Series &RQPS/S

Set-4

Q.P. Code **91/S**

Roll No. | | | | | | | | |

Candidates must write the Q.P. Code on the title page of the answer-book.

COMPUTER SCIENCE

Time allowed : 3 hours *Maximum Marks : 70*

NOTE

(I) Please check that this question paper contains **15** printed pages.

(II) Please check that this question paper contains **35** questions.

(III) Q.P. Code given on the right hand side of the question paper should be written on the title page of the answer-book by the candidate.

(IV) **Please write down the serial number of the question in the answer-book before attempting it.**

(V) 15 minute time has been allotted to read this question paper. The question paper will be distributed at 10.15 a.m. From 10.15 a.m. to 10.30 a.m., the students will read the question paper only and will not write any answer on the answer-book during this period.

General Instructions :

Please read the instructions carefully.

- *This question paper has **5** Sections : Sections A, B, C, D, E.*
- *All questions are compulsory. However, an internal choice of approximately 30% is provided.*
- *Section A has 18 questions carrying 1 mark each.*
- *Section B has 7 Very Short Answer (VSA) type questions carrying 2 marks each.*
- *Section C has 5 Short Answer (SA) type questions carrying 3 marks each.*
- *Section D has 2 Long Answer (LA) type question carrying 4 marks.*
- *Section E has 3 Source-based / Case-based / Passage-based questions carrying 5 marks each.*

SECTION A

18×1=18

1. State True or False : *1*

"In Python, tuple is a mutable data type".

2. The primary key is selected from the set of _____ . *1*

(A) composite keys (B) alternate keys

(C) candidate keys (D) foreign keys

3. What will be the output of the following statement ? *1*

```
print(6+5/4**2//5+8)
```

(A) `-14.0` (B) `14.0`

(C) `14` (D) `-14`

4. Select the correct output of the code : *1*

```
S = "text#next"
print(S.strip("t"))
```

(A) `ext#nex` (B) `ex#nex`

(C) `text#nex` (D) `ext#next`

5. In SQL, which command will be used to add a new record in a table ? *1*

(A) `UPDATE`

(B) `ADD`

(C) `INSERT`

(D) `ALTER TABLE`

6. 'L' in HTML stands for : *1*

(A) Large (B) Language

(C) Long (D) Laser

7. Identify the valid Python identifier from the following : *1*

(A) `2user` (B) `user@2`

(C) `user_2` (D) `user 2`

8. Consider the statements given below and then choose the correct output from the given options : *1*

```
Game="World Cup 2023"
print(Game[-6::-1])
```

(A) `CdrW` (B) `ce o`

(C) `puC dlroW` (D) `Error`

9. Predict the output of the following Python statements : *1*

```
>>>import statistics as s
>>>s.mode ([10, 20, 10, 30, 10, 20, 30])
```

(A) `30`

(B) `20`

(C) `10`

(D) `18.57`

10. Which of the following output will never be obtained when the given code is executed ? *1*

```
import random
Shuffle = random.randrange(10)+1
Draw = 10*random.randrange(5)
print ("Shuffle", Shuffle, end="#")
print ("Draw", Draw)
```

(A) `Shuffle 1 # Draw 0`

(B) `Shuffle 10 # Draw 10`

(C) `Shuffle 10 # Draw 0`

(D) `Shuffle 11 # Draw 50`

11. Ethernet card is also known as : *1*

(A) LIC (B) MIC

(C) NIC (D) OIC

12. What will be the output of the given code ? *1*

```
a=10
def convert(b=20):
    a=30
    c=a+b
    print(a,c)
convert(30)
print(a)
```

13. For the following Python statement : *1*

```
N = (25)
```

What shall be the type of N ?

(A) Integer

(B) String

(C) Tuple

(D) List

14. Mr. Ravi is creating a field that contains alphanumeric values and fixed lengths. Which MySQL data type should he choose for the same ? *1*

(A) VARCHAR

(B) CHAR

(C) LONG

(D) NUMBER

15. Fill in the blank : *1*

The full form of WWW is _____.

16. _____ files are stored in a computer in a sequence of bytes. *1*

(A) Text

(B) Binary

(C) CSV

(D) Notepad

*Questions No.**17** and **18** are Assertion and Reason type questions. Each question consists of two statements, namely, Assertion (A) and Reason (R). Select the most suitable option considering the Assertion and Reason.*

17. *Assertion (A) :* Global variables are accessible in the whole program. *1*

Reason (R) : Local variables are accessible only within a function or block in which it is declared.

(A) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A).

(B) Both Assertion (A) and Reason (R) are true, but Reason (R) is ***not*** the correct explanation of Assertion (A).

(C) Assertion (A) is true, but Reason (R) is false.

(D) Assertion (A) is false, but Reason (R) is true.

18. *Assertion (A) :* If numeric data are to be written to a text file, the data needs to be converted into a string before writing to the file. *1*

Reason (R) : write() method takes a string as an argument and writes it to the text file.

(A) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A).

(B) Both Assertion (A) and Reason (R) are true, but Reason (R) is ***not*** the correct explanation of Assertion (A).

(C) Assertion (A) is true, but Reason (R) is false.

(D) Assertion (A) is false, but Reason (R) is true.

SECTION B

7×2=14

19. (a) (i) Expand the following terms : *1+1=2*

URL, XML

(ii) Give one difference between **HTTP** and **FTP**.

OR

(b) (i) Define the term IP address with respect to network.

(ii) What is the main purpose of a Router ? *1+1=2*

20. Observe the following code carefully and rewrite it after removing **all syntactical errors**. Underline all the corrections made. *2*

```
def 1func():
    a=input("Enter a number"))
    if a>=33
        print("Promoted to next class")
    ELSE:
        print("Repeat")
```

21. (a) Write the definition of a method/function **`SearchOut(Teachers, TName)`** to search for **`TName`** from a list **`Teachers`**, and display the position of its presence. *2*

For example :

If the **`Teachers`** contain **`["Ankit", "Siddharth", "Rahul", "Sangeeta", "rahul"]`**

and **`TName`** contains **`"Rahul"`**

The function should display

```
Rahul at 2
rahul at 4
```

OR

(b) Write the definition of a method/function **`Copy_Prime(lst)`** to copy all the prime numbers from the list **`lst`** to another list **`lst_prime`**. *2*

22. Predict the output of the following code : *2*

```
d={"IND":"DEL","SRI:"COL","CHI":"BEI"}
str1=""
for i in d:
  str1=strl+str(d[i])+"@"
  str2=str1[:-1]
print (str2)
```

23. (a) Write the Python statement for **each** of the following tasks using BUILT-IN functions/methods only : *1+1=2*

(i) To delete an element 10 from the list **`lst.`**

(ii) To replace the string **`"This"`** with **`"That"`** in the string **`str1.`**

OR

(b) A dictionary **`dict2`** is copied into the dictionary **`dict1`** such that the common key's value gets updated. Write the Python commands to do the task and after that empty the dictionary **`dict1`**. *2*

24. (a) Mr. Atharva is given a task to create a database, **Admin**. He has to create a table, **users** in the database with the following columns : *1+1=2*

User_id - int

User_name - varchar(20)

Password - varchar(10)

Help him by writing SQL queries for both tasks.

