COMMON PRE-BOARD EXAMINATION 2022-23

Subject: COMPUTER SCIENCE (083)

Time Allowed: 3 Hours ***Maximum Marks: 70***

General Instructions:

1. This question paper contains five sections, Section A to E.
2. All questions are compulsory.
3. Section A have 18 questions carrying 01 mark each.
4. Section B has 07 Very Short Answer type questions carrying 02 marks each.
5. Section C has 05 Short Answer type questions carrying 03 marks each.
6. Section D has 03 Long Answer type questions carrying 05 marks each.
7. Section E has 02 questions carrying 04 marks each. One internal choice is given in Q34 against part c only.
8. All programming questions are to be answered using Python Language only.

SECTION A		
1.	State True or False: "All keywords in Python are in lowercase."	1
Ans.	**False**	
2.	Identify the invalid identifier. a) keyword b) token c) operator d) and	1
Ans.	**d. and**	
3.	Consider the following Dictionary: D={1: ['Amit',23,21], 2: ['Suman',45,34], 3: 'Ravi', 4: 'Anuj'} m = D.get(2) print(m[2]) Write the output of the given code: a) 34 b) 45 c) m d) Suman	1
Ans.	**a. 34**	

4.	Consider the given expression: 12%4+6+4//3 Which of the following will be correct output if the given expression is evaluated? a) 7.0 b) 7.33 c) 7 d) 7.03	1
Ans.	**c. 7**	

5.	Select the correct output of the code:
	>>> s="i love my country"
	>>> r = "i love my class"
	>>> s[2:6] + r[-7:]
	
	a) 'loveyclass'
	b) 'lovey class'
	c) 'loveclass'
	d) 'love class'
		1

Ans.	**b. 'lovey class'**	
6.	Which function is used to write data in binary mode? a) write b) writelines c) pickle d) dump	1
Ans.	**d. dump**	
7.	Fill in the blank: Duplication of a record is called _____. a) Redundancy b) Inconsistency c) Discrepancy d) Integrity	1
Ans.	**a. Redundancy**	
8.	The query to add a column 'DOB' of data type 'DATE in table STUDENT. a) ALTER STUDENT TABLE ADD DOB DATE; b) ALTER TABLE STUDENT MODIFY DOB DATE;	1

	c) ALTER TABLE STUDENT ADD DOB DATE; d) ALTER STUDENT TABLE MODIFY DOB DATE;	
Ans.	**c. ALTER TABLE STUDENT ADD DOB DATE;**	

9.	Consider the following code:
	tup = (20, 30, 40, 50, 80, 79)
	print(tup) #Statement 1
	print(tup[3]+50) #Statement 2
	print(max(tup)) #Statement 3
	tup[4]=80 #Statement 4
	Which of the following statement(s) would give an error after executing the following code?
	a) Statement 1
	b) Statement 2
	c) Statement 3
	d) Statement 4
		1

Ans.	**d. Statement 4**	
10.	Fill in the blank: _____ is a table constraint in SQL that will prevent the entry of duplicate rows. a) NULL b) Primary Key c) Check d) Distinct	1
Ans.	**b. Primary Key**	
11.	Write the output of the following code: f= open("data.txt", "w") L=["My\n", "name\n", "is\n", "Amit"] f.writelines(L) f.close( ) f= open("data.txt","r") print(len (f.readline())) a) 2 b) 4 c) 3 d) 5	1

Ans.	**c. 3**	
12.	Fill in the blank: The command used to change the data in a SQL table is _____. a. UPDATE b. MODIFY c. ALTER d. CHANGE	1
Ans.	**a. Update**	
13.	Fill in the blank: In _____topology failure in the central networking device may lead to the failure of complete network. a) Bus b) Star c) Ring d) Tree	1
Ans.	**b. Star**	
14.	Evaluate the following expression and identify the correct answer. not True and not False or not True a. False b. NONE c. NULL d. True	1
Ans.	**a. False**	
15.	Give the output of : SELECT MOD(40, 15.5); a. 40 b. 15.5 c. 9.0 d. Error	1
Ans.	**c. 9.0**	
16.	In context of Python - Database Connectivity, the function fetchone() is a method of which object? a) connection b) database c) cursor	1

