

PRACTICE PAPER - 2**CLASS : XII****SUBJECT: COMPUTER SCIENCE****Time : 3 Hours****Maximum Marks : 70****General Instructions:-**

- This question paper contains five sections, Section A to E.
- All questions are compulsory.
- **Section A** have **18** questions carrying **01 mark** each.
- **Section B** has **07** Very Short Answer type questions carrying **02 marks** each.
- **Section C** has **05** Short Answer type questions carrying **03 marks** each.
- **Section D** has **03** Long Answer type questions carrying **05 marks** each.
- **Section E** has **02** questions carrying **04 marks** each. One internal choice is given **Q. 35** against part c only
- All programming questions are to be answered using Python Language only.

SECTION-A**1. Slate Tree or False.**

****** is a valid arithmetic operator in Python. [1]

2. Which of the following is an invalid variable?

(A) my_string_1 (B) 1st_string (C) foo (D) _A [1]

3. In Python, _____ defines a block of statements.

(A) Block (B) loop (C) indentation (D) {} [1]

4. Using a wrong formula for calculation generates a _____ .

(A) Syntax error (B) Semantic error (C) Logical error (D) Runtime error [1]

5. Division by zero is an example of _____ .

(A) Run time error (B) Compile time error
(C) Syntax error (D) All of these [1]

6. Consider a declaration L = (1, 'Python', '3.14'). Which of the following represents the data type of L?

(A) list (B) tuple (C) dictionary (D) string [1]

7. Fill in the blank

_____ operator cannot be used with string data type.

(A) + (B) in (C) * (D) / [1]

8. Which of the following function gives the total number of rows in a given column or expression?

(A) SUM() (B) COUNT() (C) TOTAL() (D) Both (A) and (B) [1]

9. Which keyword is used to define function?
(A) def (B) fun (C) definition (D) function [1]
10. **Fill in the blank**
_____ refers to the attribute that can uniquely identify tuples within the relation.
(A) Foreign key (B) Consolidate key
(C) Alternate Key (D) Primary key [1]
11. Which of the following is the default character for the newline parameter for a csv file object opened in write mode in Python IDLE?
(A) \n (B) \t (C) , (D) ; [1]
12. **Fill in the blank**
To set all the records from the result set, you may use _____.
(A) cursor.fetchmany() (B) cursor.fetchall()
(C) select * from <table name> (D) cursor.execute () [1]
13. **Fill in the blank**
The function of a repeater is to take a weak and corrupted signal and _____ it.
(A) restore (B) regenerate (C) amplify (D) reroute [1]
14. The data structure required to check whether an expression contains balanced parenthesis is
(A) STACK (B) Queue (C) Array (D) Tree [1]
15. Which of the following is invalid method for fetching the records from database in Python?
(A) fetchone() (B) fetchmany() (C) fetchall() (D) fetchmulti() [1]
16. Which function is used with ORDER BY clause to custom sort order?
(A) ASC (B) DESC (C) FIELD (D) None of these [1]
- 17 and 18 are ASSERTION AND REASONING based questions. Mark the correct choice as
- (A) Both A and R are true and R is the correct explanation for A
(B) Both A and R are true and R is not the correct explanation for A
(C) A is True but R is False
(D) A is false but R is True
17. **Assertion (A) :** Strings in Python are mutable.
Reason (R) : The first character has the index 0 and the last character has the index $n - 1$ where n is the length of the string. [1]
18. **Assertion (A) :** Joining two lists is just like adding two strings.
Reason (R) : The concatenation operator + is used to add two strings. [1]

SECTION-B

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

```
Value=30
for val in range (0, Value)
    if val%4==0
        print (val*4)
    else if val%5==0:
        print (val+3)
    else
        print (val+10).
```

[2]

20. Rearrange the following terms in increasing order of data transfer rates.
Gbps, Mbps, Tbps, Kbps, bps

[2]

OR

Name any two transmission media best suitable for connecting to hilly areas.

21. (a) Consider following list for python language
L=[13,3,45, "Tree", 'Amar', [10,8.91, "Apple"], 456]

The output of L[-2] will be.

- (b) What will be the output of the following program.?

```
def increase (x):
    a=a+x def f():
    return a=10
    print(a)
    a=20
    b=5
    increase (b)
    print (a)
```

[2]

22. Observe the following table carefully and write the names of the most appropriate columns, which can be considered as (i) candidate key and (ii) primary key

Id	Product	Qty	Price	Transaction Date
101	Plastic Folder12"	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	2015-02-202

[2]

23. (a) When a user browses a website, the web server sends a text file to the web browser. What is the name of this?
- (b) What is the purpose of server in a network? [2]

24. What possible output(s) are expected to be displayed on screen at the time of execution of the program from the following code? Also specify the maximum values that can be assigned to each of the variables FROM and TO.

```
import random
```

```
AR= [20,30,40,50,60,70]
```

```
FROM=random.randint(1,3)
```

```
TO=random.randint(2,4)
```

```
for K in range(FROM,TO+1):
```

```
    print (AR[K],end="#")
```

(i) 10#40#70#

(ii) 30#40#50#

(iii) 50#60#70#

(iv) 40#50#70#

[2]

OR

What will be the output of the following Python code?

```
V = 25
```

```
def Fun(Ch):
```

```
    V-50
```

```
    print(V, end=Ch)
```

```
    V *= 2
```

```
    print(V, end=Ch)
```

```
    print (V, end= "**")
```

```
Fun ("!")
```

```
print (V)
```

25. What is the use of wildcard ?

OR

Consider the structure of table Doctor given below

Doctor_id(p)

Doctor_Name

Hospital_id(F)

Joining_Date

Speciality

Salary

Experience.

