SAMPLE QUESTION PAPER
Class XII Session 2026-27
COMPUTER SCIENCE (Code 083)

TIME: 3 hours **MAX. MARKS: 70**

General Instructions:

- This question paper contains 37 questions.
- All questions are compulsory. However, internal choices have been provided in some questions. Attempt only one of the choices in such questions
- The paper is divided into 5 Sections- A, B, C, D and E.
- Section A consists of 21 questions (1 to 21). Each question carries 1 Mark.
- Section B consists of 7 questions (22 to 28). Each question carries 2 Marks.
- Section C consists of 3 questions (29 to 31). Each question carries 3 Marks.
- Section D consists of 4 questions (32 to 35). Each question carries 4 Marks.
- Section E consists of 2 questions (36 to 37). Each question carries 5 Marks.
- All programming questions are to be answered using Python Language only.
- In-case of MCQ, text of the correct answer should also be written.

Q No.	Section-A (21 x 1 = 21 Marks)	Marks
1	Write the output on execution of the following Python code: L1=[10,20,25,30] L1.insert(1,15) print(L1)	1
2	What will be the output of the following expression? Msg = "programming is amazing" print(Msg.split("m")) a) ['progra', '', 'ing is a', 'azing'] b) ['progra', 'ming is a', 'azing'] c) ('progra', '', 'ing is amazing') d) ['program', 'ing is a', 'zing']	1
3	Which of the following data types in Python is mutable? a) Tuple b) String c) Integer d) List	1
4	A column in one table matching a primary key of another table is called a: a) Composite key b) Candidate key c) Foreign key d) Super key	1
5	Consider the following Python code: t = (1, 2, 3) l = [4, 5] print(t + l) What will happen when this code is executed? a) [1, 2, 3, 4, 5] b) (1, 2, 3, 4, 5) c) Error, because a tuple cannot be concatenated with a list	1

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	d) ((1, 2, 3), [4, 5])	

6	What possible output is expected to be displayed on the screen at the time of execution of the Python program from the following code?
	import random
	games = {0: "Chess",1: "Scrabble",2: "Sudoku",3: "Tic-Tac-Toe",4: "Puzzle"
	}
	start_key = random.randint(1, 2)
	end_key = random.randrange(3, 4)
	for k in range(start_key, end_key + 1):
	print(games[k], end="@@")
	a) Sudoku@@Tic-Tac-Toe@@Puzzle@@
	b) Scrabble@@Sudoku@@Tic-Tac-Toe@@
	c) Chess@@Scrabble@@Tic-Tac-Toe@@
	d) Scrabble@@Tic-Tac-Toe@@
		1

7	Predict the output for the following: Dl={"Pen":12, "Pencil":6, "Scale":5, "InkPen":20} print(12 in Dl) a) False b) Error c) None d) True	1
8	Long-distance communication without line-of-sight is mainly achieved using: a) Microwaves b) Ultraviolet c) Radio waves d) X-rays	1
9	Which MySQL query will display all employees whose salaries are between 90,000 and 100,000 (including limits)? a) SELECT * FROM Employees WHERE salary > 90000 AND salary < 100000; b) SELECT * FROM Employees WHERE salary IN (90000, 100000); c) SELECT * FROM Employees WHERE salary BETWEEN 90000 AND 100000; d) SELECT * FROM Employees WHERE salary = 90000 OR salary = 100000;	1
10	What will be the output of the following Python statement: print(25+100**1**3/5)	1
11	What is the data type of the result when the expression 5 // 2 is evaluated in Python? a) float b) int c) string d) None	1
12	Every network interface card (NIC) comes with its own _____ address. a) Internet Protocol (IP) b) Open Systems Interconnection (OSI) c) Physical (MAC) d) Dynamic Host Configuration Protocol (DHCP)	1
13	In a student table, “Class” can only take values from {IX, X, XI, XII}. This set is called the _____. a) Domain b) Tuple	1

