

KENDRIYA VIDYALAYA SANGATHAN, BHOPAL REGION
CLASS XII : COMPUTER SCIENCE
I PREBOARD 2020-2021

DURATION : 3.00 HOURS

MAX.MARKS 70

Maximum Marks: 70

Time Allowed: 3 hours

General Instructions:

1. This question paper contains two parts A and B. Each part is compulsory.
2. Both Part A and Part B have choices.
3. Part-A has 2 sections:
 - a. Section – I is short answer questions, to be answered in one word or one line.
 - b. Section – II has two case studies questions. Each case study has 4 case-based sub- parts. An examinee is to attempt any 4 out of the 5 subparts.
4. Part - B is Descriptive Paper.
5. Part- B has three sections
 - a. Section-I is short answer questions of 2 marks each in which two question have internal options.
 - b. Section-II is long answer questions of 3 marks each in which two questions have internal options.
 - c. Section-III is very long answer questions of 5 marks each in which one question has internal option.
6. All programming questions are to be answered using Python Language only

Part-A

Section-I

Select the most appropriate option out of the options given for each question. Attempt any 15 questions from question no 1 to 21.

- | | | |
|---|---|---|
| 1 | Identify incorrect keyword(s) from the following | 1 |
| | i.) while ii.) for iii.) if iv.) in | |
| 2 | Which one is an invalid identifier(s) | 1 |
| | i. covid cases ii. Total_cases
ii. CovidCases iv. Recovered-cases | |
| 3 | Name the libraries required to use these python functions | 1 |
| | i. pow () ii. reader()
ii. | |
| 4 | Identify which is/are not valid operator in Python from the following. | 1 |
| | a) # b) < c) ++ d) and | |
| 5 | Identify the correct tuple declaration from the following | 1 |
| | a. Tpl=[1,2,3,4,5] b. Tup={ 12,34,45,6}
c. L=tuple([1,2,3,4,5]) d. T=list((1,2,3,4,5)) | |

- 6 Create a dictionary namely stu_rec to store Student details in which roll number: 101,102,103 should be stored as Keys and Student Name : Sanjay, Asha, Preeti will be stored as Values. 1
- 7 What will be the list after executing the following statement? 1
 MyList= [1,2,3,4,5,6]
 MyList.pop(2)
- 8 Name the built-in string function / method that converts first letter of each word of given String , in capital letter 1
- 9 Name the protocol that is used to send emails. 1
- 10 Preeti has copied project work of someone else and published it by her name . Identify the type of cybercrime she has done 1
- 11 What will the result of the following Statement 1
 print(" I ", "am", "happy", sep='##')
- 12 In SQL, how to check display column values if it does not contains NULL Values 1
- 13 Write any one aggregate function and one scalar functions used in SQL. 1
- 14 Write any one DDL and one DML command 1
- 15 If we do not write return statement in python Function then it will return _____ 1
- 16 Given a list L=[1,9,4,7] Write a single line statement to print **1,9,4,7,1,9,4,7,1,9,4,7** 1
- 17 If the following code is executed, what will be the output of the following code? 1
 State="Madhya Pradesh"
 print(State[:2:-1])
- 18 In SQL, row of a table is also called record or _____ 1
- 19 Write the expanded form of MODEM 1
- 20 When we relate two tables using common Column , in a table where unique column is used is known as Primary Key while in column used from other table is known as _____ 1
 a.Candidate Key
 b. Primary Key
 c. Alternate key
 d. Foreign Key
- 21 Write name of any 2 wireless communication medium 1

Section-II

Both the Case study based questions are compulsory. Attempt any 4 sub parts from each question. Each question carries 1 mark

22 Consider the following table and Answer the following

COM_LAB_ITEMS			
INO	INAME	BRAND	QTY
C10120072020	COMPUTER	HCL	20
C10121072020	COMPUTER	HCL	10
C10220072020	COMPUTER	DELL	15
C10320072020	COMPUTER	HP	20
P10120072020	PRINTER	HCL	2
P10320072020	PRINTER	HP	2
S10120072020	SCANNER	HCL	1

1

- i. Identify best suitable Primary key for the table **COM_LAB_ITEMS**
- ii. If we add 2 more rows and one more column in this table. What will be cardinality and degree of this table? 1
- iii. Osheen wants to add new column "Make_Date" to this table but he don't know how to do this. Help him by writing suitable command for him. 1
- iv. Rabiya has created a table **NEW_TABLE** for practice purpose now she do not need it so she wants to delete whole table with the contents. Help her to do so by choosing correct command. 1
 - a) Delete * from Student ;
 - b) Delete from Student ;
 - c) Drop all from Student;
 - d) Drop table Student;
- v. Insert new row in the table **COM_LAB_ITEMS** 1

