COMMON PRE-BOARD EXAMINATION
2022-23
Subject: Computer Science - 083

Class: XII

Maximum Marks:70
Time: 3 hours

Marking Scheme

Qn No.	SECTION A	Marks Allocated
1.	"break and continue statements are conditional statements". True or False ? **Ans : False**	1
2.	Which of the following are not valid keywords? a. False b. Math c. WHILE d. break **Ans: b. Math** **c. WHILE**	1
3.	Consider two lists L1= [2,4,6] and L2=[6,7,8] What will be the output after the following code L1= [2,4,6] L2=[6,7,8] L1 = L2 L2.append(5) print(L1) a. [2,4,6,5] b. [6,7,8,5] c. [6,7,8] d. [2,4,6] **Ans : b. [6,7,8,5]**	1
4.	Which of the following are valid identifiers ? a. price2 b. %sales% c) Else d. unit price **Ans : a) price2 c) Else**	1
5	Look at the following and determine the output . S="Work hard"	1

	print(S[1:-1] a. ‘rah dro’ b. ‘work har’ c. 'ork har' d. ‘drah droW’ **Ans : c. 'ork har'**	
6	Which of the following commands can be used to read the entire contents of a file as a string using the file object <tmpfile>? (a) tmpfile.read(n) (b) tmpfile.read() (c) tmpfile.readline() (d) tmpfile.readlines() **Ans : b) tmpfile.read()**	1
7.	_____ is a table constraint that will prevent the entry of duplicate rows. a. Primary Key b. NULL c. Unique d. Distinct **Ans: c) unique**	1
8.	Which statement is appropriate to change the first name "Madhur" to "Mridul" in the "FName" column in the 'Student' table? a. UPDATE Student SET FName='Mridul' WHERE FName='Madhur'; b. MODIFY Student SET FName='Madhur' INTO FName='Mridul ; c. UPDATE Student SET FName='Madhur' INTO FName='Mridul' ; d. UPDATE Student SET FName='Madhur' WHERE FName='Mridul'; **Ans :** **a. UPDATE Student SET FName='Mridul' WHERE FName='Madhur';**	1
9.	Which of the following will return a type error in Python ? a. print(‘5’ * 3) b. print(‘5’ + ‘3’) c. print('5' + 3) d. print(5 * 3) **Ans: c) print('5' + 3)**	1

10.	Amal wants to change the datatype of the attribute UNITS in the table PHARMA. Which of the following commands will he use for the purpose ? a. MODIFY TABLE b. UPDATE TABLE c. CHANGE TABLE d. ALTER TABLE **Ans : d) ALTER TABLE**	1
11.	Which of the following is not a valid mode of opening a file? a. ab b. rw c. r+ d. w+ **Ans : b. rw**	1
12.	Data type of "name" field in a table is char(25). How many bytes will be occupied by the value "Rohan Kumar"? a. 25 b. 11 c. 10 d. 15 **Ans : a.25**	1
13.	In this technique, there is a dedicated link between the sender and the receiver. a. Packet switching b. Circuit Switching c. Message Switching d. None of the above **Ans: b. Circuit Switching**	1
14.	What will be the output of the following expression? print(95//3**2**2+12-3%2) a. 12 b. 14 c. 11 d. 10 **Ans : a. 12**	1
15	All aggregate functions except_____ ignore null values in their input collection. a. sum( ) b. count(*) c. count(attribute) d. avg( ) **Ans : b. count(*)**	1

16	What will be the data type of D in the following statement where Mycursor is the defined cursor object. D=Mycursor.fetchmany(1) a. Tuple b. List of lists c. List of tuple d. Tuple of lists **Ans : c. List of tuple**	1
Q17 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): Parameters with default arguments can be followed by parameters with no default argument. Reason (R): Syntactically, it would be impossible for the interpreter to decide which values match which arguments if mixed modes were allowed while providing default arguments. **Ans:** **d. A is false but R is True**	1
18	Assertion(A): Pickling refers to the process of converting the structure to a byte stream before writing to a binary file. Reasoning(R) : Unpickling refers to the reverse process that is to convert byte stream is converted to original structure. **Ans:** **b. Both A and R are true and R is not the correct explanation for A**	1
	SECTION B	

19	Rewrite the following code after removing syntax error:
	Runs = (10, 5, 0, 2, 4, 3)
	for I in Runs
	if I=0:
	print(Maiden Over)
	else:
	print(Not Maiden)
		2

Ans:

```
Runs = ( 10, 5, 0, 2, 4, 3 )
for I in Runs:
   if I==0:
        print("Maiden Over")
else:
        print("Not Maiden")
```

(½ mark for each correct correction made and underlined.)