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	c) Attribute d) Key	

14	What would be written in the file errorlog.txt after the following code is run?
	def data(num):
	try:
	return 190/(29-num)
	except ZeroDivisionError:
	logfile = open ("errorlog.txt", "w")
	logfile.write ("Num was 29")
	logfile.close()
	data(29)
		1

15	Which of the following will NOT change if you insert a new record into a table? a) Cardinality b) Degree c) Number of tuples d) Total rows	1
16	What will be the output of the following Python code? y = 8 def update(): y = y + 2 print(y) update() a) 10 b) 8 c) Error d) None	1
17	In _____ switching, before a communication starts, a dedicated path is identified between the sender and the receiver. a) Graph b) Plot c) Circuit d) Packet	1
18	What will be the output of the following Python code? text = "Drone Expo" print(text[-2: :-4])	1
19	Which MySQL command correctly removes an attribute Age from table Student? a) ALTER TABLE Student DROP COLUMN Age; b) ALTER TABLE Student REMOVE Age; c) DROP COLUMN Age FROM Student; d) DELETE COLUMN Age FROM Student;	1
Q20 and Q21 are Assertion(A) and Reason(R) 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.		
20	Assertion (A): Opening a file in mode rb allows you to read a binary file without modifying it. Reason (R): In rb mode, if the file does not exist, Python creates a new empty file.	1

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21	Assertion (A): The MySQL query SELECT Student_Name FROM Student WHERE Guardian_Phone IS NULL; displays the names of students whose guardian phone number is not recorded. Reason (R): In MySQL, you can also use = to check for NULL values; it is equivalent to IS NULL to identify columns with no value.	1
	Section-B (7 x 2=14 Marks)	
22	A. Define global variable and local variable with a suitable example. OR B. Write the difference between the seek() and tell() methods in Python text file handling with a suitable example.	2
23	The Python program below tries to print the list in reverse. However, there are syntax and logical errors in the code. Rewrite it after removing all the errors. Also, underline all the corrections made words=["Class Test","Term Exams","Pre-board Exam","Board Exam'] L=len(words) for i in range(L, -1, -1) Print (words[i] , end = " ")	2
24	A. Write a Python function capitalize_words(words) that takes a list of strings words and returns a new list with each word capitalize. Example: If the input is ["python", "computer", "science"] The output should be ["Python", "Computer", "Science"]. OR B. Write a Python function sum_positive(list1) that takes a list of numbers and prints the sum of all positive numbers in the list. Example: If the input is [10, -5, 20, -3, 7] The output should be 37.	2
25	A. (Answer using Python built-in methods/functions only): I. Write a statement to check whether the string username starts with "admin". II. Given data = [2, 7, 9, 9, 2], write a statement to count how many times the largest element occurs. OR B. Predict the output of the following Python code: text = "Python Programming" print(text.replace("o", "0")) print(text.find("z"))	2

26	Predict the output of the following Python code:
	code = "gLaD5"
	result = []
	i = 0
	while i < len(code):
	if code[i].isupper():
	result.append(code[i].lower())
		2

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	elif code[i].isdigit():
	result.append(int(code[i]) * 2)
	else:
	result.append("#")
	i += 1
	print(result)	

