

PRACTICE PAPER - 1

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. Stale True or False.
'in' is a logical operator in Python. [1]
2. Which of following is not a decision-making or selection statement?
(A) if-elif statement (B) for statement (C) if-else statement (D) if statement [1]
3. The for loop in Python is an _____
(A) Entry Controlled Loop (B) Exit Controlled Loop
(C) Both of the above (D) None of the above [1]
4. What is the output when the following code is executed?
`print(r"\nhello")`
(A) a new line and hello (B) \nhello
(C) the letter rand then hello (D) Error [1]
5. Which type of bracket is used to define a list?
(A) [] (B) () (C) { } (D) < > [1]
6. What do we call a function defined inside a class?
(A) Module (B) Class (C) Another function (D) Method [1]
7. Fill in the blanks
_____ are also known as positional arguments.
(A) Keyword arguments (B) Default arguments
(C) Required arguments (D) Variable length arguments [1]

8. A relational database is a collection of _____
(A) Attributes (B) Tables (C) Records (D) Fields [1]
9. Which of the following option is the correct usage for the tell() of a file object?
(A) It places the file pointer at a desired offset in a file
(B) It returns the entire content of a file
(C) It returns the byte position of the file pointer as an integer
(D) It tells the details about the file [1]
10. **Fill in the blank**
A field of a table is termed as
(A) Row (B) Attribute (C) Key (D) Tuple [1]
11. How can you separate the content in a text file?
(A) whitespace (B) tab (C) comma (D) All of these [1]
12. **Fill in the blank**
_____ is not an aggregate function.
(A) AVG (B) MAX (C) JOIN (D) COUNT [1]
13. **Fill in the blank**
_____ switching technique follows the store and forward mechanism.
(A) Circuit (B) Message (C) Packet (D) All of these [1]
14. In the following list, which item has the index number of 3?
["John", "Harry", "Jesse", "John", "Harry", "Harry"]
(A) "John" (B) "Harry" (C) "Jesse" (D) None of these [1]
15. Which method of cursor class is used to execute database function or stored procedure in Python ?
(A) cursor.callprocedure('procedurename', [parameters,])
(B) cursor.callproc('procedurename', [parameters,])
(C) cursor.callfunc('procedurename', [parameters,])
(D) cursor.callfunction('procedurename', [parameters,]) [1]
16. _____ is the set of records that are retrieved after execution of SQL query over an established database connection.
(A) sqlresult (B) resultset (C) table (D) tuple [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):** Interactive mode allows execution of individual statement instantaneously.

Reason (R): Script mode allows us to write more than one instruction in a file called can be executed. [1]

18. **Assertion (A):** The while statement executes a block of code repeatedly as long as the control condition of the loop is false.

Reason (R): If the condition of the while loop is initially false, the body is not executed even once. [1]

SECTION-B

19. Find the errors from the following code:

```
c=dict()
n=input(Enter total number )
i=1
while i<=n :
    a=input("enter place")
    b=input("enter number")
    c[a] =b
    i=i+1
print ("place","\t","number")
for i in c:
    print (i,"\t",c[a[i]])
```

[2]

20. Write the expanded names for the following abbreviated terms used in Networking and Communications:

- (i) SMTP (ii) VoIP (iii) GSM (iv) WLL

[1]

OR

How is packet switching different from circuit switching?

[2]

21. (a) Find and write the output of the following Python code;

```
def fun(s):  
    k=len(s)  
    m=" "  
    for i in range(0,k):  
        if (s[i].isupper( )):  
            m=m+s [i].lower( )  
        elif s[i].isalpha( ):  
            m=m+s [i].upper( )  
    else:  
        m=m+'bb'  
    print(m)  
fun('school2@com')
```

- (b) Find and write the output of the following Python code:

```
def Change(P ,Q=30):  
    P=P+Q  
    Q=P-Q  
    print( P,"#",Q)  
    return (P)  
R=150  
S=100  
R=Change(R,S)  
print(R,"#",S)  
S=Change(S)
```

[2]

22. What is relation? Define the relational data model.

[2]

23. (a) Rahul got an assignment in which there is a question about website. But he does not know about it. Help him to get the information of website,

- (b) What is the method of viewing the source code of the current page in web browser? [2]

24. Identify the output of the following Python statements:

```
L1,L2 = [10, 15, 20, 25], [ ]  
for i in range (len(L1)):  
    L2, insert(i,L1.pop())  
print (L1, L2,sep="&")
```

OR

What will be the output of the following code?

```
tupl = (1,2,[1,2],3)  
tupl[2][1]=3.14  
print(tupl)
```

25. Define Equi join.

[2]

OR

Categorize following commands into DDL and DML commands.