20 Give two advantages and two disadvantages of Radio wave . 2

Ans:

Advantages	Disadvantages
They can be used indoors and outdoors. They can travel in any direction It is cheaper than lying cables. It offers ease of communication over difficult terrain.	It is an insecure mode of communication It is susceptible to weather effects.

(1 mark for 2 advantages and 1 mark for 2 disadvantages)

OR

Define the following terms:

Modem, Bluetooth

Ans:
Modem : Modem is a device that enables a computer to trasmit data over telephone lines. It converts digital to analog and vice versa.
Bluetooth: It refers to a telecommunication industry specification that defines how different devices can be connected virtually and transfer information among each other.

(1 mark for explanation of modem and 1 mark for Bluetooth)
(Any relevant answer may be marked)

21 a) What will be the output of the following python code? 1

```
S="UVW"
L=[10,20,30]
D={ }
N=len(S)
for I in range(N):
    D[L[I]]=S[I]
for K,V in D.items():
    print(K, V, sep='*', end = ', ')
```

Ans: 1

10*U, 20*V, 30*W,

(1 mark for the correct output)

b) Predict the output of the Python code given below:

```
t1=(10,20,"book",30,9.5,"item",[12,13],(3,4),30,5,30)
print( t1.index(30)*t1.count(30))
print(t1[−8:−4])
```

Ans:

9

(30, 9.5, 'item', [12, 13])

(1 mark for the correct output)

22 Explain primary key and foreign key with examples. 2

Ans:

Primary key: A set of one or more attributes that uniquely identifies a record in a table.

Foreign key: A non-key attribute that refers to the primary key of another table .

Table: DOCTOR

DNO	DNAME	FEES
D1	FATHIMA	2500
D2	SHYAM	1500
D3	RAHUL	3500

TABLE: PATIENT

PNO	PNAME	AD_DATE	DNO
P1	ZAHA	2022-09-10	D1
P2	KIRAN	2022-05-23	D2

	Table DOCTOR Primary key : DNO Table PATIET Primary key: PNO Foreign key : DNO (*1 mark for explanation and 1 mark for example)* *(Any relevant correct example may be marked)*	
23	a. Write down the full form of : i. VOIP ii. POP **Ans:** VOIP – Voice Over Internet Protocol POP- Post Office Protocol *(½ mark for every correct full form)* b. Which is the protocol that allows the use of HTML on the World Wide Web ? **Ans:** HTTP *(1 mark for correct answer)*	2
24	a. What possible output(s) are expected to be displayed on screen at the time of execution of the program from the following code? import random ar = [2, 3, 4, 5, 6, 7] minn = random.randint (1, 3) maxn = random.randint (2, 4) for i in range (minn, maxn + 1): print (ar [i], end = '#') (a) 3# 4# 5# (b) 5# 6# 7# (c) 1# 4# 7# (d) 4# 5# 7# **Ans:** (a) 3# 4# 5# ***(2 marks for the correct answer)*** OR b) Consider the following table EMPLOYEE in a Database COMPANY : Table : EMPLOYEE E_ID | NAME | DEPT A1001 | Akash | Accounts A1002 | Rakesh | HR	2

A1003	Alina	Accounts
A1004	Simon	Sales
A1005	Poonam	Accounts

Assume that the required library for establishing the connection between Python and MySQL is already imported in the given Python code. Also assume that DB is the name of the database connection for the given table EMPLOYEE stored in the database COMPANY. Predict the output of the following Python code :

```
CUR=DB.cursor()
CUR.execute("USE COMPANY")
CUR.execute("SELECT * FROM EMPLOYEE WHERE DEPT =
                                                    'Accounts' ")
Rec=CUR.fetchmany(1)
for i in range(2) :
    R=CUR.fetchone()
    print(R[0], R[1], sep =" @ ")
```

Ans:

A1003 @ Alina
A1005 @ Poonam

(2 marks for the correct output)

25 Differentiate ALTER AND UPDATE commands in SQL with an example. — 2

ALTER	UPDATE
DDL command To change the structure of the table Eg: Alter table student add(address varchar(20));	DML command To change the content of the table Eg: Update student set mark = mark +10 where subject = " physics";

(1 mark for difference and 1 mark for example)

(Any relevant correct example may be marked)

OR

Write the difference between WHERE and HAVING in SQL? Explain with examples.