- 23 Mayank is writing a program to create a CSV file "Teacher.csv" which will contain Teacher name , Post, subject . He has written the following code. As a programmer, help him to successfully execute the given task.

```
import _____ # Line 1
def addRecord (TName,Post, subject ): # to write / add data into the CSV file
    f=open(' Teacher.csv','_____') # Line 2
    newFW = csv.writer(f)
    newFW.writerow([TName,Post, Subject ])
    f.close()

def readMyFile(): # to read data from CSV file
    with open(' Teacher.csv','r') as newFile:
        newFR = csv._____(newFile) # Line 3
        for val in newFR:
            print (val[0],val[1],val[2])
            newFile._____ # Line 4
addRecord("Mahendra","PGT","Maths")
addRecord ("Seema","TGT", "Hindi")
addRecord("Neha","PGT","CS")
addRecord("Rahul","PGT","English")
readMyFile() # Line 5
```

- (a) Name the module he should import in Line 1. 1
- (b) In which mode, Ranjan should open the file to add data into the file 1
- (c) Fill in the blank in Line 3 to read the data from a csv file. 1
- (d) Fill in the blank in Line 4 to close the file. 1
- (e) Write the output he will obtain while executing Line 5. 1

PART B

Section-I

- 24 If $p=15$, $x=12$, $y=14$ 2
- a) $x+=y\%2$ what will be x?
- b) $x > y$ or $p > x$ and $p > 40$ What will be final result
- 25 Find and Write the output of the following python code 2

```
def Twist(p=20,q=10):
    return p+q*2
```

```
a=2
b=3
b=Twist(a)
a=Twist(a,b)
print("Value of a is ",a)
print("Value of b is ",b)
```

26 What do you mean by URL? 2

OR

Differentiate between Web server and web browser. Write any two popular web browsers.

27 What is the difference between Local and Global Variable in Python? Explain using suitable example. 2

28 Rewrite the following code after removing all the errors 2
 num=int(input("Enter any number"))

```
if num%2 =0 :
    print(num," is Even")
else
    print(num,'is odd")
```

29 **What possible output(s) are expected to be displayed at the screen at the time of execution of the program from the following code? Also specify the minimum and maximum values assigned to day_num variable.** 2

```
import random as r
week_day={1:'Mon',2:'Tue',3:'Wed',4:'Thu',5:'Fri',6:'Sat',7:'Sun'}
day_num=r.randint(0,5)+ 2
for var in range(1,day_num):
    print(" Day ", week_day [var], end=' | ')
```

- i. Day Mon | Day Tue |
- ii. Day Mon |
- iii. Day Mon | Day Tue | Day Wed
- iv. Day Tue | Day Wed |

30 What do you understand by alternate Keys in a table? Give a suitable example to explain concept of Alternate key in SQL 2

31 Differentiate between *fetchmany()* and *fetchall()* methods 2

32 What are the constraints in SQL ? Write name of any 3 constraints 2

33 **Find and Write the output of the following python code** 2

```
def changeIt (a,b):
    b=a+b
    a=a-b
```

```
x=13
y=17
changeIt(x,y)
```

```
print("X : ",x)
print("Y : ",y)
```

Section- II

- 34 Write a function **Incr_List (Arr,n)** in Python, which accepts a list Arr of numbers and n is a numeric value by which all elements of the list will be increased by n 3
 Sample Input Data of the list Arr= [10,20,30,40,12,11], n=2
 Output
 Arr = [12,22,32,42,14,13]
- 35 Write a function in Python **COUNT_Lines** that counts the number of lines started with letter “T” or “I” a text file “MyIndia.TXT”. 3

If the “MyIndia.TXT” contents are as follows:

The name of my country is India.

India is the country that preaches Sanatana Dharma to the world.

Here, people belonging to different religions- Hindu, Muslim, Sikh and Christians live in harmony with each other.

This is the birthplace of the most rebellious and peaceful people at the same time.

The output of the function should be:

No. of lines started with letter “I’ or ‘T’ in file: 3

OR

Write a function LetterCount(file , ch) in Python, which should search given character ch in a text file MyFile.TXT, should count and display the occurrence (including small cases and capital also).

Example:

If the file content is as follows:

Python is an interpreted, high-level and general-purpose programming language. Created by Guido van Rossum and first released in 1991, Python's design philosophy emphasizes code readability with its notable use of significant whitespace.