INSERT INTO, DROP TABLE, ALTER TABLE, UPDATESET

SECTION-C

26. (a) Consider the table student given below:

Table : STUDENT

RollNo	Name	Class	DOB	Gender	City	Marks
1	Nanda	X	06-06-1995	M	Agra	551
2	Saurabh	XII	07-05-1993	M	Mumbai	462
3	Sonal	XI	06-05-1994	F	Delhi	400
4	Trisla	XII	08-08-1995	F	Mumbai	450
5	Store	XII	08-10-1995	M	Delhi	369
6	Marisla	XI	12-12-1994	F	Dubai	250
7	Neha	X	08-12-1995	F	Moscow	377
8	Nishant	X	12-06-1995	M	Moscow	489

Write output of the following query :

SELECT COUNT(*), City FROM STUDENT GROUP BY CITY HAVING COUNT(*)>1;

(b) Write outputs for SQL queries (i) to (iv) Which are based on the table given below :

Table : Trains

TNO	TRAIN	START	END
11096	Ahimsa Express	Pune Junction	Ahmedabad Junction
12015	Ajmer Shatabdi	New Delhi	Ajmer Junction
1651	Pune Hbj Special	Pune Junction	Habibganj
13005	Amritsar Mail	Howrah Junction	Amritsar Junction
12002	Bhopal Shatabdi	New Delhi	Habibganj
12417	Prayag Raj Express	Allahabad Junction	New Delhi
14673	Sealdah Rajdhani	Jaynagar	Amritsar Junction
12314	Sealdah Rajdhani	New Delhi	Sealdah
12498	Shana Punjab	Amritsar Junction	New Delhi
12451	Shram Shakti Express	Kanpur Central	New Delhi
12030	Swarna Shatabdi	Amritsar Junction	New Delhi

Table : Passengers

PNR	TNO	PNAME	GENDER	AGE	TRAVELDATE
P001	13005	R N AGRAWAL	MALE	45	2018-12-25
P002	12015	P TIWARY	MALE	28	2018-11-10
P003	12015	S TIWARY	FEMALE	22	2018-11-10
P004	12030	S K SAXENA	MALE	42	2018-10-12
P005	12030	S SAXENA	FEMALE	35	2018-10-12
P006	12030	P SAXENA	FEMALE	12	2018-10-12
P007	13005	N S SINGH	MALE	52	2018-05-09
P008	12030	J K SINGH	MALE	65	2018-05-09
P009	12030	R SHARMA	FEMALE	58	2018-05-09

- (i) SELECT MAX (TRAVELDATE), MIN (TRAVELDATE) FROM PASSENGERS WHERE GENDER - 'FEMALE'
- (ii) SELECT END, COUNT(*) FROM TRAINS GROUP BY END HAVING COUNT(*)>1;
- (iii) SELECT DISTINCT TRAVELDATE FROM PASSENGERS;
- (iv) SELECT TNAME, PNAME FROM TRAINS T, PASSENGERS P WHERE T; TNO = P, TNO AND AGE BETWEEN 50 AND 60; [1+2]

27. Write a function to count the number of lines starting with a digit in a text file "Diary.txt".

OR

Write a function to read the content of a text file "DELHI.txt" and display all those lines on screen, which are either starting with 'D' or 'M'. [3]

28. (a) Find output for SQL queries (i) to (iv), which are based on given tables.

Tables : DVD

DCODE	DTITLE	DTYPE
R101	Henry Martin	Folk
E102	Dhrupad	Classical
F101	The Planets	Classical
f102	Universal solider	Folk
r102	A day in life	rock

Tables : DVD

MID	NAME	DCODE	ISSUEDATE
101	AGAM SINGH	R102	2017-11-30
103	ARTH JOSEPH	F102	2016-12-13
102	NISHA HANS	F101	2017-07-24

- (i) SELECT MIN (ISSUEDATE) FROM MEMBER;
- (ii) SELECT DISTINCT DTYPE FROM DVD;
- (iii) SELECT DCODE, Name, DTITLE FROM DVD D, MEMBER M WHERE D.CODE=M.DCODE;
- (iv) SELECT DTITLE FROM DVD WHERE DTYPE NOT IN ("FOLK", "CLASSICAL");
- (b) MySQL supports different character sets, which command is used to display all character sets? [3]

29. Write a program that uses a function which takes two string arguments and returns the string comparison result of the two passed strings. [3]
30. Write a program to implement a stack for these book details (bookno, bookname). That is, now each item node of the stack contains two types of information –a bookno and its name. Just implement push and display operations. [3]

OR

Write a program to input any customer name and display customer phone number if the customer's name exists in the list.