Ans:

WHERE clause is used to select particular row(s) that satisfy a condition whereas HAVING clause is used in connection with the aggregate functions, group by clause.

For eg: SELECT * FROM STUDENT WHERE MARKS>75;
This statement shall display the records for all the students who have scored more than 75 marks.
The statement,
SELECT AVG(MARK) FROM STUDENT GROUP BY STREAM HAVING COUNT(*)>3;
Will display the average marks of students of each stream with more than 3 students.
(1 mark for difference and 1 mark for example)

SECTION C

26 i) Observe the following tables, DOCTOR and PATIENT carefully and write the output of the following query: 1+2

Table: DOCTOR

DNO	DNAME	FEES
D1	FATHIMA	2500
D2	SHYAM	1500
D3	RAHUL	3500

TABLE: PATIENT

PNO	PNAME	AD_DATE	DNO
P1	ZAHA	2022-09-10	D1
P2	KIRAN	2022-05-23	D2

SELECT DNAME,PNAME,FEES FROM DOCTOR , PATIENT;

Ans:

DNAME	PNAME	FEES
FATHIMA	ZAHA	2500
SHYAM	ZAHA	1500
RAHUL	ZAHA	3500
FATHIMA	KIRAN	2500
SHYAM	KIRAN	1500
RAHUL	KIRAN	3500

(1 mark for the correct output)

ii) Write the output of queries(a) to (d) based on the table, PERIPHERALS given below.

Table: PERIPHERALS

PID	NAME	BRAND	DOP	COST	DISCOUNT
K001	WIRELESS KEYBOARD	LOGITECH	2022-01-12	1200	5
M001	OPTICAL MOUSE	INDEX	2022-01-05	450	0
H001	EXTERNAL HDD	SEAGATE	2022-01-10	4200	10
K002	KEYBOARD	INDEX	2022-01-15	350	3
P001	LASER PRINTER	HP	2022-01-13	9500	8
S001	SCANNER	CANON	2022-01-12	3500	4
P002	INKJET PRINTER	CANON	2021-12-24	6500	5

(a) SELECT AVG(COST) FROM PERIPHERALS WHERE COST>=3000;

AVG(COST)
5925

(½ mark for the correct output)

(b) SELECT MAX(DOP), MIN(DOP) FROM PERIPHERALS;

MAX(DOP)	MIN(DOP)
2022-01-15	2021-12-24

(½ mark for the correct output)

(c) SELECT COST – COST*DISCOUNT/100 'NET_COST' FROM PERIPHERALS WHERE PID LIKE 'P%';

	NET_COST 8740 6175 **(½ mark for the correct output)** (d) SELECT NAME, COST FROM PERIPHERALS WHERE DOP LIKE '%-01-%' AND DISCOUNT IN (5,10); NAME: WIRELESS KEYBOARD, COST: 1200 NAME: EXTERNAL HDD, COST: 4200 **(½ mark for the correct output)**	

27	Write the definition of a function ChangeGender() in Python, which reads the contents of a text file "ARTICLE1.TXT" and copy the content of the file to ARTICLE2.TXT with every occurrence of the word 'he' replaced by 'she'. For example, if the content of the file "ARTICLE1.TXT" is as follows :
	
	Last time he went to Agra, there was too much crowd, which he did not like. So this time he decided to visit some hill station.
	
	The file ARTICLE2.TXT should contain :
	
	Last time she went to Agra, there was too much crowd, which she did not like. So this time she decided to visit some hill station.
	
	Ans:
	def ChangeGender():
	f1=open("ARTICLE1.TXT", "r')
	f2=open("ARTICLE2.TXT", "w")
	s=f.read()
	l=s.split()
	for word in l:
	if word=='he':
	word="she"
	f2.write(word)
		3

	f1.close()
	
	f2.close()
	
	(½ mark for correctly opening and closing the file
	½ for read()
	½ for split()
	½ mark for correct loops
	½ for correct if statement
	½ mark for correct write())
	
	OR
	
	Write a function Replace_Space() in Python which should read each character of a text file "MYFILE.TXT" and then replace all spaces from text with hash (#).
	Example:
	If the file content is as follows:
	The relative paths are relative to current working directory.
	
