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Roll No. : | | | |

HALF YEARLY QP 2022-23

SUBJECT : COMPUTER SCIENCE

CLASS : XII

Time : 3 hours **Marks : 70**

General Instructions

- ***The question paper is divided into 4 sections – A, B, C and D***
- ***Section A, consists of 14 questions (1-14). Each question carries 1 marks.***
- ***Section B, consists of 16 questions (15-30). Each question carries 2 marks.***
- ***Section C, consists of 4 questions (31-34). Each question carries 3 marks.***
- ***Section D, consists of 3 questions (35-37). Each question carries 4marks.***
- ***Internal choices have been given for question numbers 21 and 35.***

SECTION A

Q1. What will be the output of the following Python code?

```
R=(23,34,57,80)
R.pop(57)
print(R)
```

(a) (23,34,80)

(b) Error

(c) (23,34,57,80)

(d) (57) 1

Q2. The readlines() method returns_____

(a) a str

(b) a list of lines

(c) a list of single characters

(d) a list of integers 1

Q3. The variable declared inside a function is called a global variable.(True/False) 1

Q4. _____ ____ is a network device that forwards data from one network to another. 1

Q5. Suggest a switching technique in which the information is transferred using Store and Forward mechanism. 1

Q6. Write one advantages of using an optical Fiber cable over a Twisted Pair cable to connect two service stations, which are 230m away from each other. 1

Q7. Write any one difference between LAN and WAN. 1

Q8. Define any of the following one term:

Web server or Web Hosting 1

Q9. Define URL ? 1

Q10. _____ provides a connection –oriented reliable service for sending messages. 1

Q11. Which command in MySQL is used to delete a database? 1

Q12. Rohit is learning MySQL for managing different databases and tables for his Python based Application / software. Tell him the SQL command to show pre-existing databases. 1

Q13. A table "Customer" in a database has 20 columns and 50 records. What is the degree and Cardinality of this table? 1

Q14. Give one point of difference between primary key and foreign key. 1

SECTION B

Q15 What will be the output of following Python Code:

```
if 6<9 or 7:
    print("Hello"*3)
    print("Welcome*3")
else:
    print("Welcome"*1)
```

2

Q16. What will be the output of following Python Code:

```
t,r=8,4
for n in range(15,55,15):
    t-=n
    r*=n
else:
    print(t, "&", r)
    print(n,"*")
```

2

Q17. Consider the following code and find the correct output from the given options:

```
num1=[5,12,58,41,11]
print(num1.index(41))
print(num1[3])
```

2

Q18. What will be the result of the following code? 2

```
d={"H":6,"P":5,"R":4}
```

```
d.update({"Total":4})
print(d)
d.pop("P")
print(d)
```

Q19. What is the result of this code?

```
def display(a):
    print(2**a)
    print(a*2)
display(5)
```

2

Q20. Find and write the output of the following python code: 2

```
def check(m,k=70):
    m=m-k
    k=m*k
    print(m,"@",k)
    return(90)
g=40
p=10
g=check(g,p)
print(g,"$",p)
```

Q21. Write a function in python to count the number of lines in a text file notes.TXT' which is starting with an alphabet 'R' . 2

OR

Write a method/function PRINTWORDS() in python to read lines from a text file notes.TXT, and display those words, which are less than 6 characters

Q22. Karan has written following program to copy notes.txt file data into file kahani.txt. Help Karan to complete fill in the blank.

```
# Program to copy Story.txt file into new file Kahni.txt
file1=open("notes.txt","r")
file2=open("kahani.txt","w")
data=_____ # to read data from notes.txt
_____ # to write data in kahani.txt
file1.close()
file2.close()
print("File copied")
```

2

Q23. Suppose the content of "check.txt" is :-

One best book is equal to hundred good friends, but one good friend is equal to a library."