27	A. Write suitable commands to do the following in MySQL. I. Display a list of all the relations stored in a database. II. Delete a database named CS_SP. OR B. Differentiate between alter and update command in MySQL with a suitable example.	2
28	A. Which protocol helps us to browse through web pages using internet browsers? Name any one internet browser. OR B. Define tree topology. Also, write down any one limitation of tree topology.	2
	Section-C (3 x 3 = 9 Marks)	
29	A. Write and call a Python function to read "History.txt" and display all lines that contain a four-digit year (e.g., 1999, 2024 etc.) OR B. Write a Python function that displays the number of times the word "Python" appears in a text file named "Prog.txt".	3
30	A list containing records of books is given as: B = [("Machine Learning Basics", 550), ("World Geography", 450), ("Wonder World", 140), ("AI Revolution", 750)] Write the following user-defined functions to perform operations on a stack named Books: I. Push_element()**:** Push only those books whose price is more than 250 into the stack. II. Pop_element(): Pop the items from the stack and display them. After all items are popped, display "Stack Empty". Expected Output: ('AI Revolution', 750) ('World Geography', 450) ('Machine Learning Basics', 550) Stack Empty	3
31	A. Write a Python function avg_len( ) segment that adds up the lengths of all the words in a list and then prints the average (mean) length. OR B. Consider the tuple pairs = ((2,5),(4,2),(9,8),(12,10)). Write a Python function cnt_even( ) to count the number of pairs (a, b) where both a and b are even.	3
	Section-D (4 x 4 = 16 Marks)	

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32	Consider the table TECH_EVENT_REG as given below: +--------+------------------+------------------+-------+---------+ | reg_id | participant_name | event_name | grade | reg_fee | +--------+------------------+------------------+-------+---------+ | 501 | Aarav | Hackathon | 11 | 200 | | 502 | Riya | RoboRace | 10 | 150 | | 503 | Krish | WebDev Challenge | 12 | 250 | | 504 | Navya | Hackathon | 11 | 200 | | 505 | Samaira | CodeSprint | 9 | 100 | | 506 | Rohan | RoboRace | 10 | 150 | +--------+------------------+------------------+-------+---------+ A. Write the following queries: I. To display the number of participants in each event where the number of participants is greater than 1. II. To display the distinct event names available in the Tech Event. III. To display details of participants whose names contain the letters 'an'. IV. To display all records of TECH_EVENT_REG sorted by participant_name in descending order. **OR** B. Predict the output of the following: I. Select participant_name, event_name from tech_event_reg where grade = 11; II. Select event_name, count(*) from tech_event_reg group by event_name; III. Select participant_name from tech_event_reg where event_name like '%challenge'; IV. Select max(reg_fee) from tech_event_reg where grade in (9, 10);	4
33	Kabir runs a vehicle rental agency and maintains a CSV file named Rentals.csv. The file stores daily rental details with columns: Vehicle_ID, Vehicle_Type, Hours_Rented, Rate_Per_Hour Create the following user-defined functions: I. AddRental() – to accept rental details from the user and append them to Rentals.csv. II. CalculateTotalRent() – to calculate and return the total rent earned (Hours_Rented × Rate_Per_Hour).	4
34	Aditi is managing an events database and needs to access certain information from the chess_event and registrations tables for an upcoming survey. Help her extract the required information by writing the appropriate MySQL queries as per the tasks mentioned below: Table: Chess_Event +----------+-----------------------------+------------+----------------------+-----------------+ | Event_ID | Event_Name | Event_Date | Venue | Max_Participants | +----------+-----------------------------+------------+----------------------+-----------------+ | 101 | Inter-School Chess Championship | 2025-01-15 | Auditorium Hall | 60 | | 102 | Rapid Chess Tournament | 2025-02-10 | Activity Room 3 | 40 | | 103 | Under-16 Chess Cup | 2025-03-05 | Sports Complex Room 2 | 50 | | 104 | Teachers vs Students Chess Meet | 2025-04-12 | Library Conference Area | 30 | | 105 | Open Blitz Chess Challenge | 2025-05-20 | IT Lab 1 | 80 | +----------+-----------------------------+------------+----------------------+-----------------+ Table: Registrations	4