	The Replace_Space() function should display the output as:
	
	The#relative#paths#are#relative#to#current#working#directory.
	
	Ans:
	
	def Replace_Space():
	f=open("MYFILE.TXT", 'r')
	S=f.read()
	for ch in S:
	if ch== ' ':
	ch='#'
	print(ch,end='')
	f.close( )
	
	(½ mark for correctly opening and closing the file
	½ for read()
	½ mark for correct loops
	½ for correct if statement
	½ mark for correct assignment
	½ mark for displaying the correct output)
	
	Note: Any other relevant and correct code may be marked	

28	Write the outputs of the SQL queries (i) to (iv) based on the given below tables: TRAINER and COURSE	2+1

Table : TRAINER

TID	TNAME	CITY	HIREDATE	SALARY
101	SUNAINA	MUMBAI	2000-10-15	90000
102	ANAMIKA	DELHI	1996-12-24	80000
103	DEEPTI	CHANDIGARH	2003-12-21	82000
104	MEENAKSHI	DELHI	2004-12-25	78000
105	RICHA	MUMBAI	1998-01-12	95000
106	MANIPRABHA	CHENNAI	2003-12-12	68000

Table : COURSE

CID	CNAME	FEES	STARTDATE	TID
C201	AGDCA	12000	2020-07-12	101
C202	ADCA	15000	2020-07-15	103
C203	DCA	10000	2020-10-01	102
C204	DDTP	9000	2020-09-15	104
C205	DHN	20000	2020-08-01	101
C206	O LEVEL	18000	2020-07-25	105

i. SELECT COUNT(DISTINCT(CITY)) FROM TRAINER WHERE SALARY > 80000;

COUNT(DISTINCT(CITY))
2

(½ mark for the correct output)

ii. SELECT TID, MIN(FEES) FROM COURSE GROUP BY TID HAVING COUNT (*) >1;

TID	MIN(FEES)
101	12000

(½ mark for the correct output)

iii. SELECT COUNT(TNAME) FROM TRAINER WHERE TNAME LIKE "%NA%";

COUNT(TNAME)
3

(½ mark for the correct output)

iv. SELECT T. TNAME, T. TCITY, C. CNAME, C. FEES FROM TRAINER T, COURSE C WHERE T.TID = C.TID AND T. SALARY > 80000 AND C.CNAME NOT LIKE "%DCA%";

TNAME	TCITY	CNAME	FEES
SUNAINA	MUMBAI	DHN	20000
RICHA	MUMBAI	O LEVEL	18000

	(½ mark for the correct output) b. Which command is used to show the information like name of fields, data types and other information about a table? **Ans:** DESC <tablename>; or DESCRIBE <TABLENAME>; (1 mark for correct answer)	

29	Write the definition of a function AddPrev(A, N) in Python, which should add every value of list A to the next value and assign the sum at the index of the next value. The list A contains N number of integers. The function should finally display the entire content of the changed list.
	Example : If the list A contains the following 10 elements (i.e. for N=10).
	
	Then the function should display the output as follows :
	9 # 14 # 29 # 39 # 64 # 76 # 81 # 90 # 95 # 107 #
	
	Ans :
	def AddPrev(A,N):
	for i in range(1,N):
	A[i]=A[i]+A[i-1]
	for ele in A:
	print(ele, end='#')
	
	(½ mark for correct function header
	1 mark for correct loop
	1 mark for correct statement
	½ mark for print statement)
	Note: Any other relevant and correct code may be marked
		3

30	Sanjay has created a dictionary product containing ProdName and Price as the Key – Value pair of 7 Products. Write a program with separate user defined function to perform the following operations: • Push the Keys (ProdName) of the dictionary into a Stack, where corresponding Price range is 5000-25000 (inclusive of both values). • Pop and display the content of Stack. Also, display "Stack Empty" when there are no elements in the stack. For example if the content of Dictionary is as follows: Product={"TV":20000,"Mobile":19999,"Camera":4999,	3

0	1	2	3	4	5	6	7	8	9
9	5	15	10	25	12	5	9	5	12

”Printer”:5999,”Mouse”:499, ”Keyboard”:600,
”AC”:25000}

The output of the program should be :

AC Printer Mobile TV

Stack Empty

Ans:

```
stack=[]
def push_element(product):
    for k in product:
        if product[k]>=5000 and product[k]<=25000:
            stack.append(k)

def pop_element():
    while True:
        if stack==[]:
            print(" stack Empty")
            break
        else:
            print(stack.pop(), end='  ')
```

(1.5 marks for correct push_element() and 1.5 marks for correct pop_element())

OR

Write separate user defined functions for the following :

(i) PUSH(N): This function accepts a list of names, N as parameter. It then pushes only those names in the stack named WITHS which contain the letter 'S'.