What will be the output of the following Python code?

```
f1=open("check.txt",'r')
print(f1.tell(),end="#")
f1.seek(5,0)
data=f1.read(10)
print(data)
d=f1.read(5)
print(d)
f1.close()
```

2

Q24. Nidhi is trying to write an object t1 = (45,67,89,34,49) on a binary file "test.dat". Consider the following code written by her. Help her in completing statement 1.

```
import pickle
```

```
t1 = (45,67,89,34,49)
myfile = open("test.dat",'wb')
pickle._____ #Statement 1
myfile.close( )
```

2

Q25. What is the difference between hub and switch? Which is more preferable in a large network of computers and why? 2

Q26. Explain any one switching technique. 2

Q27. Give two advantages and two disadvantages of bus topology. 2

Q28. Expand the following terms:

HTTP,FTP,SMTP and XML 2

Q29. Differentiate between Candidate Key and Alternate Key. 2

Q30. Choose correct DDL,DML,DCL and TCL commands from the following:- 2

INSERT INTO, SELECT, CREATE, UPDATE, DELETE,ALTER

SECTION C

Q31. What possible outputs(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
TR=[4,5,7,8,9,10];
FROM=random.randint(1,3)
TO=random.randint(2,4)
for N in range(FROM,TO+1):
    print (TR[N],end="@")
```

(i) 5@7@8@9@

(ii) 5@7@8@9

(iii) 4@5@7@8@

(iv) 7@8@9@10@ 3

32. Rahul student of class 11 is writing a program to create a CSV file "student.csv" which will contain student-number, student-name and Fees for some entries. He has written the following code. As a programmer, help him to successfully execute the given task.

```
import _____ #line-1
#Function to add / write single student records
def addstudent(record):
    file1=open('student.csv','a')
    csvobj=csv._____(file1) #line-2
    csvobj._____(record) #line-3
    file1.close()
#Function to read student records
def readstudent():
    file1=open('student.csv','___') #line-4
    csvobj=csv._____(file1) #line-5
    for rec in csvobj:
    if int(rec[2])>15000:
    print(rec)
    file1.close()
#main-coding
rec1=[101,'Rekha',1500]
rec2=[102,'Nitin',3500]
rec3=[103,'Mohit',3000]
addstudent(rec1)
```

3