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	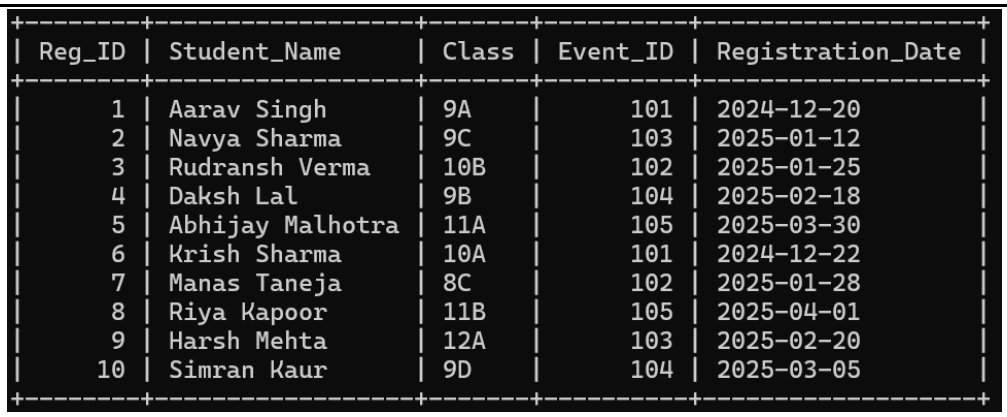 I. Write a MySQL query to update the venue of the event "Inter-School Chess Championship" to "Multi-Purpose Hall". II. Display the details of all chess events scheduled after 2025-01-01. III. Write a MySQL query to display the registration details of students who have registered for events scheduled in 'Auditorium Hall', 'Activity Room 3', or 'Library Conference Area'. IV. a. Display the student_name along with the event_name for all registrations or b. Write a MySQL query to display the cartesian product of Chess_Event and Registrations tables.	
35	MySQL database named LibraryDB has a table book_records which contains the following attributes: • Book_ID**:** ID of the book (Integer) • Book_Title: Title of the book (String) • Author: Author of the book (String) • Copies: Number of copies available (Integer) Consider the following details to establish Python-MySQL connectivity: • Username: librarian • Password**:** lib@2025 • Host: localhost Write a Python-MySQL program to change the Book_Title to 'Data Structures in Python' for the record whose Book_ID is 109 in the book_records table.	4
	Section-E (2 X 5 = 10 Marks)	
36	A college administrator, Atul, maintains student course enrollment records. Each record includes Roll_No, Student_Name, Course, Fees. Write Python functions to: I. Input enrollment details and append them to a binary file. II. Update the Fees of all students enrolled in the "Data Science" course to 75000.	2+3
37	AKA University is setting up its Academic blocks at Raipur and planning to set up a network. The university has 3 academic blocks and one Human Resource Center as shown in the diagram below:	5

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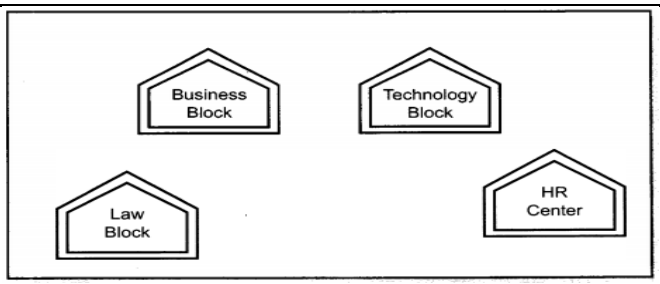

Center to center distances between various blocks is as follows:

Law Block to Business Block	90 m
Law Block to Technology Block	55 m
Law Block to HR Center	120 m
Business Block to Technology Block	70 m
Business Block to HR Center	105 m
Technology Block to HR Center	45 m

Number of Computers in each of the Blocks/Center is as follows:

Law Block	30
Technology Block	55
HR Center	120
Business Block	45

I. Suggest the most suitable place (i.e. Block/Center) to install the server of this university with a suitable reason.

II. Identify and draw the most suitable topology for connecting all the blocks if the university wants a centralized network management system.

III. Suggest and placement of the following devices with reasons.
   a. Repeater
   b. Switch

IV. The Institute is planning to link its study center situated in Delhi. Suggest a way to connect it with reasonably high speed guided medium.