(ii) POPS( ): This function pops each name from the stack WITHS and displays it. When the stack is empty, the message "STACK EMPTY" is displayed.

For example :

If the names in the list N are

['AMBIKA', 'SATISH', 'RANDHIR', 'WILLIAMS', 'TASNEEN']

Then the stack WITHS should store

['SATISH', 'WILLIAMS', 'TASNEEN']

And the output should be displayed as

TASNEEN WILLIAMS SATISH STACK EMPTY

Ans:

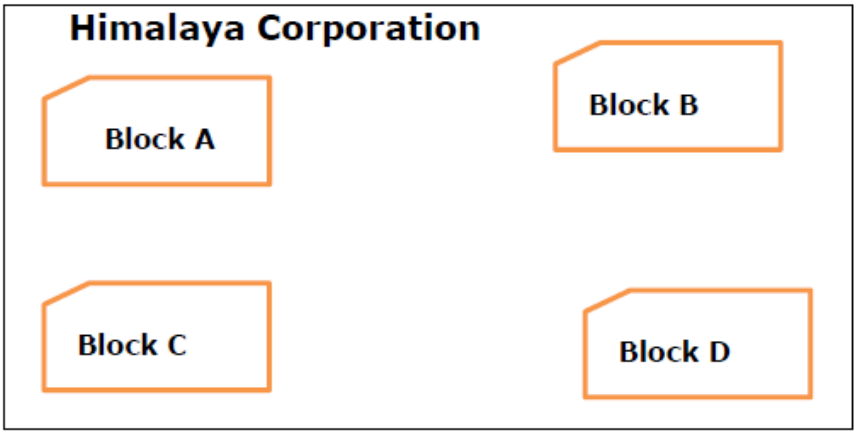
```
WITHS=[]
def PUSH(N):
    l=len(N)
    for i in range(l):
        for ch in N[i]:
            if ch == "S":
                WITHS.append(N[i])
                break

def POP():
    while True:
        if WITHS==[]:
            print("STACK EMPTY")
            break
        else:
            print(WITHS.pop(), end='  ')
```

(1.5 marks for correct PUSH() and 1.5 marks for correct POP())

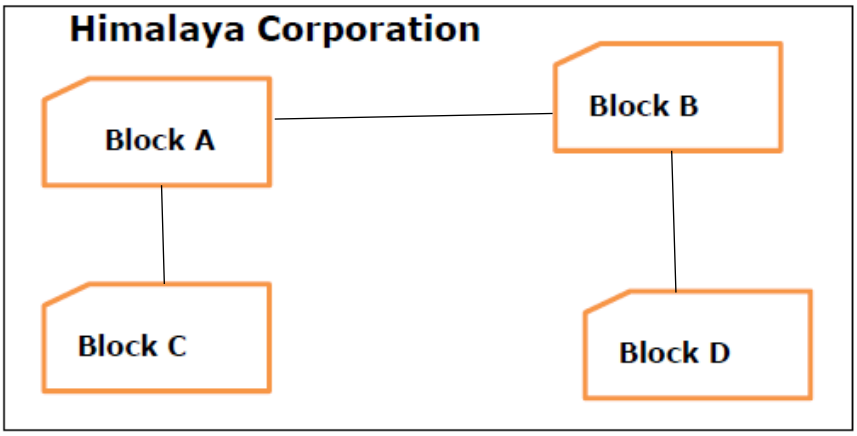
SECTION D

31 Himalaya Corporation has set up its new center at New Delhi for its office and web based activities. It has 4 blocks of buildings



Distance between the various blocks is as follows:

A to B 40 m
B to C 120m
C to D 100m

	A to D 170m B to D 60m A to C 55m Numbers of computers in each block Block A - 25 Block B - 50 Block C - 125 Block D - 10 i) Suggest the suitable cable layout to connect all the buildings.  ii) Which is the suitable block to place the server. Justify your answer? **Ans :** Block D . As per 80- 20 rule server should be placed where there is maximum no. of computers to avoid traffic and reduce the cable length and cost. (1 mark for the correct answer) iii) Suggest the placement of the following device with justification i. Repeater ii.Hub/Switch **Ans:** i. As per the above layout repeater is not needed as the distance is below 70 m. ii. Hub/Switch should be placed in all the blocks. (1 mark for the correct answer) iv) What is the type of network(LAN/MAN/WAN) when the New Delhi office is connected to the Mumbai office ? **Ans:** WAN (1 mark for the correct answer) v) What is the highspeed wireless connection to connect the New Delhi office with Mumbai office? **Ans :** Satellite (1 mark for the correct answer)	1 1 1 1 1
32	a. value = 50	2+3

```
def display(N):
    value = 25
    if N%7==0:
        value = value + N
    else:
        value = value - N
    print(value, end='#')

print(value)
display(20)
print(value)
```

Ans:
50
5#50

(b) The code given below updates the following record in the table book

bookno – int
bname – string
author – string
price – integer

Note the following to establish connectivity between Python and MYSQL:

- Username is root
- Password is mysql
- The table exists in a MYSQL database named library.

Write the following missing statements to complete the code:
Statement 1 – to form the cursor object
Statement 2 – to increase the price of those books by 500 whose bookno is entered by the user.
Statement 3 - To execute the SQL statement.

```
import mysql.connector as mysql
def del_data():
    con1=mysql.connect(host="localhost",user="root",
                       password="mysql", database="library")
    mycursor= _____      #Statement 1
    bno =input("Enter bookno : ")
    q="_____"       #Statement 2
    _____           # Statement 3
    con1.commit()
    print("Data updated successfully")
```

Ans:

```
1. mycursor= con1.cursor()
2. q="update book set price=price + 500  where bookno = ”+
                                                        bno
3.  mycursor.execute(q)
```

OR

a.

```
Text1="PReBOArDExAM2022"
Text2=""
I=0
while I<len(Text1):
    if Text1[I]>="0" and Text1[I]<="9":
            Val = int(Text1[I])
            Val = Val + 1
            Text2=Text2 + str(Val)
    elif Text1[I]>="A" and Text1[I] <="Z":
            Text2=Text2 + (Text1[I+1])
    else:
          Text2=Text2 + "*"
    I=I+1
print(Text2)
```

Ans:

Re*OAr*Ex*M23133

(b) The code given below reads the following record from the table named coach and displays only those records of swimming coaches .
coachid – int
name – string
game – string
fee – integer

Note the following to establish connectivity between Python and MYSQL:

- Username is root
- Password is mysql
- The table exists in a MYSQL database named club.

Write the following missing statements to complete the code:
Statement 1 – to form the cursor object.
Statement 2 – to execute the query that extracts records of

	those coaches who are coaching swimming.
	Statement 3- to read the complete result of the query (records of swimming coaches) into the object named d, from the table coach in the database.
	import mysql.connector as mysql
	def disp_data():
	con1=mysql.connect(host="localhost",user="root",
	password="mysql", database="club")
	mycursor= _____ #Statement 1
	_____ #Statement 2
	d= _____ #Statement 3
	for i in d:
	print(i)
	mycursor.close()
	
	Ans:
	1. mycursor=con1.cursor()
	2. mycursor.execute("select * from coach where game = 'swimming' ")
	3. d=mycursor.fetchall()	

33	What is the difference between text file and binary file? **Ans:** A text file stores data as ASCII/UNICODE characters where as a binary file stores data in binary format . Internal conversion is required in text file and, hence it is slower in processing but binary file does not need any translation and so it is faster. Write a Program in Python that defines and calls the following user defined functions: (i) ADD_SCORE() – To accept and add information about an exam into a csv file named 'exam.csv'. Each record consists of rollno, name , subject and score to store roll no , student name , subject and score of the exam . (ii) DISPLAY_SCORE() – To display the name of the students who scored more than 80 marks , present in the CSV file named 'exam.csv'. **<u>Program:</u>** import csv	5

```
def ADD_SCORE():
    f=open("exam.csv", "a", newline="\n")
    w=csv.writer(f)
    rollno = int(input(" enter rollno:"))
    name=input(" enter name:")
    subject=input(" enter subject:")
    score=int(input(" enter the score:" ))
    rec=[rollno,name,subject,score]
    w.writerow(rec)
    f.close()

def DISPLAY_SCORE():
    f=open(" exam.csv", "r", newline= "\n")
    r=csv.reader(f)
    for rec in r:
        if rec[3]>80:
            print(rec[1])
    f.close()

ADD_SCORE()
DISPLAY_SCORE()
```

(1 mark for difference

½ mark for importing csv module
1 ½ marks each for correct definition of ADD_SCORE() and DISPLAY_SCORE()
½ mark for function call statements
)

OR

What are the possible parameters that can be passed while opening a csv file?