Write Python code to create the above table.

[2]

SECTION-C

26. (a) Consider the table given below

Table : Teacher

T_ID	Name	Age	Department	Date_of_Join	Salary	Gender
1	Jugal	34	Computer Sc	10/01/2017	12000	M
2	Sharmila	31	History	24/03/2008	20000	F
3	Sandeep	32	Mathematics	12/12/2016	30000	M
4	Sangeeta	35	History	01/07/2015	40000	F
5	Rakesh	42	Mathematics	05/09/2017	25000	M
6	Shyam	50	History	27/06/2008	30000	M
7	Shiv Om	44	Computer Sc	25/02/2017	21000	M
8	Shalakha	33	Mathematics	31/07/2018	20000	F

Table : Posting

P_ID	Department	Place
1	History	Agra
2	Mathematics	Raipur
3	Computer Science	Delhi

Write SQL query to show all information about the teacher of History department.

- (b) Find output for SQL queries (i) to (iv), Which are based on the tables GIVEN BELOW.

Table : TRAINER

TID	TNAME	CITY	HIREDATE	SALARY
101	SUNAINA	MUMBAI	199-01-15	90,000
102	ANAMIKA	DELHI	1994-12-24	80,000
103	DEEPTI	CHANDIGARH	2001-12-25	82,000
104	MEENAKSHI	DELHI	2002-12-25	78,000
105	RICHA	MUMBAI	1996-01-12	95,000
106	MANIPRABHA	CHENNAI	2001-12-12	69,000

Table: COURSE

CID	CNAME	FEES	STARTDATE	TID
C201	AGDCA	12,000	2018-07-02	101
C202	ADCA	15,000	2018-07-15	103
C203	DCA	10,000	2018-10-01	102
C204	DDTP	9,000	2018-09-15	104
C205	DHN	20,000	2018-08-01	101
C206	O LEVEL	18,000	2018-07-25	105

- (i) SELECT TID, TNAME FROM TRAINER WHERE CITY NOT IN ('DELHI', 'MUMBAI');
- (ii) SELECT DISTINCT TID FROM COURSE;
- (iii) SELECT TID, COUNT(*), MIN(FEES) FROM COURSE GROUP BY TID HAVING COUNT (*) > 1;
- (iv) SELECT COUNT (*), SUM (FEES) FROM COURSE WHERE STARTDATE < '2018-09-15';

[1+2 = 3]

27. Write a method in Python to read lines from a text file DIARY.TXT, and display those lines, which are starting with the letter 'P'. [3]

OR

Write a function in Python to count the number of lowercase and uppercase characters in a text file "Book.txt".

28. (a) Consider the following relation Mobile Master & mobile Stock

Table : MobileMaster

M_id	M_company	M_Name	M_price	M_Mf_Date
MB001	Samsung	Galaxy	4500	2013-02-12
MB003	Nokia	N1100	2250	2011-04-15
MB004	Micromax	Unite3	4500	2016-10-17
MB005	Sony	Xperia.M	7500	2017-11-20
MB006	Oppo	Selfle Ex	8500	2010-08-21

Table : Mobile nstock

S_id	M_id	M_Qty	M_Supplier
S001	MB004	450	NEW Vision
S002	MB003	250	Praveen Gallery
S003	MB001	300	Classic Mobil Store
S004	MB006	150	A_one Mobiles
S005	MB003	50	Mobile Centre

Write the output SQL command for question from (v) to (iv) given below:

- (i) SELECT M_Id, SUM(M_Qty) FROM Mobilstock GROUP BY M_Id;
- (ii) SELECT MAX(M_Mf_Date), MIN(M_Mf_Date) FROM MobileMaster;
- (iii) SELECT M+Company, M_Price FROM Mobile Master WHERE M.Pnce>5000;
- (iv) SELECT AVG(M_price) FROM MobileMaster;

(b) Which command is used to modify the records of the table? [3]

29. Define a function overlapping () that takes two tots and returns true if they have at least one member in common. False otherwise. [3]

30. Write

- (i) Add new(Book) to Add a new Book
- (ii) Remove(Book) to Remove a Book

from a List of Books, considering them to act as PUSH and POP operations of the data structure stack. [3]

OR

Arr is a stack implemented by a list of numbers.

- (i)** Write a function in Python PUSH(Arr). From this list push all numbers divisible by 5 into a stack implemented using a list. Display the stack if it has at least one element, otherwise display appropriate error message.
- (ii)** Write a function in Python POP(Arr), where The function returns the value deleted from the stack.