	d) query	
Ans.	**c. cursor**	
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): Function can take input values as parameters, execute them and return the output (if required) to the calling function with a return statement. Reason (R): A function in Python can return multiple values.	1
Ans.	**b. Both A and R are true and R is not the correct explanation for A**	
18.	Assertion (A): Pickle in Python is primarily used in serializing and deserializing a Python object structure. Reason (R): pickle.dump() method is used to read the object in file and pickle.load() method is used to write the object from pickled file.	1
Ans.	**c. A is True but R is False**	
	SECTION B	

19.	Raju has written a function to check the largest of two numbers. There are errors in his code. Rewrite the correct code and underline the corrections made.
	
	def larg()
	a = int(Input("Enter any number"))
	b = int(input("Enter any number"))
	if a=>b:
	print("First number is greater')
	else:
	print("Second number is greater")
		2

Ans.	**def larg(): # colon (:) is missing** **a = int(input("Enter any number")) # input() should be in lowercase** **b = int(input("Enter any number"))** **if a>=b: # The relational operator is wrong** **print("First number is greater") # quote mismatch** **else:**	

	print("Second number is greater") ***(½ mark for each correct correction made and underlined.)***	
20.	Write any two advantages and disadvantages of Twisted Pair Cables. **OR** Write any two advantages and disadvantages of Bus Topology.	2
Ans.	**Twisted Pair Cables.** **Advantages:** **1. It is capable of carrying a signal over long distances without amplification.** **2. It is simple, low weight, easy to install and easy to maintain.** **3. It is an adequate and least expensive medium for low speed (up to 10 mbps) applications where the distance between the nodes is relatively small.** **Disadvantages:** **1. It can easily pick up noise signals.** **2. Being thin in size, it is likely to break easily.** **3. It is unsuitable for broadband applications.** **OR** **Bus Topology** **Advantages of Bus Topology** **1. Short cable length and simple wiring layout.** **2. Resilient Architecture.** **3. Easy to extend.** **Disadvantages of Bus Topology** **1. Fault diagnosis is difficult.** **2. Repeaters might have to be used to amplify the signal.** ***(1 mark for each correct answer - Any two)*** ***Note: Any other relevant and correct answer may be marked***	
21.	a. Given is a Python String declaration: exam="CBSE Examination 2023" Write the output of: print(exam[-10:-2:2]) b. Write the output of the code given below: A = {1: "One", 2: "Two", 3: "Three", 4:"Four"} B = {1: 'Amit', 2: 'Sunil', 5: 'Lata', 6: 'Suman'} A.update (B) print(A)	1 1
Ans.	**a. ain2** **b. {1: 'Amit', 2: 'Sunil', 3: 'Three', 4: 'Four', 5: 'Lata', 6: 'Suman'}**	

	(1 mark for the correct answer)	
22.	Give a suitable example of a SQL table with sample data and illustrate Primary and Candidate Keys in it.	2
Ans.	**A table may have one or more than one such attribute/group of attributes that identify a row/tuple uniquely. All such attribute(s)/group(s) are known as Candidate keys. Out of the candidate keys, one is selected as primary key.** **Any correct Example** **OR** **Primary Key -A set of one or more column that can uniquely identify a record in the relation is called Primary Key.** **Candidate Key -A Column or group of columns which can be used as primary key are called Candidate keys, as they are candidate to become as Primary key.** **Any correct Example** ***(1 mark for any correct explanation and 1 mark for example) (Any relevant correct example may be marked)*** ***Note: Any relevant and correct answer may be marked***	
23.	a. Give the full forms of the following: (i) FTP (ii) HTTPS b. Define VoIP.	2
Ans.	**a.** **i. FTP – File Transfer Protocol** **ii. HTTPS – Hyper Text Transfer Protocol Secure** ***(½ mark for every correct full form)*** **b.** **VoIP (Voice Over Internet Protocol) is a protocol used for transmission of voice and multimedia content over Internet Protocol (IP) networks.** ***(1 mark for correct answer)*** ***Note: Any relevant and correct answer may be marked***	