OR

(b) Ms. Rita is a database administrator at a school. She is working on the table, **student** containing the columns like **Stud_id**, **Name**, **Class** and **Stream**. She has been asked by the Principal to strike off the record of a student named **Rahul** with **student_id** as **100** from the school records and add another student who has been admitted with the following details : *1+1=2*

Stud_id - 123

Name - Rajeev

Class - 12

Stream - Science

Help her by writing SQL queries for both tasks.

25. Predict the output of the following code : *2*

```
def Total (Num=10):
  Sum=0
  for C in range(1,Num+1):
       if C%2!=0:
          continue
       Sum+=C
  return Sum
print(Total(4),end="$")
print(Total(),sep="@")
```

SECTION C

5×3=15

26. Predict the output of the Python code given below : *3*

```
s="India Growing"
n = len(s)
m=""
for i in range (0, n) :
  if (s[i] >= 'a' and s[i] <= 'm') :
    m = m + s [i].upper()
  elif (s[i] >= 'O' and s[i] <= 'z') :
    m = m +s [i-1]
  elif (s[i].isupper()):
    m = m + s[i].lower()
  else:
    m = m + '@'
print (m)
```

27. Consider the table **Stationery** given below and write the output of the SQL queries that follow. *3*

Table : Stationery

ITEMNO	ITEM	DISTRIBUTOR	QTY	PRICE
401	Ball Pen 0.5	Reliable Stationers	100	16
402	Gel Pen Premium	Classic Plastics	150	20
403	Eraser Big	Clear Deals	210	10
404	Eraser Small	Clear Deals	200	5
405	Sharpener Classic	Classic Plastics	150	8
406	Gel Pen Classic	Classic Plastics	100	15

(i) SELECT DISTRIBUTOR, SUM(QTY) FROM STATIONERY GROUP BY DISTRIBUTOR;

(ii) SELECT ITEMNO, ITEM FROM STATIONERY WHERE DISTRIBUTOR = "Classic Plastics" AND PRICE > 10;

(iii) SELCET ITEM, QTY * PRICE AS "AMOUNT" FROM STATIONERY WHERE ITEMNO = 402;

28. (a) Write a method/function **COUNTWORDS()** in Python to read contents from a text file **DECODE.TXT**, to count and return the occurrence of those words, which are having 5 or more characters. *3*

OR

(b) Write a method/function **COUNTLINES()** in Python to read lines from a text file **CONTENT.TXT**, and display those lines, which have @ anywhere in the line. *3*

For example :

If the content of the file is :

Had an amazing time at the concert last night with @MusicLoversCrew.
Excited to announce the launch of our new website!

G20 @ India

The method/function should display

Had an amazing time at the concert last night with @MusicLoversCrew
G20 @ India

29. Consider the table Rent_cab, given below :

Table : Rent_cab

Vcode	VName	Make	Color	Charges
101	Big car	Carus	White	15
102	Small car	Polestar	Silver	10
103	Family car	Windspeed	Black	20
104	Classic	Studio	White	30
105	Luxury	Trona	Red	9

Based on the given table, write SQL queries for the following : *3*

(i) Add a primary key to a column name Vcode.

(ii) Increase the charges of all the cabs by 10%.

(iii) Delete all the cabs whose maker name is "Carus".

30. A dictionary, **`d_city`** contains the records in the following format :

`{state:city}`

Define the following functions with the given specifications **:** *3*

(i) **`push_city(d_city):`** It takes the dictionary as an argument and pushes all the cities in the stack **`CITY`** whose states are of more than 4 characters.

(ii) **`pop_city():`** This function pops the cities and displays **`"Stack empty"`** when there are no more cities in the stack.

SECTION D

2×4=8

31. Consider the tables GAMES and PLAYERS given below :

Table : GAMES

GCode	GameName	Type	Number	PrizeMoney
101	Carrom Board	Indoor	2	5000
102	Badminton	Outdoor	2	12000
103	Table Tennis	Indoor	4	NULL
104	Chess	Indoor	2	9000
105	Lawn Tennis	Outdoor	4	25000

Table : PLAYERS

PCode	Name	GCode
1	Nabi Ahmad	101
2	Ravi Sahai	108
3	Jatin	101
4	Nazneen	103

Write SQL queries for the following : *4*

(i) Display the game type and average number of games played in each type.

(ii) Display prize money, name of the game, and name of the players from the tables Games and Players.

(iii) Display the types of games without repetition.

(iv) Display the name of the game and prize money of those games whose prize money is known.

32. Mr. Mahesh is a Python Programmer working in a school. He has to maintain the records of the sports students. He has created a csv file named **`sports.csv`**, to store the details. The structure of **`sports.csv`** is :

`[sport_id, competition, prize_won]`

where

`sport_id,` is Sport id (integer)

`competition` is competition name (string)

`prize_won` is ("Gold", "Silver", "Bronze")

Mr. Mahesh wants to write the following user-defined functions :

`Add_detail():` to accept the detail of a student and add to a csv file, **`"sports.csv".`**

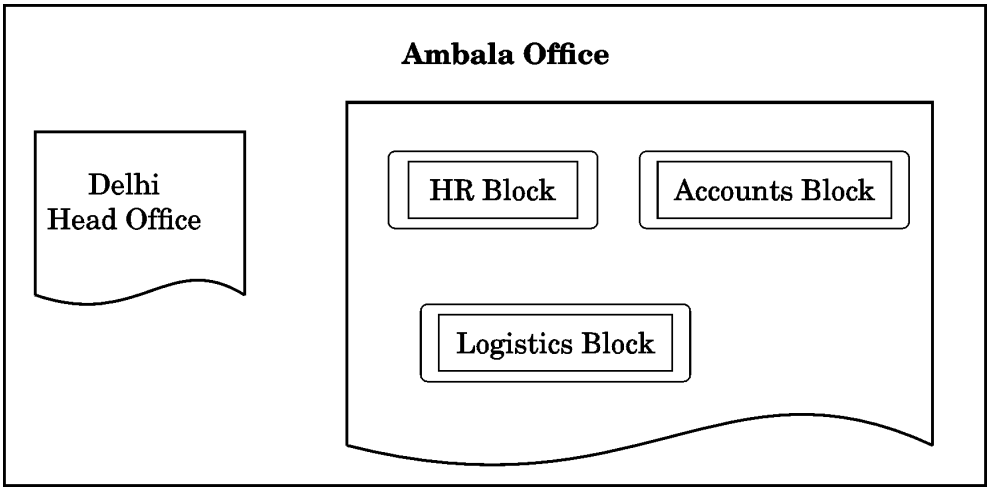
`Count_Medal():` to display the name of competitions in which students have won **`"Gold"`** medal.

Help him in writing the code of both the functions. *4*

SECTION E

3×5=15

33. Logistic Technologies Ltd. is a Delhi based organization which is expanding its office set-up to Ambala. At Ambala office campus, they are planning to have 3 different blocks for HR, Accounts and Logistics related work. Each block has a number of computers, which are required to be connected to a network for communication, data and resource sharing.



As a network consultant, you have to suggest the best network related solutions for them for issues/problems raised in (i) to (v), keeping in mind the distances between various block/locations and other given parameters.

Distances between various blocks/locations :

HR Block to Accounts Blocks	400 meters
Accounts Block to Logistics Block	200 meters
Logistics Block to HR Block	150 meters
Delhi Head Office to Ambala Office	220 Km

Number of computers installed at various blocks are as follows :

HR Block	70
Accounts Block	40
Logistics Block	30

(i) Suggest the most appropriate block/location to house the SERVER in the Ambala office. Justify your answer.

