE database and answer the SQL queries based on it.

ID	MovieName	Category	ReleaseDate	PCost	BCost
001	Hindi_Movie	Musical	2018-04-23	124500	130000
002	Tamil_Movie	Action	2016-05-17	112000	118000
003	English_Movie	Horror	2017-08-06	245000	360000
004	Bengali_Movie	Adventure	2017-01-04	72000	100000
005	Telugu_Movie	Action	NULL	100000	NULL
006	Punjabi_Movie	Comedy	NULL	30500	NULL

a. Find the net profit of each movie showing its ID, Name and Net Profit.

(Hint: *Net Profit = BusinessCost – ProductionCost*)

Make sure that the new column name is labelled as NetProfit.

b. List all movies with PCost greater than 80,000 and less than 1,25,000 showing ID, Name and PCost.

c. List the movies which have not been released yet.

Section – III

Each question carries 5 marks

38. Write a Python program to create a dictionary from a string 'w3resource' such that each individual character makes a key and its index value for first occurrence makes the corresponding value in dictionary.

Expected output : {'3': 1, 's': 4, 'r': 2, 'u': 6, 'w': 0, 'c': 8, 'e': 3, 'o': 5}

OR

Give the output of the following when num1 = 4, num2 = 3, num3 = 2

a. num1 += num2 + num3

b. print (num1)

c. num1 = num1 ** (num2 + num3)

d. print (num1)

e. num1 **= num2 + c

39. Write the SQL functions which will perform the following operations:

a. To display the name of the month of the current date.



MODEL PRACTICE PAPER

Class 11

Informatics Practices [065] Python



- b. To remove spaces from the beginning and end of a string, "Panorama".
- c. To display the name of the day eg, Friday or Sunday from your date of birth DOB.
- d. To display the starting position of your first name(fname) from your whole name (name).
- e. To compute the remainder of division between two numbers, n1 and n

OR

Consider a table SALESMAN with the following data:

SNO	SNAME	SALARY	BONUS	DATEOFJOIN
A01	Beena Mehta	30000	45.23	29-10-2019
A02	K. L. Sahay	50000	25.34	13-03-2018
B03	Nisha Thakkar	30000	35.00	18-03-2017
B04	Leela Yadav	80000	NULL	31-12-2018
C05	Gautam Gola	20000	NULL	23-01-1989
C06	Trapti Garg	70000	12.37	15-06-1987
D07	Neena Sharma	50000	27.89	18-03-1999

Write SQL queries using SQL functions to perform the following operations:

- a. Display salesman name and bonus after rounding off to zero decimal places.
 - b. Display the position of occurrence of the string "ta" in salesman names.
 - c. Display the four characters from salesman name starting from second character.
 - d. Display the month name for the date of join of salesman
 - e. Display the name of the weekday for the date of join of salesman
40. Differentiate between proprietary software and freeware software. Name two software of each type. Which of these categories of software, according to you, is more beneficial and why?



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