Ans:

Filename, mode of opening, newline character, delimiter character.

Write a Program in Python that defines and calls the following user defined functions:

i) add() – To accept and add data of an item to a CSV file

'stock.csv'. Each record consists of a list with elements as id, itname and price.

ii) search()- To display the records of the items whose price is less than 10000.

Program:

```
import csv
def add():
    f=open("stock.csv", " a", newline="\n")
    w=csv.writer(f)
    itemid = int(input(" enter id:"))
    itname=input(" enter name:")
    price=int(input(" enter the price:" ))
    rec=[itemid,itname,price]
    w.writerow(rec)
    f.close()

def search():
    f=open(" stock.csv", "r", newline= "\n")
    r=csv.reader(f)
    for rec in r:
        if rec[2]<10000:
            print(rec[0] , rec[1], rec[2])
    f.close()
add()
search()
```

(1 mark for different parameters
½ mark for importing csv module
1 ½ marks each for correct definition of add() and search()
½ mark for function call statements
)

SECTION E

34 Consider the table LIBRARY given below : 1+1+2

CDNO	NAME	QTY	PRICE
10001	Indian Patriotic	20	150
10004	Hanuman Chalisa	15	80
10005	Instrumental of Kishore	25	95
10003	Work Hard	18	125

10006	Devotional Krishna Songs	14	75
10002	Best Birthday Songs	17	NULL

Based on the data given above answer the following questions:

i. Write the Degree & Cardinality of the relation LIBRARY, if we remove 1 row and add 3 more columns.

Ans:

New Degree: 7

New Cardinality: 5

(1/2 mark for correct degree and ½ mark for correct cardinality)

ii. Decrease the Price of "Work Hard" by 25.

Ans:

UPDATE LIBRARY SET PRICE = PRICE-25 WHERE NAME=" Work Hard";

(1 mark for correct statement)

iii. Write the statements to :

a. Add primary key constraint to cdno column.

b. Insert the following record in the above relation:
CDNO = 10015 NAME = "Devotional Songs"

Ans:

a. ALTER TABLE LIBRARY ADD PRIMARY KEY(CDNO);

b. INSERT INTO LIBRARY (CDNO,NAME)
VALUES(10015, ' Devotional songs');

(1 mark for each correct statement)

OR (Option for part iii only)

iii. Write the statement to:

a. Delete the details of CDs with name having the word "songs" .

b. Change all Nulls to 100 in the price column.

Ans:

a. DELETE FROM LIBRARY WHERE NAME LIKE "%SONGS%";

b. UPDATE LIBRARY SET PRICE = 100 WHERE PRICE IS NULL;

(1 mark for each correct statement)

35 Rahim has written a code and created a binary file result.dat with sno, stname , subject and score. The file contains 10 records. He now has to update a record based on the sno entered by the user and update the score with new score. If the sno is not found, an appropriate message should to be displayed. As a

Python expert, help him to complete the following code based onthe requirement given above:

```
import _____                          #Statement 1
def update_data():
    fin=open("result.dat","--------")          #Statement 2

    found=False
    sno=int(input("Enter student no.  to update their score : "))
    while True:
       try:
          pos=fin.tell()
          rec=_____                          #Statement 3
          if rec[0]==sno:
                found=True
                rec[3]=int(input("Enter new score: "))
                _____                        #Statement 4
                pickle.dump(rec,fin)
           except:
          break
    if found==True:
       print("The score has been  updated.")
    else:
       print("No student with such id is not found")
      fin.close()
```

(i) Which module should be imported in the program? (Statement1)

Ans: import pickle

(1 mark for correct module) — 1

(ii) Write the correct statement required to open a result.dat.(Statement 2) — 1

Ans: rb+

(1 mark for correct mode)

(iii) Which statement should Rahim fill in Statement 3 to read the data from the binary file, result.dat and in Statement 4 to move the pointer to the beginning of the record to update data in the file, result.dat?

Ans:

rec=pickle.load(fin) , fin.seek(pos) — 2

(1 mark for each correct statement)