24.	Predict the output of the Python code given below:
	`def changer(str, s):`
	`  nwstr=''`
	`  for x in str:`
	`  if x.isdigit():`
	`  nwstr=nwstr + s`
		2

	``
	elif x.isalpha():
	if x.isupper():
	nwstr=nwstr+x.lower()
	else:
	nwstr=nwstr+x.upper()
	else:
	nwstr=nwstr + '*'
	return(nwstr)
	print(changer('Exam 2023' , '#'))
	``
	OR
	
	Predict the output of the Python code given below:
	``
	def ChangeVal(M,N):
	for i in range(N):
	if M[i]%4 == 0:
	M[i]//=4
	if M[i]%6 == 0:
	M[i]//=6
	L = [35,80,45,22]
	ChangeVal(L,4)
	for i in L:
	print(i,end="-#")
	``	

Ans.	**eXAM*####** ***(½ mark for 'e', ½ mark for 'XAM', ½ mark for '*', ½ mark for '####')*** **OR** **35-#20-#45-#22-#** ***(½ mark for the correct digit with -#)***	
25.	Differentiate between the NOW( ) and SYSDATE( ) functions in SQL with an example. **OR** Categorize the following commands as DDL or DML: DROP, INSERT, ALTER, DELETE	2
Ans.	**NOW( ) function return the same date and time at which function was executed even if we execute multiple NOW( ) function with Select statement.** **Example.** **mysql> Select now(), sleep(2), now();** **Output: 2022-12-04 10:26:20, 0, 2022-12-04 10:26:20**	

SYSDATE( ) will always return date and time at which each SYDATE( ) function started execution.

Example.

mysql> Select sysdate(), sleep(2), sysdate();

Output: 2022-12-04 10:27:08, 0, 2022-12-04 10:27:10

(1 mark for NOW( ) with example and 1 mark for sysdate( ) with example)

OR

DDL Commands: DROP, ALTER

DML Commands: INSERT, DELETE

(½ mark for each correct categorization)

SECTION C

26. a. Consider the following tables – SALESPERSON and ITEM: 1+2

TABLE : SALESPERSON

Code	SALARY	ITCODE
1001	60000	I2
1002	70000	I5
1004	55000	I7

TABLE : ITEM

ITCODE	ITEMTYPE
I2	STATIONARY
I5	HOSIERY
I7	BAKERY

What will be the output of the following statement?

SELECT * FROM SALESPERSON NATURAL JOIN ITEM;

b. Write the output of the queries (i) to (iv) based on the table PAY given below:

Table: PAY

No	Name	Salary	Area	Age	Grade	Dept
1	Krippe	40000	West	45	C	Civil
2	Ravina	35000	South	38	A	Elec
3	Karan	60000	North	52	B	Comp
4	Tarun	142000	East	29	A	Civil
5	Aryan	50000	West	30	A	Elec

i. SELECT * FROM PAY WHERE AGE>=45;

ii. SELECT NAME, AGE FROM PAY ORDER BY AGE DESC;

iii. SELECT NAME, DEPT FROM PAY WHERE NAME LIKE '%i%';

iv. SELECT NAME, SALARY FROM PAY WHERE SALARY BETWEEN 40000 AND 50000;

Ans

i.

```
mysql> Select * From Pay Where Age>=45;
+------+--------+--------+------+-------+-------+-------+
| SlNo | Name   | Salary | Age  | Grade | Dept  | Area  |
+------+--------+--------+------+-------+-------+-------+
|    1 | Krippe |  40000 |   45 | C     | Civil | West  |
|    3 | Karan  |  60000 |   52 | B     | Comp  | North |
+------+--------+--------+------+-------+-------+-------+
```

ii.

```
mysql> Select Name, Age From Pay Order By Age Desc;
+--------+------+
| Name   | Age  |
+--------+------+
| Karan  |   52 |
| Krippe |   45 |
| Ravina |   38 |
| Aryan  |   30 |
| Tarun  |   29 |
+--------+------+
```

iii.

```
mysql> Select Name, Dept From Pay Where Name Like '%i%';
+--------+-------+
| Name   | Dept  |
+--------+-------+
| Krippe | Civil |
| Ravina | Elec  |
+--------+-------+
```

iv.

```
mysql> Select Name, Salary From Pay Where Salary Between 40000 and 50000;
+--------+--------+
| Name   | Salary |
+--------+--------+
| Krippe |  40000 |
| Aryan  |  50000 |
+--------+--------+
```