(ii) Suggest the best wired medium to efficiently connect various blocks within the Ambala office compound.

(iii) Draw an ideal cable layout (Block to Block) for connecting these blocks for wired connectivity.

(iv) The company wants to schedule an online conference between the managers of Delhi and Ambala offices. Which protocol will be used for effective voice communication over the Internet ?

(v) Which kind of network will it be between Delhi office and Ambala office ? *5*

34. (a) (i) What is the main purpose of **`seek()`** and **`tell()`** method ?

(ii) Consider a binary file, **`Cinema.dat`** containing information in the following structure :

`[Mno, Mname, Mtype]`

Write a function, **`search_copy()`**, that reads the content from the file **`Cinema.dat`** and copies all the details of the **`"Comedy"`** movie type to file named **`movie.dat.`** *5*

OR

(b) (i) Give one difference between **`write()`** and **`writeline()`** function in text file.

(ii) A Binary file, **`"Items.dat"`** has the following structure :
`[Icode, Description, Price]`
Where
`Icode – Item code`
`Description – Detail of item`
`Price – Price of item`
Write a function **`Add_data()`**, that takes **`Icode, Description and Price`** from the user and writes the information in the binary file **`"Items.dat"`**. *5*

35. (a) (i) Define the term foreign key with respect to RDBMS.

(ii) Sangeeta wants to write a program in Python to delete the record of a candidate "Raman" from the table named **`Placement in MySQL`** database, **`Agency`**:
The table Placement in MySQL contains the following attributes :
`CName – String`
`Dept – String`
`Place – String`
`Salary – integer`
Note the following to establish connectivity between Python and MySQL :

- Username – **`root`**
- Password – **`job`**
- Host – **`localhost`**

Help Sangeeta to write the program in Python for the above mentioned task. *5*

OR

(b) (i) Give one difference between CHAR and VARCHAR datatype in MySQL.

(ii) Rahim wants to write a program in Python to insert the following record in the table named **Bank_Account** in MySQL database, **Bank** :

- **Accno** – integer
- **Cname** – string
- **Atype** – string
- **Amount** – float

Note the following to establish connectivity between Python and MySQL :

- Username – **admin**
- Password – **root**
- Host – **localhost**

The values of fields **Accno, Cname, Atype** and **Amount** have to be accepted from the user. Help Rahim to write the program in Python. *5*

CBSE AISSCE 2024 (Supplementary) Marking Scheme for Computer Science

(Series &RQPS/S Sub Code: 083 Q.P. Code 91/S) SET-4

Marking Scheme

Strictly Confidential

(For Internal and Restricted use only)

Senior Secondary School Certificate Examination, 2024

Subject Name: Computer Science (Q.P. CODE 91/S)

1	You are aware that evaluation is the most important process in the actual and correct assessment of the candidates. A small mistake in evaluation may lead to serious problems which may affect the future of the candidates, education system and teaching profession. To avoid mistakes, it is requested that before starting evaluation, you must read and understand the spot evaluation guidelines carefully.
2	"Evaluation policy is a confidential policy as it is related to the confidentiality of the examinations conducted, Evaluation done and several other aspects. Its' leakage to the public in any manner could lead to derailment of the examination system and affect the life and future of millions of candidates. Sharing this policy/document to anyone, publishing in any magazine and printing in News Paper/Website etc. may invite action under various rules of the Board and IPC."
3	Evaluation is to be done as per instructions provided in the Marking Scheme. It should not be done according to one's own interpretation or any other consideration. Marking Scheme should be strictly adhered to and religiously followed. However, while evaluating answers which are based on latest information or knowledge and/or are innovative, they may be assessed for their correctness otherwise and due marks be awarded to them. In class-XII, while evaluating two competency-based questions, please try to understand the given answer and even if the reply is not from the marking scheme but correct competency is enumerated by the candidate, due marks should be awarded.
4	The Marking scheme carries only suggested value points for the answers These are in the nature of Guidelines only and do not constitute the complete answer. The students can have their own expression and if the expression is correct, the due marks should be awarded accordingly.
5	The Head-Examiner must go through the first five answer books evaluated by each evaluator on the first day, to ensure that evaluation has been carried out as per the instructions given in the Marking Scheme. If there is any variation, the same should be zero after deliberation and discussion. The remaining answer books meant for evaluation shall be given only after ensuring that there is no significant variation in the marking of individual evaluators.
6	Evaluators will mark(√) wherever the answer is correct. For wrong answers CROSS 'X' be marked. Evaluators will not put right (✓)while evaluating which gives an impression that the answer is correct and no marks are awarded. This is the most common mistake which evaluators are committing.
7	If a question has parts, please award marks on the right-hand side for each part. Marks awarded for different parts of the question should then be totaled up and written in the left-hand margin and encircled. This may be followed strictly.
8	If a question does not have any parts, marks must be awarded in the left-hand margin and encircled. This may also be followed strictly.
9	If a student has attempted an extra question, the answer of the question deserving more marks should be retained and the other answer scored out with a note "Extra Question".
10	No marks to be deducted for the cumulative effect of an error. It should be penalized only once.
11	A full scale of 70 **marks** as given in Question Paper has to be used. Please do not hesitate to award full marks if the answer deserves it.

12	Every examiner has to necessarily do evaluation work for full working hours i.e., 8 hours every day and evaluate 20 answer books per day in main subjects and 25 answer books per day in other subjects (Details are given in Spot Guidelines).This is in view of the reduced syllabus and number of questions in question paper.
13	Ensure that you do not make the following common types of errors committed by the Examiner in the past:- ● Leaving the answer or part thereof unassessed in an answer book. ● Giving more marks for an answer than assigned to it. ● Wrong totaling of marks awarded on an answer. ● Wrong transfer of marks from the inside pages of the answer book to the title page. ● Wrong question wise totaling on the title page. ● Wrong totaling of marks of the two columns on the title page. ● Wrong grand total. ● Marks in words and figures not tallying/not same. ● Wrong transfer of marks from the answer book to online award list. ● Answers marked as correct, but marks not awarded. (Ensure that the right tick mark is correctly and clearly indicated. It should merely be a line. Same is with the X for incorrect answers.) ● Half or a part of the answer was marked correct and the rest was wrong, but no marks were awarded.
14	While evaluating the answer books, if the answer is found to be totally incorrect, it should be marked as cross (X) and awarded zero (0)Marks.
15	Any unassessed portion, non-carrying over of marks to the title page, or totaling error detected by the candidate shall damage the prestige of all the personnel engaged in the evaluation work as also of the Board. Hence, in order to uphold the prestige of all concerned, it is again reiterated that the instructions be followed meticulously and judiciously.
16	The Examiners should acquaint themselves with the guidelines given in the “Guidelines for Spot Evaluation” before starting the actual evaluation.
17	Every Examiner shall also ensure that all the answers are evaluated, marks carried over to the title page, correctly totaled and written in figures and words.
18	The candidates are entitled to obtain a photocopy of the Answer Book on request on payment of the prescribed processing fee. All Examiners/Additional Head Examiners/Head Examiners are once again reminded that they must ensure that evaluation is carried out strictly as per value points for each answer as given in the Marking Scheme.