```
addstudent(rec2)
addstudent(rec3)
readstudent() #line-6
```

1. Name the module he should import in Line 1.

   a) import csv b) import CSV c) import csv module d) import Csv

2. Fill in the blank in Line 2 to create CSV object for writing.

   a) writer b) writerow c) writerows d) write

3 Fill in the blank in Line 3 to write record / data of one student in CSV file.

   a) writer b) writerow c) writerows d) writeline

4. Fill in the blank in Line 4 with file open mode for reading data from CSV file

   a) "r" b) "a" c) "w" d) "rb"

5. Fill in the blank in Line 5 to read data from CSV file.

   a) reader b) read c) readlines d) readline

6 Write the output Rahul will obtain while executing line 6

   a) (102,'Nitin',3500)

   b) [102,'Nitin',3500]

   c) [103,'Mohit',3000]

   d) (103,'Mohit',3000)

   e) No output

Q33. Explain push() and pop() operations of STACK in python. Give one example. 3

Q34. Charu's tutor has given instructions to write a table in MySQL as given below. Help her to get the solution.

- Name of the relation should be Library

- Column name with data type as :

⇒' MId ,integer value and set constraint as Primary Key

⇒ MemberName, which can hold at least 20 characters

⇒ MemberAddress which can hold at least 15 variable characters

⇒ MemberShip, which can hold decimal value in the format (4,2)

SECTION D

Q35. Nakul has a list containing 6 integers. You need to help him create a program with two user defined functions to perform the following operations based on this list.

- Traverse the content of the list and push those numbers into a stack which are divisible by both 2 and 4.
- Pop and display the content of the stack.

For example:

If the sample Content of the list is as follows:

L=[45,60,8,90,15,20] 4

Sample Output of the code should be:

20 90 8 60

OR

Write a function in python, Push(Package) and Pop(Package) to add details of customer contain information (Custid, Cname and Price) in the form of tuple in Package and delete a Package from a List of Package Description, considering them to act as push and pop operations of the Stack data structure.

Q36. A Car showroom is maintaining car details using MYSQL to store the data. As a database expert , Nikhil has decided following specifications of database:

1. Name of the database: showroom
2. Name of the table: cardetails
3. The attribute of cardetails table are as follows:

Ccode: Integer, Cname: characters of size 15

Manufacturer:character of size 20

Colour : character of size 10

Capacity: integer

Charges: integer

Ccode	Cname	Manufacturer	Colour	Capacity	Charges
201	Triber	Renault	Yellow	7	1000
208	Innova	Toyota	Silver	8	3000
212	Duster	Renault	Red	6	2500
217	Ertiga	Suzuki	Grey	7	2300

Write the answers of the questions (a) to (d) based on the table, **CARDETAILS** given below:

(a) Write the names of most appropriate columns, which can be considered as Primary KEY. Justify your answer.

(b) What is the degree and cardinality of the above table?

(c) Which command is to display the structure of above given table.

(d) Write command to create database cardetails. 4

Q37. TMP Institute is planning to set up its centre in Orisha with four specialised blocks for Medicine, Management, Law courses along with an Admission block in separate buildings. The physical distances between these blocks and the number of computers to be installed in these blocks are given below. You as a network

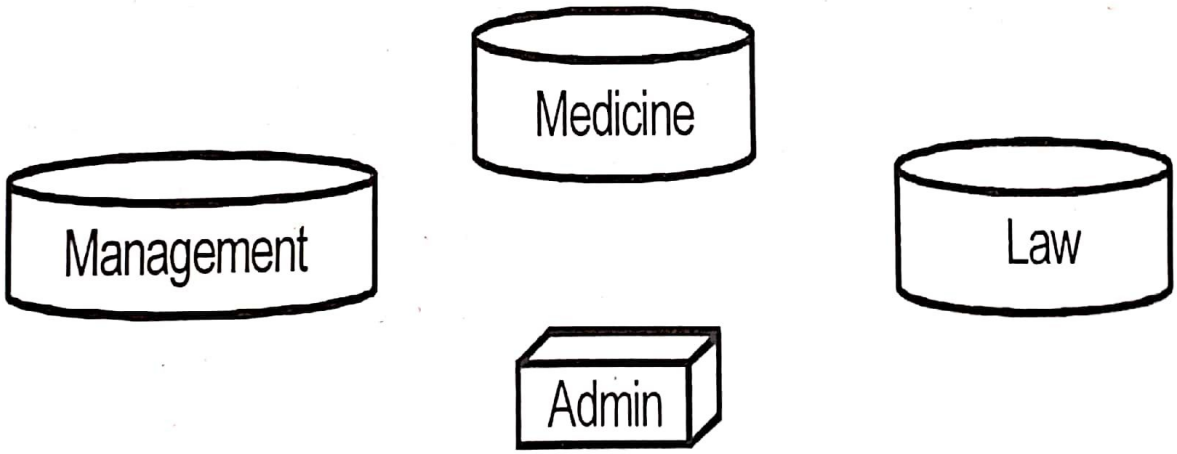
expert have to answer the queries raised by their board of directors as given in (i) to (iv).

Shortest distances between various locations in metres 4

Admin Block to Management Block	50
Admin Block to Medicine Block	30
Admin Block to Law Block	65
Management Block to Medicine Block	40
Management Block to Law Block	125
Law Block to Medicine Block	35

Number of Computers installed at various locations are as follows

Admin Block	250
Management Block	100
Medicine Block	45
Law Block	95



(i). Suggest the most suitable location to install the main server of this institution to get efficient connectivity.

(ii). Suggest by drawing the best cable layout for effective network connectivity of the blocks having server with all the other blocks.

(iii). Suggest the device to be installed in each of these buildings for connecting computers installed within the building.

(iv) Suggest the most suitable wired medium for efficiently connecting each computer installed in every building out of the following network cables:

Coaxial Cable

Ethernet Cable

Single Pair

Telephone Cable

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