(½ mark for each correct output)

27. Write a method Countvowels( ) in Python to read the Text File 'Attitude.Txt' and display the number of uppercase vowels in the file. (3)

Example: If the file content is as follows:

All Birds Find Shelter During A Rain.
But An Eagle Avoids Rain By Flying Above The Clouds.
Problems Are Common, But Attitude Makes The Difference.

The Countvowels( ) function should display the output as:

Number of Vowels: 8

OR

Write a function Countchars( ) in Python, which should read each character of a Text File

	"Character.Txt" and display the count of words starting with letter ' I ' (including both the cases). Example: If the file content is as follows: *Intelligence plus character - that is the goal of true education* *Develop your character so that you are a person of integrity.* The Countchars( ) function should display the output as: No. of Words Starting with letter I: 3	
Ans.	**def Countvowels( ):** **Fobj=open('Attitude.Txt', 'r')** **data=Fobj.read()** **count=0** **for ch in data:** **if ch in 'AEIOU':** **count+=1** **print("Number of Vowels: ", count)** **Fobj.close()** **Countvowel()** **(½ mark for correctly opening and closing the file** **½ for read()** **½ mark for correct loop** **½ for correct if statement** **½ mark for correctly incrementing count** **½ mark for displaying the correct output)** ***Note: Any other relevant and correct code may be marked*** **OR** **def Countchars( ):** **Fobj=open(' *Character*.Txt ', 'r')** **str=Fobj.read()** **count=0** **words=str.split()** **for i in words:** **if i[0] in "Ii":** **count+=1** **print ("No. of Words Starting with letter 'I/i' = ", count)** **Fobj.close()** **Words()** **(½ mark for correctly opening and closing the file** **½ for read() function** **½ for split() function** **½ mark for correct loop**	

	½ for correct if statement **½ mark for displaying the correct output)** ***Note: Any other relevant and correct code may be marked***	
28.	a. Write the outputs of the SQL queries (i) to (iv) based on the relations DEPT and WORKER given below: TABLE: DEPT +-------+----------------+---------+ | DCODE | Department | CITY | +-------+----------------+---------+ | D01 | MEDIA | DELHI | | D02 | MARKETING | DELHI | | D03 | INFRASTRUCTURE | MUMBAI | | D05 | FINANCE | KOLKATA | | D04 | HUMAN RESOURCE | MUMBAI | +-------+----------------+---------+ TABLE: WORKER +------+--------------+------------+------------+--------+-------+ | WNO | NAME | DOJ | DOB | GENDER | DCODE | +------+--------------+------------+------------+--------+-------+ | 1001 | George K | 2013-09-01 | 1991-09-01 | MALE | D01 | | 1002 | Ryma Sen | 2012-12-11 | 1990-12-15 | FEMALE | D03 | | 1003 | Mohitesh | 2013-02-03 | 1987-09-04 | MALE | D05 | | 1007 | Anil Jha | 2014-01-17 | 1984-10-19 | MALE | D04 | | 1004 | Manila Sahai | 2012-12-09 | 1986-11-14 | FEMALE | D01 | | 1005 | R Sahay | 2013-11-18 | 1987-03-31 | MALE | D02 | | 1006 | Jaya Priya | 2014-06-09 | 1985-06-23 | FEMALE | D05 | +------+--------------+------------+------------+--------+-------+	3

	i. SELECT GENDER, COUNT(GENDER) AS 'GENDER COUNT' FROM WORKER GROUP BY GENDER;
	ii. SELECT DISTINCT CITY FROM DEPT;
	iii. SELECT NAME, DOB FROM WORKER W, DEPT D WHERE W.DCODE=D.DCODE AND GENDER='FEMALE';
	iv. SELECT MIN(DOJ), MAX(DOB) FROM WORKER;
	
	b. Write the SQL command to view all the tables in a database.	