SPECIFIC INSTRUCTIONS FOR COMPUTER SCIENCE ONLY

1	**In Python, string content is accepted within a pair of single quotes ' ' or within a pair of double quotes " ".**
2	**In MySQL, CHAR/VARCHAR/DATE type content is accepted within a pair of single quotes ' ' or within a pair of double quotes " ".**
3	**In MySQL commands, lowercase/UPPERCASE both are correct.**
4	**In MySQL output questions, column headings to be ignored.**
5	**In MySQL output questions, alignment (left/right) of content to be ignored.**
6	**All answers/codes are suggestive, any other alternative correct answers to be accepted.**

CBSE AISSCE 2024 (Supplementary) Marking Scheme for Computer Science

(Series **&RQPS/S** Sub Code: 083 Q.P. Code 91/S) SET-4

General Instructions:

Please read the instructions carefully.

- *This question paper has **5** Sections: Sections A,B,C,D,E.*
- *All questions are compulsory. However, an internal choice of approximately 30% is provided.*
- *Section A has 18 questions carrying 1 mark each.*
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- *Section C has 5 Short Answer(SA) type questions carrying 3 marks each.*
- *Section D has 2 Long Answer(LA) type questions carrying 4 marks.*
- *Section E has 3 Source-based/ Case-based/Passage-based questions carrying 5 marks each.*

SECTION A

18x1=18

1.	State True or False : "In Python, tuple is a mutable data type".				1
Ans	False				
	(1 Mark for the correct answer)				
2.	The primary key is selected from the set of _____ .				1
	(A)	composite keys	(B)	alternate keys	
	(C)	candidate keys	(D)	foreign keys	
Ans	(C)	**candidate keys**			
	(1 Mark for the correct answer)				
3.	What will be the output of the following statement ? `print(6+5/4**2//5+8)`				1
	(A)	`-14.0`	(B)	`14.0`	
	(C)	`14`	(D)	`-14`	
Ans	(B)	`14.0`			
	(1 Mark for the correct answer)				

4.	Select the correct output of the code:
	`S = "text#next"`
	`print(S.strip("t"))`
					1

	(A)	`ext#nex`	(B)	`ex#nex`	
	(C)	`text#nex`	(D)	`ext#next`	
Ans	(A)	`ext#nex`			
	(1 Mark for the correct answer)				

5.	In SQL, which command will be used to add a new record in a table ?				1
	(A)	**UPDATE**	(B)	**ADD**	
	(C)	**INSERT**	(D)	**ALTER TABLE**	
Ans	(C)	**INSERT**			
	(1 Mark for the correct answer)				
6.	'L' in HTML stands for :				1
	(A)	**Large**	(B)	**Language**	
	(C)	**Long**	(D)	**Laser**	
Ans	(B)	**Language**			
	(1 Mark for the correct answer)				
7.	Identify the valid Python identifier from the following :				1
	(A)	**2user**	(B)	**user@2**	
	(C)	**user_2**	(D)	**user 2**	
Ans	(C)	**user_2**			
	(1 Mark for the correct answer)				
8.	Consider the statements given below and then choose the correct output from the given options : **Game="World Cup 2023"** **print(Game[-6::-1])**				1
	(A)	**CdrW**	(B)	**ce o**	
	(C)	**puC dlroW**	(D)	**Error**	
Ans	(C)	**puC dlroW**			
	(1 Mark for the correct answer)				
9.	Predict the output of the following Python statements : **>>>import statistics as s** **>>>s.mode ([10, 20, 10, 30, 10, 20, 30])**				1
	(A)	**30**	(B)	**20**	
	(C)	**10**	(D)	**18.57**	
Ans	(C)	**10**			
	(1 Mark for the correct answer)				

10.	Which of the following output will never be obtained when the given code is executed ?
	`import random`
	`Shuffle = random.randrange(10)+1`
	`Draw = 10*random.randrange(5)`
	`print ("Shuffle", Shuffle, end="#")`
	`print ("Draw", Draw)`
					1

	(A)	`Shuffle 1 # Draw 0`	(B)	`Shuffle 10 # Draw 10`	
	(C)	`Shuffle 10 # Draw 0`	(D)	`Shuffle 11 # Draw 50`	
Ans	(D)	`Shuffle 11 # Draw 50`			
	(1 Mark for the correct answer)				
11.	Ethernet card is also known as :				1
	(A)	`LIC`	(B)	`MIC`	
	(C)	`NIC`	(D)	`OIC`	
Ans	(C)	`NIC`			
	(1 Mark for the correct answer)				

12.	What will be the output of the given code ?
	`a=10`
	`def convert(b=20):`
	`  a=30`
	`  c=a+b`
	`  print(a,c)`
	`convert(30)`
	`print(a)`
					1

Ans	`30 60` `10`				
	(½ Mark for each line of the output)				
13.	For the following Python statement : `N = (25)` What shall be the type of N ?				1
	(A)	Integer	(B)	String	
	(C)	Tuple	(D)	List	
Ans	(A)	Integer			
	(1 Mark for the correct answer)				
14.	Mr. Ravi is creating a field that contains alphanumeric values and fixed lengths. Which MySQL data type should he choose for the same ?				1
	(A)	`VARCHAR`	(B)	`CHAR`	
	(C)	`LONG`	(D)	`NUMBER`	

Ans	(B)	**CHAR**			
	(1 Mark for the correct answer)				
15.	Fill in the blank : The full form of WWW is _____.				1
Ans	World Wide Web				
	(1 Mark for the correct answer)				
16.	_____ files are stored in a computer in a sequence of bytes.				1
	(A)	**Text**	(B)	**Binary**	
	(C)	**CSV**	(D)	**Notepad**	
Ans	(B)	**Binary**			
	(1 Mark for the correct answer)				
Questions No.**17** and **18** are Assertion and Reason type questions. Each question consists of two statements, namely, Assertion (A) and Reason (R). Select the most suitable option considering the Assertion and Reason.					
17	Assertion (A) : Global variables are accessible in the whole program. Reason (R) : Local variables are accessible only within a function or block in which it is declared.				1
	(A)	Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A).			
	(B)	Both Assertion (A) and Reason (R) are true, but Reason (R) is ***not*** the correct explanation of Assertion (A).			
	(C)	Assertion (A) is true, but Reason (R) is false.			
	(D)	Assertion (A) is false, but Reason (R) is true.			
Ans	(B)	Both Assertion (A) and Reason (R) are true, but Reason (R) is **not** the correct explanation of Assertion (A).			
		(1 Mark for the correct answer)			
18	Assertion (A) : If numeric data are to be written to a text file, the data needs to be converted into a string before writing to the file. Reason (R) : write() method takes a string as an argument and writes it to the text file.				1
	(A)	Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A).			
	(B)	Both Assertion (A) and Reason (R) are true, but Reason (R) is **not** the correct explanation of Assertion (A).			
	(C)	Assertion (A) is true, but Reason (R) is false.			
	(D)	Assertion (A) is false, but Reason (R) is true.			