The LetterCount(“Myfile.TXT”,’p’) function should

Number of P in file : 10 times

36 Write the outputs of the SQL queries (i) to (iii) based on the relations Library and Book_Issue given below:

3

LIBRARY

B_ID	AutName	BOOK_NAME	Date_of_pur	Price	Qty
1	Mridul	Computer Sc	10/01/2017	470	30
2	Sharmila	History	24/03/2008	320	10
3	Sanjeev	Mathematics	12/12/2016	450	25
4	Niranjana	History	01/07/2015	400	35
5	Yogendra	Mathematics	05/09/2007	400	30
6	Harish	History	27/06/2008	350	25
7	Mohan	Computer Sc	25/02/2017	450	35
8	H.Sahoo	Mathematics	31/07/2018	500	15

Book_issue

B_ID	MEMBER_NAME	DATE_OF_ISSUE
2	AKASH	10/01/2020
8	DIVYADITYA	05/08/2020
4	MANASVI	04/04/2020
1	SHRUTI	01/02/2020
6	AKASH	28/03/2020

I. Select BOOK_NAME, COUNT(*) from library group by subject;

iv. SELECT Max(Date_of_Pur),Min(Date_of_Pur) FROM LIBRARY;

III. SELECT SUBJECT ,MEMBER_NAME, DATE_OF_ISSUE FROM LIBRARY, BOOK_ISSUE WHERE LIBRARY.B_ID=BOOK_ISSUE.B_ID;

37 Write a SQL query for the following, based on the above mentioned tables.

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i. To show all information about the books of Subject Mathematics.

ii. To list BOOKS ISSUED BY AKASH

iii. To list of books in ascending order of date of purchase

iv. To display total Cost of books of Mathematics and Computer Science

v. To display name of members whose name contains letter 'A'

38 Write a function in Python PUSH(Arr), where Arr is a list of numbers. From this list push all numbers Even numbers into a stack implemented by using a list. Display the stack if it has at least one element, otherwise display appropriate error message.

3

OR

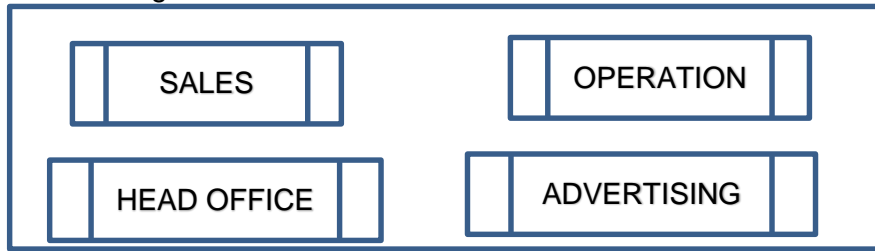
Write a function in Python POP(Arr), where Arr is a stack implemented by a list of numbers. The function returns the value deleted from the stack.

Section-III

39

GoodTime Biscuit Factory campus is setting up its Various blocks at Gwalior and is planning to set up a network. The Factory has 3 blocks and one Head Office Center as shown in the diagram below:

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Center to Center distances between various blocks/center is as follows:

OFFICE Block to SALES Block	40m
OFFICE block to OPERATION Block	80m
OFFICE Block to ADVERTISING	85m
SALES Block to OPERATION Block	35m
SALES Block to ADVERTISING	30m
OPERATION block to ADVERTISING	15m

Number of computers in each of the blocks/Center is as follows: HEAD

OFFICE Block	25
OPERATION Block	30
ADVERTISING	65
SALES Block	25

- Suggest the most suitable place (i.e., Block/Center) to install the server of this Factory Campus with a suitable reason.
- Suggest an ideal layout for connecting these blocks/centers for a wired connectivity.
- Suggest the placement of a Repeater in the network with justification.
- The Factory Campus is planning to connect its Head Quarter in Puna, which is far away (approx. 1100 km) from Factory Campus at Gwalior. Which type of network out of LAN, MAN, or WAN will be formed? Justify your answer.
-

40.

A binary file "Employee..dat" has structure [EmpNo, EmpName, Post,sal].

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- Write a user defined function *CreateFile()* to input data for a record and add to Employee.dat .
- Write a function *CountRec(Post)* in Python which accepts the Post as parameter and count and return number of employees working under this post (recprds stored binary file "Employee.dat")

OR

A binary file "SHOP.DAT" has structure (ITEM_number,ITEM_Name, Qty). Write a function *countrec()* in Python that would read contents of the file "SHOP.DAT" and display the details of those items whose qty is more than 45.