Ans. **i.**	mysql> SELECT GENDER, COUNT(GENDER) AS 'GENDER COUNT' FROM WORKER GROUP BY GENDER; +--------+--------------+ | GENDER | GENDER COUNT | +--------+--------------+ | FEMALE | 3 | | MALE | 4 | +--------+--------------+	
ii.	mysql> SELECT DISTINCT CITY FROM DEPT; +---------+ | CITY | +---------+ | DELHI | | MUMBAI | | KOLKATA | +---------+	

iii.	mysql> SELECT NAME, DOB FROM WORKER W, DEPT D WHERE W.DCODE=D.DCODE AND GENDER='FEM +--------------+------------+ | NAME | DOB | +--------------+------------+ | Ryma Sen | 1990-12-15 | | Manila Sahai | 1986-11-14 | | Jaya Priya | 1985-06-23 | +--------------+------------+	
iv.	mysql> SELECT MIN(DOJ), MAX(DOB) FROM WORKER; +------------+------------+ | MIN(DOJ) | MAX(DOB) | +------------+------------+ | 2012-12-09 | 1991-09-01 | +------------+------------+ ***(½ mark for the each correct output)***	
	b. SHOW TABLES; ***(1 mark for the correct output)***	
29.	Write a function ZeroEnding(SCORE) that returns the sum of all the values in the List of SCORES which are ending with the number zero(0). For example: If the SCORE contain [200, 456, 300, 100, 234, 678] The sum should be displayed as 600	3
Ans.	**SCORE=[200, 456, 300, 100, 234, 678]** **def ZeroEnding(SCORE):** **ZeroSum=0** **for i in SCORE:** **if i%10==0:** **ZeroSum+=i** **return ZeroSum** ***(½ mark for correct function header*** ***1 mark for correct loop*** ***1 mark for correct if statement*** ***½ mark for return statement)*** ***Note: Any other relevant and correct code may be marked***	
30.	John has created a Dictionary containing name and price as key value pairs, of 5 items in an Instrument Box. Write a program, using User Defined Functions to perform the following operations: • Push the keys (name of the item) of the Dictionary into a Stack, where the corresponding value (price) is less than 45. • Pop and display the content of the Stack.	3

For example:

If the sample content of the dictionary is as follows:

Items = { " Compass " : 65, " Divider ":60, " Protractor ":45, " Set Squares ":40,
" Eraser ":30, " Ruler ":32}

The output from the program should be:

Ruler
Eraser
Set Squares
Empty Stack

OR

Hanna has a List containing 5 CITIES. You need to help her to create a program with separate User Defined Functions to perform the following operations based on the List.

- Traverse the content of the List and push the CITIES, which are starting with alphabet A into a Stack.
- Pop and display the content of the Stack.

For Example:

If the List CITIES contains:

["AHMEDABAD", "CHENNAI", "NEWDELHI", "AMRITSAR", "AGRA"]

The following should get displayed:

AGRA
AMRITSAR
AHMEDABAD
Stack Empty

Ans.

```
Items={"Compass":65,"Divider":60, "Protractor":45, "Set Squares":40, "Eraser":30,
"Ruler":32}
ItemList=[]
def PUSH():
  for K in Items:
    if Items[K] <45:
      ItemList.append(K)

def POP():
  while True:
    if ItemList!=[]:
      D=ItemList.pop()
      print(D)
    else:
      print("...Empty Stack...")
      break
```

(1.5 marks for correct push() and 1.5 marks for correct pop())

Note: Any other relevant and correct code may be marked

OR

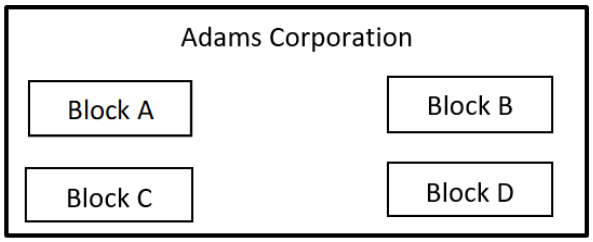
```
Cities=["AHMEDABAD","CHENNAI", "NEWDELHI","AMRITSAR","AGRA"]
City=[]
def push():
   for i in Cities:
      if i[0]=='A':
         City.append(i)

def pop():
   while True:
      if City==[]:
         print("Stack Empty")
         break
      else:
         print(City.pop())
```