Ans	(A)	Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A).	
		(1 Mark for the correct answer) ***Note:*** ***(Full 1 Mark should be given for writing (A) OR (B) as the correct answer)***	

SECTION B

7x2=14

19	(a)	(i) Expand the following terms : **URL, XML** (ii) Give one difference between **HTTP** and **FTP**.	1+1=2
Ans	(a)	(i) Uniform Resource Locator eXtensible Markup Language	
		(½ Mark for writing correct expansion of URL) ***(½ Mark for writing correct expansion of XML)***	
Ans		(ii) **HTTP** / **FTP** Hypertext Transfer Protocol / File Transfer Protocol HTTP is used for accessing Web pages / FTP is used to transfer Files from one computer to another computer over the internet **OR** Any other correct difference with or without supporting examples.	
		(1 Mark for writing any one valid difference between HTTP and FTP with or without supporting example) ***OR*** ***(½ Mark for writing anyone correct characteristic for HTTP)*** ***(½ Mark for writing anyone correct characteristic for FTP)***	
		OR	
	(b)	(i) Define the term IP address with respect to network. (ii) What is the main purpose of a Router ?	1+1=2
Ans	(b)	(i) IP Address: It is the unique address for each computer on a network.	
		(1 Mark for writing correct meaning or any one appropriate purpose of IP address)	
		(ii) A router is a device that: 1. connects two or more packet-switched networks or subnetworks. 2. manages traffic between networks by forwarding data packets to their intended IP addresses 3. allows multiple devices to use the same Internet connection.	

		(1 Mark for writing correct meaning or any one appropriate purpose of Router)	

20.		Observe the following code carefully and rewrite it after removing **all syntactical errors**. Underline all the corrections made.
		
		`def 1func():`
		`  a=input("Enter a number"))`
		`  if a>=33`
		`  print("Promoted to next class")`
		`  ELSE:`
		`  print("Repeat")`
			2

Ans		`def func1():  # Error Correction 1 (or Any other valid correction)`
		`  a=int(input("Enter a number"))  # Error Correction 2`
		`  if a>=33:  # Error Correction 3`
		`  print("Promoted to next class")`
		`  else:  # Error Correction 4`
		`  print("Repeat")`	

		(½ Mark for each of the four corrections)	
21.	(a)	Write the definition of a method/function **SearchOut(Teachers,TName)** to search for **TName** from a list **Teachers**, and display the position of its presence. For example : If the **Teachers** contain **["Ankit", "Siddharth", "Rahul", "Sangeeta", "rahul"]** and **TName** contains **"Rahul"** The function should display **Rahul at 2** **rahul at 4**	2

Ans		`def SearchOut(Teachers, TName):`
		`  for I in range(len(Teachers)):`
		`  if TName.lower() == Teachers[I].lower():`
		`  print(Teachers[I],"at",I)`
		
		OR
		Any other correct variation of the code	

		(½ Mark for the loop to process individual names in the list Teachers) ***(1 Mark for non-case sensitive correct comparison with Tname)*** ***(½ Mark for printing in correct format)***	
		OR	
	(b)	Write the definition of a method/function **Copy_Prime(lst)** to copy all the prime numbers from the list **lst** to another list **lst_prime**.	2

Ans		**def Copy_Prime(lst):** ** lst_prime=[]** ** for L in lst:** ** for N in range(2,L//2+1): # OR for N in range(2,L**0.5+1):** ** if L%N==0:** ** break** ** else:** ** lst_prime.append(L)** ** return lst_prime** **OR** Any other correct variation of the code	
		(½ Mark for the loop to select the number from the list lst) ***(1 Mark for correctly identifying prime number)*** ***(½ Mark for appending the prime number in the list lst_prime)***	
22.		Predict the output of the following code : **d={"IND":"DEL","SRI:"COL","CHI":"BEI"}** **str1=""** **for i in d:** ** str1=strl+str(d[i])+"@"** ** str2=str1[:-1]** **print (str2)**	2
Ans		**DEL@COL@BEI** **OR** **Syntax Error as "SRI does not have closing quotes** **and str1 and strl are differently typed**	
		(1 Mark for writing DEL COL BEI) ***(1 Mark for correct format and placement of @)*** ***OR*** ***(2 Marks for mentioning error in the given code)***	
23.	(a)	Write the Python statement for **each** of the following tasks using BUILT-IN functions/methods only : (i) To delete an element 10 from the list **lst**. (ii) To replace the string **"This"** with **"That"** in the string **str1**.	1+1=2
Ans	(a)	**(i)** **lst.remove(10)** **OR** Any other correct Python command using valid BUILT-IN method/function	
		(1 Mark for writing correct command using valid BUILT-IN method/function) ***Note:*** ● ***½ Mark to be awarded if answer is lst.pop(9) or lst.pop(10)***	
		(ii) **str1.replace("This","That")** **OR** Any other correct Python command using valid BUILT-IN method/function	
		(1 Mark for writing correct command using valid BUILT-IN method/function)	

		OR	
	(b)	A dictionary **dict2** is copied into the dictionary **dict1** such that the common key's value gets updated. Write the Python commands to do the task and after that empty the dictionary **dict1**.	2
Ans	(b)	**dict1.update(dict2)** **dict1.clear()** **OR** Any other correct variation of the commands	
		(1 Mark for correctly updating the dictionary dict1 by dict2) ***(1 Mark for correctly emptying the dictionary dict1)***	
24.	(a)	Mr. Atharva is given a task to create a database, **Admin**. He has to create a table, **users** in the database with the following columns : **User_id – int** **User_name – varchar(20)** **Password – varchar(10)** Help him by writing SQL queries for both tasks.	1+1= 2
Ans	(a)	**CREATE DATABASE Admin;** **CREATE TABLE users** **(User_id int,** **User_name varchar(20),** **Password varchar(10));**	
		(1 Mark for each correct command)	
		OR	
	(b)	Ms. Rita is a database administrator at a school. She is working on the table, **student** containing the columns like **Stud_id, Name, Class** and **Stream**. She has been asked by the Principal to strike off the record of a student named **Rahul** with **student_id** as **100** from the school records and add another student who has been admitted with the following details : **Stud_id – 123** **Name – Rajeev** **Class – 12** **Stream – Science** Help her by writing SQL queries for both tasks.	1+1= 2
Ans	(b)	**DELETE FROM Student** **WHERE Name="Rahul" and Stud_id=100;** **OR** **DELETE FROM Student** **WHERE Name="Rahul" and student_id=100;** **OR** **Any valid and equivalent SQL query.**	

		INSERT INTO Student(Stud_id, Name, Class, Stream) **VALUES (123,"Rajeev",12,"Science");** **OR** **INSERT INTO Student** **VALUES (123,"Rajeev",12,"Science");** **OR** **Any valid and equivalent SQL query.**	
		(1 Mark for each correct SQL query)	
25		Predict the output of the following code : **def Total(Num=10):** ** Sum=0** ** for C in range(1,Num+1):** ** if C%2!=0:** ** continue** ** Sum+=C** ** return Sum** **print(Total(4),end="$")** **print(Total(),sep="@")**	2
Ans		**6$30**	
		(1 Mark for each value of correct output) ***Note:*** ***Deduct ½ mark only if $ not written correctly***	