SECTION-D

31. Perfect Edu Services Ltd. is an educational organization. It is planning to setup its India campus at Karnataka with its head office at Delhi. The Karnataka 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 (v), keeping in mind the distances between the buildings and other given parameters.

Shortest distances between various buildings:

Admin to Engineering	55 mt
Admin to Business	90 mt
Admin to Media	90 mt
Engineering to Business	55 mt
Engineering to Media	90 mt
Business to Media	45 mt
Delhi Head office to Karnataka campus	2175 km

Number of computers installed at various buildings are as follows:

Admin	110
Engineering	75
Business	40
Media	12
Delhi Head office	20

- (i) Suggest the most appropriate location of the server inside the Karnataka campus.
- (ii) Draw the cable layout to efficiently connect various buildings within the Karnataka campus for connecting the computers.
- (iii) 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?
- (iv) Which of the following will you suggest to establish the online face to face communication between the people in the admin office of Karnataka campus and Delhi Head office.
- (v) The organization is planning to link its sale counter situated in various part of the same city. Which type of network out of LAN, WAN, MAN will be formed? [5]

32. (a) What does the following code print?

```
for i in range ( 1 , 10 ):
    for j in range ( 1 , 10 ) :
        print(i * j,)
    print()
```

(b) Consider a table structure as follows:

Employee

Emp_Id

Emp_name

Dept

Age.

Write Python code to create the above table and then create an index as Emp_Id. [5]

OR

(a) Give the output of following with justification.

```
x = 3
x += x-x
print(x)
```

(b) Write Python code to create a table Location with following fields

id → id of the location

bldg_code → code of the building

room → Type of rooms

capacity → capacity of the room

33. Write the full form of CSV.

Write a function AMCount() in Python, which should read each character of a text file STORY.TXT, should count and display the occurrence of alphabets A and M (including small cases a and m too).

Example:

If the file content is as follows:

Updated information

As simplified by official websites.

The EUCount() function should display the output as:

A or a:4

M or m:2

[5]

OR

Write any two needs for a data file.

A file sports.dat contains information about a formal Event Participant Write a function that would read contents from file sports.dat and creates a file named Athletics.dat copying only those records from sports.dat where the event name is "Athletics" A.

SECTION-E

34. Consider a database with two tables STUDENTS and SPORTS as given below:

Table: STUDENTS

ADMNO	NAME	CLASS	SEC	RNO	ADDRESS	PHONE
1211	MEENA	12A	D	4	A-26	3245678
1212	VANI	10A	D	1	B-25	5456789
1213	MEENA	12B	A	1	NULL	NULL
1214	KARISH	10B	B	3	AB-234	4567890

Tables : SPORTS

ADMNO	GAME	COACHNAME	GRADE
1215	CRICKET	MR.RAVI	A
1213	VOLLEYBALL	MR. AMANDEEP	B
1211	VOLLEYBALL	MR. GOVARDHAN	A
1212	BASKETBALL	MR. TEWARI	B

- Write the statement to delete a column phone from the table students.
- Name the columns in both the tables that can be made primary keys.
- Write statements to
 - display name and game of those students whose address is available in students table.
 - display Name of the students who are studying in class 12 and their corresponding Coach (Only For part (iii) Only)

[1 + 1 + 2 = 4]

OR

(iii) WRITE COMMAND TO

- (a) count the number of students who play volleyball
- (b) Display name of all students of class 12 along with their coach names

35. Read the following passage and answer the question that follow.

Arun, during Practical Examination of Computer Science, has been assigned an incomplete search() function to search in a pickled file student.dat. The File student.dat is created by his Teacher and the following information is known about the file.

- File contains details of students in [roll_no,name,marks] format
- File contains details of 10 students (i.e. from roll.no 1 to 10) and separate list of each student is written in the binary file using dump().

Arun has been assigned the task to complete the code and print details of roll number 1.

def search () :

```
f = open ("student.dat", _____) # Statement-1
while True:
    rec = pickle. _____ # Statement-2
    if ( _____ ): # Statement-3
        print (rec)
except: pass
_____ # Statement-4
```

- (i) Write suitable code to be used a blank space in line marked as Statement-1.
- (ii) Write the function (with argument), to be used blank apace in the line marked as statement-2?
- (iii) Write the suitable for blank space in line marked as Statement-3.