(1.5 marks for correct push() and 1.5 marks for correct pop())

Note: Any other relevant and correct code may be marked

SECTION D

31. Adams Corporation has head office in Mumbai is planning to set up its new centre at Noida, Uttar Pradesh for its office and web-based activities. It has 4 blocks of buildings.

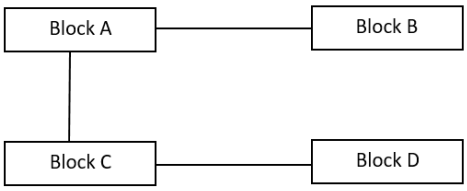
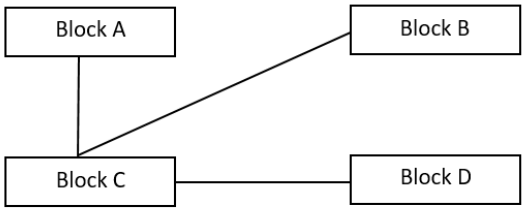


Distance between various blocks:

Block	Distance
A to B	40 m
B to C	120 m
C to D	100 m
A to D	170 m
B to D	150 m
A to C	70 m

Number of computers in each block:

Block	Number of Computers
Block A	25
Block B	50
Block C	125
Block D	10

	i. Suggest and draw the cable layout(s) to efficiently connect various blocks of buildings within the Noida centre for connecting the digital devices.	1
	ii. Suggest the placement of the following device with justification. (a) Repeater (b) Hub/Switch	1
	iii. Which kind of network (PAN/LAN/WAN) will be formed if the Noida office is connected to its head office in Mumbai?	1
	iv. Which of the following will you suggest to establish the online face-to-face communication between the people in the head office at Mumbai with the people at Noida? a. Cable TV b. Video Conferencing c. E-mail d. Text Chat	
	v. Which fast and very effective wireless transmission medium should preferably be used to connect the head office at Mumbai with the centre at Noida?	1
Ans.	**i.** **Layout 1: Bus topology**  **Layout 2: Star Topology**  ***(1 mark for the correct answer)***	
	(ii) **(a) Repeater It is to be placed between block C and block D as the distance between them is 100 m.** **(b) Hub/Switch It is to be placed in each block as they help to share data packets within the devices of the network in each block.** **(1/2 mark for Repeater and ½ mark for Hub/Switch.)** **(iii) WAN (Wide Area Network) will be formed if the Noida office is connected to its head office in Mumbai because the distance between these two cities is a few kilometers and in such a long distance, the Internet connectivity is required, and the Internet comes under**	1

	Wide Area Network. **(1 mark for the correct answer)** **(iv) Video Conferencing** **(1 mark for the correct answer)** **(v) Satellite is fast and very effective wireless transmission medium which should be used to connect the head office at Mumbai with the centre at Noida.** **(1 mark for the correct answer)**	
32.	a. Write the output of the code given below: p, q=8, [8] def sum(r, s=5): p=r+s q=[r, s] print(p, q, sep='@') sum(3,4) print(p, q, sep='@')	2+3
Ans.	**7@[3, 4]** **8@[8]** ***(1 mark for 7@[3, 4] and 1 mark for 8@[8])***	

	b. The School is managing student data in 'Student' table in 'School' database. The code given below connects to database School and retrieves all records and display total number of students. The structure of a record of the table Student is:
	RollNo – integer; Name – string; Class – integer; Marks – integer
	Note the following to establish connectivity between Python and MYSQL:
	• Username is 'root', Password is 'abc'.
	• The table exists in a MYSQL database named 'School'.
	Write the following missing statements to complete the code:
	import mysql.connector as mysql
	def sql_data( ):
	conn=mysql.connect(host="localhost", user="root", password="abc", database="school")
	_____ #Statement 1
	cursor.execute("Select * from Student")
	_____ #Statement 2
	Count=0
	for x in Records:
	Count+=1
	Print("Number of records:", Count)
	_____ #Statement 3	