SECTION C

5x3=15

26.		Predict the output of the Python code given below : **s="India Growing"** **n = len(s)** **m=""** **for i in range (0, n) :** ** if (s[i] >= 'a' and s[i] <= 'm') :** ** m = m + s [i].upper()** ** elif (s[i] >= 'O' and s[i] <= 'z') :** ** m = m +s [i-1]** ** elif (s[i].isupper()):** ** m = m + s[i].lower()** ** else:** ** m = m + '@'** **print (m)**	3
Ans		**iIDIA@gGroIiG #Considering capital O in the 7th line of code** **OR** **i@DIA@gGroI@G #Considering small o in the 7th line of code**	
		(1 Mark for correctly writing the part **iIDIA or i@DIA*****)*** ***(1 Mark for correctly placing the character*** **@** ***at the*** **5th** ***position)*** ***(1 Mark for correctly writing the part*** **gGroIiG or gGroI@G*****)*** ***Note:*** ***Deduct only ½ if the output content is correct but written in different lines or format is incorrect***	

27 | | Consider the table **Stationery** given below and write the output of the SQL queries that follow. | 3

Table : Stationery

ITEMNO	ITEM	DISTRIBUTOR	QTY	PRICE
401	Ball Pen 0.5	Reliable Stationers	100	16
402	Gel Pen Premium	Classic Plastics	150	20
403	Eraser Big	Clear Deals	210	10
404	Eraser Small	Clear Deals	200	5
405	Sharpener Classic	Classic Plastics	150	8
406	Gel Pen Classic	Classic Plastics	100	15

(i)
```
SELECT DISTRIBUTOR, SUM(QTY) FROM STATIONERY
GROUP BY DISTRIBUTOR;
```
(ii)
```
SELECT ITEMNO, ITEM FROM STATIONERY
WHERE  DISTRIBUTOR = "Classic Plastics" AND PRICE > 10;
```
(iii)
```
SELCET ITEM, QTY * PRICE AS "AMOUNT" FROM STATIONERY
WHERE ITEMNO = 402;
```

Ans | | (i)

DISTRIBUTOR	SUM(QTY)
Reliable Stationers	100
Classic Plastics	400
Clear Deals	410

(ii)

ITEMNO	ITEM
402	Gel Pen Premium
406	Gel Pen Classic

(iii)

ITEM	AMOUNT
Gel Pen Premium	3000

Note (for Part iii only):
Full 1 Mark for identifying Syntax error for wrongly spelt SELECT as SELCET

		(1 Mark for writing each correct output) ***Note:*** • ***Ignore output heading for part (i) and (ii), however, in part (iii), mentioning AMOUNT as heading of the second column is a must.*** • ***Ignore order of rows***	
28	(a)	Write a method/function **COUNTWORDS()** in Python to read contents from a text file **DECODE.TXT**, to count and return the occurrence of those words, which are having 5 or more characters.	3

Ans

```
def COUNTWORDS():
   NW=0
   with open("DECODE.TXT",'r') as F:
        S=F.read().split()
        for W in S:
            if len(W)>=5:
               NW+=1
   return NW
```

OR
Any other correct variation of the code

(½ Mark for correctly opening the text file in read mode using any valid method)
(1 Mark for processing each word in the text file)
(1 Mark for counting words having 5 or more characters)
(½ Mark for returning the desired value)

OR

(b) Write a method/function **COUNTLINES()** in Python to read lines from a text file **CONTENT.TXT**, and display those lines, which have @ anywhere in the line. 3

For example :

If the content of the file is :

```
Had an amazing time at the concert last night with
@MusicLoversCrew.
Excited to announce the launch of our new website!
G20 @ India
```

The method/function should display

```
Had an amazing time at the concert last night with
@MusicLoversCrew
G20 @ India
```

Ans

```
def COUNTLINES():
  f=open("CONTENT.TXT","r")
  LS=f.readlines()
  for L in LS:
    if "@" in L:
      print(L)
  f.close()
```

OR
Any other correct variation of the code

(½ Mark for correctly opening the text file in read mode using any valid method)
(1 Mark for processing each line in the text file)
(1 Mark for checking whether a line contains the character @ or not)
(½ Mark for displaying the desired line)

29 Consider the table Rent_cab, given below : 3

Table : Rent_cab

Vcode	VName	Make	Color	Charges
101	Big car	Carus	White	15
102	Small car	Polestar	Silver	10
103	Family car	Windspeed	Black	20
104	Classic	Studio	White	30
105	Luxury	Trona	Red	9

Based on the given table, write SQL queries for the following :
(i) Add a primary key to a column name Vcode.
(ii) Increase the charges of all the cabs by 10%.
(iii) Delete all the cabs whose maker name is "Carus".

Ans

(i)
```
ALTER TABLE Rent_cab
   ADD PRIMARY KEY (Vcode);
OR
   ALTER TABLE Rent_cab
   ADD CONSTRAINT PRIMARY KEY (Vcode);
```

(½ Mark for **ALTER TABLE** *part)*
(½ Mark for **ADD PRIMARY KEY** *part)*

(ii)
```
UPDATE Rent_cab
   SET Charges=Charges*1.1;
OR
   UPDATE Rent_cab
   SET Charges=Charges+Charges*10/100
```

(½ Mark for **UPDATE** *part)*
(½ Mark for **SET** *part)*

(iii)
```
DELETE FROM Rent_cab
   WHERE Make="Carus";
```

(½ Mark for **DELETE command***)*
(½ Mark for **WHERE clause***)*

30 A dictionary, **d_city** contains the records in the following format : 3
{state:city}
Define the following functions with the given specifications :
(i) **push_city(d_city)** : It takes the dictionary as an argument and pushes all the cities in the stack **CITY** whose states are of more than 4 characters.
(ii) **pop_city()** : This function pops the cities and displays **"Stack empty"** when there are no more cities in the stack.

Ans

(i)
```
CITY=[]
def push_city(d_city):
  for c in d_city:
     if len(c) > 4:
       CITY.append(d_city[c])
```

(ii)

```
def pop_city():
    while CITY:
        print(CITY.pop())
    else:
        print("Stack empty")
```

OR

Any other correct variation of the code

(½ Mark for the correct loop in the function push_city)
(½ Mark for correctly checking the number of chars in the function push_city)
(½ Mark for pushing the correct cities into CITY in the function push_city)

(½ Mark for the correct loop in the function pop_city)
(½ Mark for correctly checking the underflow condition and printing `"Stack Empty"` ***in the function pop_city)***
(½ Mark for correctly popping in the function pop_city)

Note:
Ignore the declaration of CITY

SECTION D

2x4=8

31 Consider the tables GAMES and PLAYERS given below : 4

Table : GAMES

GCode	GameName	Type	Number	PrizeMoney
101	Carrom Board	Indoor	2	5000
102	Badminton	Outdoor	2	12000
103	Table Tennis	Indoor	4	NULL
104	Chess	Indoor	2	9000
105	Lawn Tennis	Outdoor	4	25000

Table : PLAYERS

PCode	Name	GCode
1	Nabi Ahmad	101
2	Ravi Sahai	108
3	Jatin	101
4	Nazneen	103

Write SQL queries for the following :

(i) Display the game type and average number of games played in each type.