SECTION-D

31. Meerut school in Meerut is starting up the network between its different wings. There are four buildings named as S, J, A and H. The distance between various buildings is as follows:

A to S	200 m
A to J	150 m
A to H	50 m
S to J	250 m
S to H	350 m
J to H	350 m

Number of computers in Each Building :

S	130
J	80
A	160
H	50

- (i) Suggest the cable layout of connections between the buildings.
- (ii) Suggest the most suitable place (i.e. building) to house the server of this school, provide a suitable reason.
- (iii) Suggest the placement of the following devices with justification
 - Repeater
 - Hub/Switch
- (iv) The organization also has inquiry office in another city about 50-60 km away in hilly region. Suggest the suitable transmission media to interconnect to school and inquiry office out of the following:
 - Fibre optic cable
 - Microwave
 - Radiowave
- (v) The school is planning to link its buildings situated within 1 Km. Which type of network out of LAN, WAN, MAN will be formed? Justify. [5]

32. (a) Find and write the output of the following Python code:

```
def Display(str):
    m=" "
    for i in range(0, len(str)):
        if(str[i].isupper()):
            m=m+str[i].lower ()
        elif str[i].islower():
            m=m+str[i].upper()
    else:
```



```

if i%2==0:
    m=m+str[i-1]
else:
    m=m+"#"
print (m)

```

Display (' Fun@Python3 .0')

- (b) Consider the tables Product and Client with structures as follows:

Product	Client
P_ID	C_ID
ProductName	CName
Manufacturer	CCity
Price	CProd

Write Python codes to display the details of products whose price is in range of 50 to 100 (Both values included)

OR

- (a) Suppose the content of a text file Notes-txt is:

"The way to get started is to quit talking and begin doing"

What will be the output of the following Python code?

```

F = open ("Notes.txt")
F.seek(29)
S = F.read()
print(S)

```

- (b) Consider the tables Product and Client with structures as follows:

Product	Client
P_ID	C_ID
ProductName	CName
Manufacturer	CCity
Price	CProd

Write Python codes for the following to display the Client Name, City from table Client.

33. What happens when we use file open () function in Python ?

Create file phonebook.dat that stores the details in following format :

Name Phone

Jivin 866666000

Kriti 1010101

Obtain the details from the user

OR

What is closed attribute of a file object?

A file phonebook.dat stores the details in the following format:

Name Phone

Jivin 86666000

Kriti 101001

Write a program to edit the phone numbers of "Arvind" in file. If there is no record for "Arvind's report error

[4]

SECTION-E

34. Consider the following tables Activity and Coach and answer (i) and (ii) parts of this question:

Table : ACTIVITY

ACode	ActivityName	Stadium	Participants Num	PrizeMoney	ScheduleDate
1001	Relay 100 × 4	Star Annex	16	10000	23-Jan-2004
1002	High Jump	Star Annex	10	12000	12-Dec.-2003
1003	Shot Put	Super Power	12	9000	01-Jan-2004
1005	Long Jump	Star Annex	12	9000	01-Jan-2004
1008	Discuss Throw	Super Power	10	15000	19-Mar-2004

Table : COACH

PCode	Name	ACode
1	Ahmad Husain	1001
2	Ravinder	1008
3	Janila	1001
4	Naaz	1003

- (i) What all domain names are possible in attribute ACode?
#fresh
- (ii) Which keyword is used to sort the records of a table in descending order?
- (iii) Write SQL commands for the following statements:
- (a) To display the names of all activities with their ACodes in descending order.
- (b) To display sum of PrizeMoney for the Activities played in each of the Stadium separately.

[1 + 1 + 2 = 4]

(Option of Part (iii) Only)

OR

(iii) Give the output of the following SQL queries:

(a) SELECT COUNT (DISTINCT Participants Num) FROM ACTIVITY;

(b) SELECT MAX (ScheduleDate), MIN (ScheduleDate) FROM Activity;

35. Abhinav, an intern in Excel Pvt. Ltd, is developing a project using the csv module in Python. He has partially developed the code as follows leaving out statements about which he is not very confident. The code also contains error in certain statements. Help him to find the answer of following questions to read the code to read the desired CSV File named "Employee.csv"

#CSV File Content

ENO, NAME, DEPARTMENT

E1, ROSHAN SHARMA, ACCOUNTS

E2, AASMA KHALID, PRODUCTION

E3, AMRK GILL, MARKETING

E4, SARAH WILLIAMS, HUMAN RESOURCE

incomplete Code With Errors

import CSV

#Statement-1

with open('__' newline=' ') as File;

#Statement-2

ER = csv. _____

#Statement-3

for R in range (ER):

#Statement-4

if ____ =='ACCOUNTS':

#Statement-5

print(____')

#Statement-6

- (a) Abhinav gets an Error for the module name used in Statement. 1. What should he write in place of CSV to import the correct module? [1]
- (b) Identify the missing code for blank spaces in the line marked as Statement-2 to open the mentioned file. [1]
- (c) Abhinav gets as Error in Statement-4. What should he write to correct the statement? [2]