	Statement 1 – to create the cursor object. Statement 2 – to fetches all the rows in the result set. Statement 3 – to close the connection.	
Ans.	**#Statement 1 cursor=conn.cursor( )** **#Statement 2 record =cursor.fetchall( )** **# Statement 3 conn.close( )** ***(1 mark for each correct answer)***	
	OR	

	a. Predict the output of the code given below:
	s="Rs.12"
	n, m = len(s), " "
	for i in range(0, n):
	if s[i].islower():
	m = m +s[i]
	elif s[i].isupper():
	m = m +s[i+1]
	elif s[i].isdigit():
	m = m*int(s[i])
	else:
	m = '@'+m
	print(m)	

Ans.	**@ss@ss** ***(2 mark for the correct output)***	
	b. The code given below reads records from the table named Vehicle and displays only those records which have model 2010. The structure of a record of table Vehicle is: V_ID – integer; Name – string; Model – integer; Price – integer Note the following to establish connectivity between Python and MYSQL: • Username is 'root' • Password is 'abc' • The table exists in a MYSQL database named 'Transport'. Write the following missing statements to complete the code: Statement 1 – to make a connection to the database Statement 2 – the query that extracts records of those vehicles whose model is 2010.	

	Statement 3 - to fetch single record from the results set
	
	import mysql.connector as mysql
	def display():
	———————— #Statement 1
	cursor=conn.cursor( )
	———————— #Statement 2
	cursor.execute(querry)
	———————— #Statement 3
	print(row)
	conn.close( )	

Ans.	**Statement 1: conn=mysql.connect(host="localhost", user="root", password="abc", database="Transport")** **Statement 2 : query=”Select * from Vehicle where Model=2010”;** **Statement 3: row=cursor.fetchone( )** ***(1 mark for each correct answer)***	
33.	What is the significance of newline argument in open( ) function of CSV file? Write a program in Python that defines and calls the following User Defined Functions: i. ADD( ) – To accept and add data of a Employee to a CSV file ‘Emp.csv’. Each record consists of a list with field elements as Empid, Empname and Salary to store Employee id, Employee name and Employee salary respectively. ii. DISPLAY( ) – To display all the records present in the CSV file named ‘Emp.csv’.	5
Ans.	**The newline argument is to specify how would Python handle newline characters while working with CSV file. By specifying newline argument, open( ) function will create a csv file with no EOL translation and will be able to use csv file in normal way on any platform.** ***(1 mark for correct answer)*** **import csv** **def ADD( ):** **fobj = open("Emp.csv", 'a', newline='')** **d=csv.writer(fobj)** **eid=int(input("Enter Emp ID: "))** **ename = input("Enter Emp name: ")** **esal = int(input("Enter Emp Salary: "))** **rec=[eid,ename,esal]** **d.writerow(rec)** **fobj.close( )** **def DISPLAY( ):** **f=open("Emp.csv", 'r')**	

```
    data=csv.reader(f)
    found=False
    print("Record Details...")
    for row in data:
        print(row[0], row[1], row[2])
        found=True
    if found==False:
        print("No Record found")
    f.close( )

ADD( )
DISPLAYA( )
```

½ mark for importing csv module
1 ½ marks each for correct definition of ADD( ) and DISPLAY( )
½ mark for function call statements
Note: Any other relevant and correct code may be marked

OR

What is the function of csv.reader object?

Write a Program in Python that defines and calls the following User Defined Functions:

i. ADD( ) – To accept and add data of furniture to a CSV file 'furdata.csv'. Each record consists of a list with field elements as fid, fname and fprice to store furniture id, furniture name and furniture price respectively.

ii. SEARCH( ) – To display the records of the furniture whose price is more than 10000.