Ans

```
SELECT Type, AVG(Number) FROM GAMES
GROUP BY Type;
```

OR
Any other correct equivalent query using/without using join

		(½ Mark for **SELECT - FROM** ***part)*** ***(½ Mark for*** **GROUP BY** ***part)***	
	(ii)	Display prize money, name of the game, and name of the players from the tables Games and Players.	
Ans		**SELECT PrizeMoney, GameName, Name FROM GAMES, PLAYERS** **WHERE GAMES.GCode=PLAYERS.GCode;**	
		(½ Mark for **SELECT - FROM** ***part)*** ***(½ Mark for*** **WHERE** ***part)***	
	(iii)	Display the types of games without repetition.	
Ans		**SELECT DISTINCT TYPE FROM GAMES;** OR Any other correct equivalent query with/without using join	
		(1 Mark for correct command)	
	(iv)	Display the name of the game and prize money of those games whose prize money is known.	
Ans		**SELECT GameName, PrizeMoney FROM GAMES** **WHERE PrizeMoney IS NOT NULL;** OR Any other correct equivalent query with/without using join	
		(½ Mark for **SELECT - FROM** ***part)*** ***(½ Mark for*** **WHERE** ***part)***	
32		Mr. Mahesh is a Python Programmer working in a school. He has to maintain the records of the sports students. He has created a csv file named **sports.csv**, to store the details.The structure of **sports.csv** is : **[sport_id, competition, prize_won]** where **sport_id, is Sport id (integer)** **competition is competition name (string)** **prize_won is ("Gold", "Silver", "Bronze")** Mr. Mahesh wants to write the following user-defined functions : **Add_detail():** to accept the detail of a student and add to a csv file, **"sports.csv"**. **Count_Medal():** to display the name of competitions in which students have won **"Gold"** medal. Help him in writing the code of both the functions.	4
Ans		**import csv** **def Add_detail():** **F=open("sports.csv","a")** **W=csv.writer(F)** **sport_id=int(input("Sport id:"))** **competition=input("Competition:")** **prize_won=input("Prize won:")**	

```
    L=[sport_id,competition,prize_won]
    W.writerow(L)
    F.close()

def Count_Medal():
    F=open("sports.csv","r")
    L=list(csv.reader(F))
    for D in L:
        if D[2]=="Gold":
           print("Competition:",D[1])
    F.close()
```

OR
Any other correct variation of the code

(½ Mark for opening the csv file correctly in the function `Add_detail()`)
(½ Mark for reading the data from the user in the function `Add_detail()`)
(½ Mark for writing the data correctly into the csv file in the function `Add_detail()`)

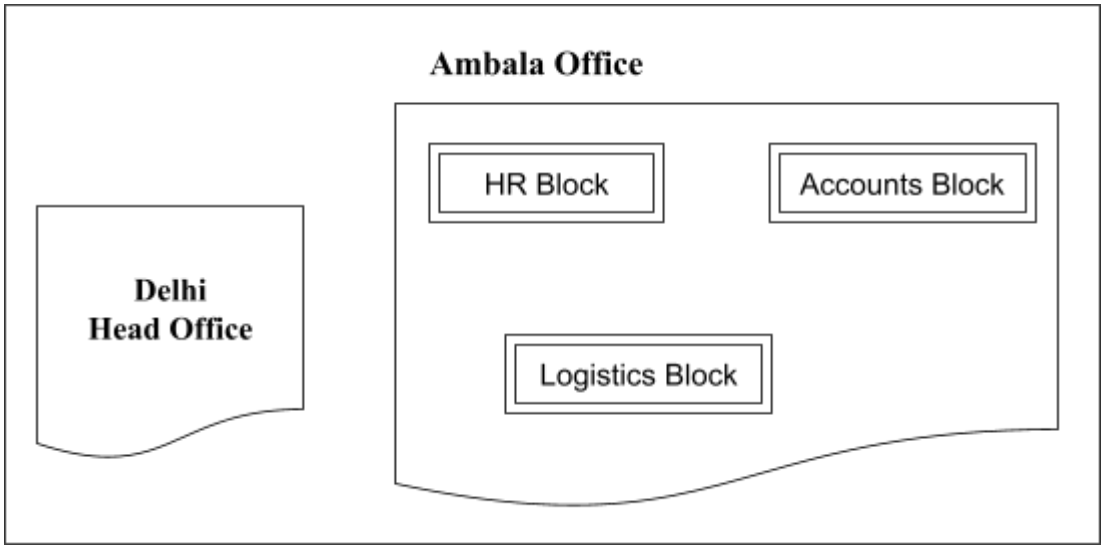
(½ Mark for opening the csv file correctly in the function `Count_Medal()`)
(½ Mark for reading the data from the file in the function `Count_Medal()`)
(½ Mark for loop in the function `Count_Medal()`)
(½ Mark for checking the condition correctly in the function `Count_Medal()`)
(½ Mark for printing the output correctly in the function `Count_Medal()`)
Note:

- ***Ignore importing of CSV***

SECTION-E

3x5=15

33 — Logistic Technologies Ltd. is a Delhi based organization which is expanding its office set-up to Ambala. At Ambala office campus, they are planning to have 3 different blocks for HR, Accounts and Logistics related work. Each block has a number of computers, which are required to be connected to a network for communication, data and resource sharing. — 5



As a network consultant, you have to suggest the best network related solutions for them for issues/problems raised in (i) to (v), keeping in mind the distances between various block/locations and other given parameters.

Distances between various blocks/locations :

HR Block to Accounts Blocks	400 meters
Accounts Block to Logistics Block	200 meters
Logistics Block to HR Block	150 meters
Delhi Head Office to Ambala Office	220 Km

Number of computers installed at various blocks are as follows :

HR Block	70
Accounts Block	40
Logistics Block	30

(i) Suggest the most appropriate block/location to house the SERVER in the Ambala office. Justify your answer.

Ans HR Block as it has maximum number of computers
OR
Any other block/location with valid justification

(½ Mark for the correct answer)
(½ Mark for the valid justification)

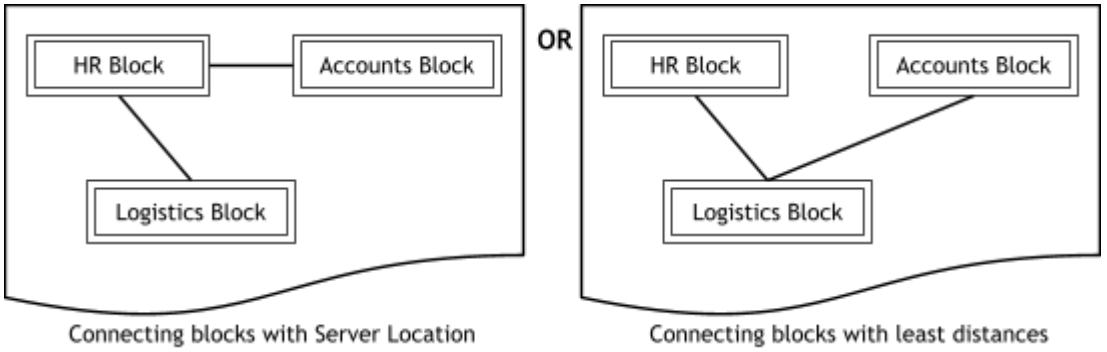
(ii) Suggest the best wired medium to efficiently connect various blocks within the Ambala office compound.

Ans **Optical Fiber**

(1 Mark for the correct answer)

(iii) Draw an ideal cable layout (Block to Block) for connecting these blocks for wired connectivity.

Ans



Connecting blocks with Server Location

Connecting blocks with least distances

		OR Any other cable layout with valid justification	
		(Full 1 Mark for drawing any valid cable layout)	
	(iv)	The company wants to schedule an online conference between the managers of Delhi and Ambala offices. Which protocol will be used for effective voice communication over the Internet ?	
Ans		**VoIP** OR Any valid protocol used for voice communication	
		(1 Mark for the correct answer)	
	(v)	Which kind of network will it be between Delhi office and Ambala office ?	
Ans		**WAN**	
		(1 Mark for the correct answer)	
34	(a)	(i) What is the main purpose of **`seek()`** and **`tell()`** method ?	5
Ans		seek() - it is a Python method, which moves the file pointer to the location specified in the parameter. tell() - it is a Python method, which returns the present location of a file pointer.	
		(1 Mark for correct purpose of seek() method with or without syntax/example) ***(1 Mark for correct purpose of tell() method with or without syntax/example)***	
		(ii) Consider a binary file, **`Cinema.dat`** containing information in the following structure : **`[Mno, Mname, Mtype]`** Write a function, **`search_copy()`**, that reads the content from the file **`Cinema.dat`** and copies all the details of the **`"Comedy"`** movie type to file named **`movie.dat`**.	
Ans		**`import pickle`** **`def search_copy():`** **`  try:`** **`  F1=open("Cinema.dat","rb")`** **`  F2=open("movie.dat","wb")`** **`  Data1=pickle.load(F1)`** **`  Data2=[]`** **`  for D in Data1:`** **`  if D[2]=="Comedy":`** **`  Data2.append(D)`** **`  pickle.dump(Data2,F2)`** **`  F1.close()`** **`  F2.close()`** **`  except:`** **`  print("File not found!")`**	

OR

```
import pickle
def search_copy():
  try:
    F1 = open("Cinema.dat","rb")
    F2 = open("movie.dat", "wb")
    try:
        while True:
            Data1=pickle.load(F1)
            if Data1[2]=="Comedy":
               pickle.dump(Data1,F2)
    except:
        print("Done!")
    F1.close()
    F2.close()
  except:
    print("File not found!")
```

OR
Any other correct variation of the code

(½ Mark for opening the file Cinema.dat in correct mode)
(½ Mark for opening the file movie.dat in correct mode)
(½ Mark for reading the content of the file Cinema.dat)
(½ Mark for the correct loop)
(½ Mark for checking the condition)
(½ Mark for writing the required contents into the file movie.dat)

Note: Ignore import pickle, F1.close() and F2.close()

OR

(b) (i) Give one difference between **`write()`** and **`writeline()`** function in text file. 5

Ans **`write`** function - writes the content of a string onto a text file object .
`writelines` function - writes the content of a list of strings onto a text file object .
Example:

```
file.write("Hello World")
file.writelines(["Hello","World"])
```

(2 Mark for writing the difference between write and writelines with/without using examples)

OR
(1 Mark for explaining uses of write function using/without using example)
(1 Mark for explaining uses of writelines function using/without using example)

		Note: ***As there is no function `writeline`, give full 2 Marks for correctly explaining the write function only.***	
		(ii) A Binary file, **"Items.dat"** has the following structure : **[Icode, Description, Price]** Where **Icode – Item code** **Description – Detail of item** **Price – Price of item** Write a function **Add_data()**, that takes **Icode, Description** and **Price** from the user and writes the information in the binary file **"Items.dat"**.	
		import pickle **def Add_data():** **F=open("Items.dat","wb")** **Icode=input("Icode:")** **Description=input("Detail of item:")** **Price=float(input("Price:")** **pickle.dump([Icode,Description,Price], F)** **F.close()** **OR** Any other correct variation of the code	
		(1 Mark for opening the file items.dat in correct mode) ***(1 Mark for correctly accepting the content from user)*** ***(1 Mark for the correctly using dump command to write the content on file)*** ***Note:*** ***Ignore `import pickle` and `F.close()`***	
35	(a)	(i) Define the term foreign key with respect to RDBMS.	5
	Ans	Foreign Key - A column/attribute in a table/relation, which acts as a Primary Key in another table/relation is known as a Foreign Key. It acts as a cross-reference between two tables as it references the primary key of another table, thereby establishing a link between them to help in producing relevant results.	
		(1 Mark for the correct definition with or without example)	
		(ii) Sangeeta wants to write a program in Python to delete the record of a candidate "Raman" from the table named **Placement in MySQL** database, **Agency**: The table Placement in MySQL contains the following attributes : • **CName – String** • **Dept – String** • **Place – String** • **Salary – integer**	

Note the following to establish connectivity between Python and MySQL:
- **Username – root**
- **Password – job**
- **Host – localhost**

Help Sangeeta to write the program in Python for the above mentioned task.

Ans

```
import pymysql as pm
# OR Option 2
import mysql.connector as pm
DB=pm.connect(host="localhost",user="root",\
              password="job",database="Agency")
MyCursor=DB.cursor()
QRY="DELETE FROM PLACEMENT WHERE CNAME='Raman'"
MyCursor.execute(QRY)
DB.commit()
```

(½ mark for importing with any correct module/method)
(1 mark for connect() method with correct parameters)
(½ mark for creating the cursor)
(1 mark for the correct SQL command - ½ Mark for DELETE and ½ Mark for WHERE)
(½ mark for correctly executing the query QRY)
(½ mark for correct use of commit)

OR

(b) (i) Give one difference between **CHAR** and **VARCHAR** datatype in MySQL. 5

CHAR has a fixed size, but VARCHAR has a variable size.
OR
CHAR data type stores data of fixed length,
whereas the VARCHAR data type stores variable format data.
OR
VARCHAR is more memory efficient than CHAR.

Ans ***(1 Mark for the any one correct difference with or without example)***

(ii) Rahim wants to write a program in Python to insert the following record in the table named **Bank_Account** in MySQL database, **Bank** :
- **Accno – integer**
- **Cname – string**
- **Atype – string**
- **Amount – float**

Note the following to establish connectivity between Python and MySQL :
- **Username – admin**
- **Password – root**
- **Host – localhost**

The values of fields **Accno, Cname, Atype** and **Amount** have to be accepted from the user. Help Rahim to write the program in Python.

Ans

```
import pymysql as pm
```

```
# OR Option 2
import mysql.connector as pm
```

```
DB=pm.connect(host="localhost",user="admin",\
              password="root", database="Bank")
MyCursor=DB.cursor()
Accno=int(input("Accno:"))
Cname=input("Cname:")
Atype=input("Atype:")
Amount=float(input("Amount:"))
QRY="INSERT INTO BANK_ACCOUNT VALUES
(%s,'%s','%s',%s)"%(Accno,Cname,Atype,Amount)
```

```
# OR Option 2
QRY="INSERT INTO BANK_ACCOUNT VALUES
({},'{}','{}',{})".format(Accno,Cname,Atype,Amount)
# OR Option 3
QRY="INSERT INTO BANK_ACCOUNT VALUES (" + str(Accno) + ",'"
+ Cname + "','" + Atype + "'," + str(Amount) + ")"
```

```
MyCursor.execute(QRY)
DB.commit()
```

OR
Any other correct variation of the code

(½ mark for importing any correct module/method pymysql or any other)
(½ mark for correct connect())
(½ mark for correctly creating cursor())
(½ mark for correctly taking input from the user)
(1 mark for the correct SQL command - ½ Mark for INSERT and ½ Mark for VALUES)
(½ mark for correctly executing the query QRY)
(½ mark for commit())