Ans. **The csv.reader object loads data from the csv file, removes the delimiters (parses it) and return the data in the form of a Python iterable where from you can fetch one row of data at a time.**

(1 mark for correct answer)

```
import csv
def ADD():
    fobj = open("furdata.csv'.csv", 'a', newline='')
    d=csv.writer(fobj)
    Fid=int(input("Enter Furniture ID: "))
    Fname = input("Enter Furniture Name: ")
    Fprice = int(input("Enter Furniture Price: "))
    rec=[Fid,Fname,Fprice]
    d.writerow(rec)
    fobj.close()

def search():
    f = open("furdata.csv'.csv",'r')
```

```
data=csv.reader(f)
found=False
print("Furniture Price More than 10000")
for row in data:
   if int(row[2])>10000:
      print(row[0],row[1],row[2])
      found=True
if found==False:
   print("Record not found")
f.close()
```

ADD( )
SEARCH( )

½ mark for importing csv module
1 ½ marks each for correct definition of ADD( ) and SEARCH( )
½ mark for function call statements
Note: Any other relevant and correct code may be marked

SECTION E

34. Rubina creates a table SUPPLIER with a set of records to maintain the product details. After creation of the table, she has entered data of 5 product details in the table. 1+1+2

Table:SUPPLIER

SNo	PName	CName	Qty	Price	City
S1	Bread	Britannia	150	8.00	Delhi
S2	Cake	Britannia	250	20.00	Mumbai
S3	Coffee	Nescafe	170	45.00	Delhi
S4	Chocolate	Amul	350	10.00	Mumbai
S5	Sauce	Maggi	300	36.00	Jaipur

Based on the data given above answer the following questions:

i. Name the most appropriate columns, which can be considered as Candidate Keys.

ii. If a column City has been removed and three more products are added to the table then how these changes will affect the Degree and Cardinality of the above given table.

iii. Write the statements to:

   a. Write the SQL command to create the above table with suitable datatype and Primary Key constraints for SNo field and NOT NULL constraints for PName field.

   b. Increase the price of the product by 10 whose quantity is more than 250.

OR

(Option for part iii only)

	iii. Write the statements to: a. Remove the record of the Product whose City is Jaipur. b. Add another column DOE of type Date in the Supplier table.	
Ans.	**i. SNo, PName** ***(1 mark for correct answer)*** ***ii.*** **Degree : 5 and Cardinality:8** ***(1/2 mark for correct degree and ½ mark for correct cardinality)*** **iii.** **a. Creat Table SUPPLIER(SNo char(2) NOT NULL Primary Key,** **PName Varchar(15) NOT NULL,** **CName Varchar(15), Qty int,** **Price Float, City Varchar(10));** **b. UPDATE SUPPLIER SET price = price+10 WHERE Qty >250;** ***(1 mark for each correct statement)*** **OR** **iii.** **a. DELETE FROM SUPPLIER WHERE City =' Jaipur';** **b. ALTER TABLE SUPPLIE ADD (DOE date);** ***(1 mark for each correct statement)***	
35.	Consider Students data Sid, Sname and Fee. George wrote Python function to create binary file 'std.dat' and store their records. He now has to read and display all the records in to the file 'std.dat'. As a Python expert, help him to complete the following code based on the requirement given below.	

	_____ # STATEMENT 1
	def add_record():
	f = open('std.dat','ab')
	Sid =int(input('Student code:'))
	Sname = input('Student Name:')
	Fee = int(input('Fees:'))
	d = [Sid, Sname, Fee]
	_____ # STATEMENT 2
	f.close()
	def search():
	_____ # STATEMENT 3
	while True:	

	try:
	_____ # STATEMENT 4
	print(d)
	except EOFError:
	break
	f.close()	

	i. Name the module to be imported in the program (STATEMENT 1). ii. Which statement should Adams fill in STATEMENT 2 to append the data in the file, 'std.dat'? iii. Write the correct statement required to open the file 'std.dat' in read mode in STATEMENT 3 and in STATEMENT 4 to read the data from the same file.	1 1 2
Ans.	**import pickle # STATEMENT 1** **pickle.dump(d,f) # STATEMENT 2** **f=open('std.dat','rb') # STATEMENT 3** **d=pickle.load(f) # STATEMENT 4** ***(1 Mark for each correct statement)***	