V. A. The Vice-Chancellor wants to hold a face-to-face digital meeting with the Heads of Departments in all blocks simultaneously. Which Protocol will be used?

OR

B. What is the use of VoIP?

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MARKING SCHEME: SAMPLE QUESTION PAPER
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General Instructions:

- This question paper contains 37 questions.
- All questions are compulsory. However, internal choices have been provided in some questions. Attempt only one of the choices in such questions
- The paper is divided into 5 Sections- A, B, C, D and E.
- Section A consists of 21 questions (1 to 21). Each question carries 1 Mark.
- Section B consists of 7 questions (22 to 28). Each question carries 2 Marks.
- Section C consists of 3 questions (29 to 31). Each question carries 3 Marks.
- Section D consists of 4 questions (32 to 35). Each question carries 4 Marks.
- Section E consists of 2 questions (36 to 37). Each question carries 5 Marks.
- All programming questions are to be answered using Python Language only.

Q No.	Section-A (21 x 1 = 21 Marks)	Marks
1	**Answer:** [10, 15, 20, 25, 30] **(1 mark for correct answer)**	1
2	**Answer:** a) ['progra', '', 'ing is a', 'azing'] **(1 mark for correct answer)**	1
3	**Answer:** d) List **(1 mark for correct answer)**	1
4	**Answer:** c) Foreign key **(1 mark for correct answer)**	1
5	**Answer:** c) Error, because a tuple cannot be concatenated with a list **(1 mark for correct answer)**	1
6	**Answer:** b) Scrabble@@Sudoku@@Tic-Tac-Toe@@ **(1 mark for correct answer)**	1
7	**Answer:** a) False **(1 mark for correct answer)**	1

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8	**Answer:** c) Radio waves **(1 mark for correct answer)**	1
9	**Answer:** c) SELECT * FROM Employees WHERE salary BETWEEN 90000 AND 100000; **(1 mark for correct answer)**	1
10	**Answer:** 45.0 **(1 mark for correct answer)**	1
11	**Answer:** b) int **(1 mark for correct answer)**	1
12	**Answer:** c) Physical (MAC) address **(1 mark for correct answer)**	1
13	**Answer:** a) Domain **(1 mark for correct answer)**	1
14	**Answer:** Num was 29 **(1 mark for correct answer)**	1
15	**Answer:** b) Degree **(1 mark for correct answer)**	1
16	**Answer:** c) Error **(1 mark for correct answer)**	1
17	**Answer:** c) Circuit **(1 mark for correct answer)**	1
18	**Answer:** peD **(1 mark for correct answer)**	1
19	**Answer:** a) ALTER TABLE Student DROP COLUMN Age; **(1 mark for correct answer)**	1

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20	**Answer:** c) A is true, but R is false **(1 mark for correct answer)**	1
21	**Answer:** c) A is true, but R is false **(1 mark for correct answer)**	1
	Section-B (7 x 2=14 Marks)	

22	**Answer:**
	A. Global variable: Defined outside a function; accessible anywhere in the program.
	x = 10 # global
	print(x)
	
	Local variable: Defined inside a function; accessible only inside that function.
	def demo():
	y = 5 # local
	print(y)
	OR
	B. tell(): Returns the current position of the file pointer in the file.
	
	f = open("file.txt", "r")
	print(f.tell()) # e.g.,0
	
	seek(offset): Moves the file pointer to a specified position in the file.
	f.seek(5) # moves pointer to 5th byte
	(1 mark for correct difference)
	(1/2 mark for each correct example)
		2

23	**Answer:** words=["Class Test","Term Exams","Pre-board Exam","Board Exam**"**] L=len(words) for i in range(**L-1**, -1, -1)**:** **print** (words[i] , end = " ") **(1⁄2 mark each for correcting 4 mistakes)**	2

24	**Answer:**
	A.
	def capitalize_words(words): #words is a list of strings
	result = [ ]
	for w in words:
	result.append(w.capitalize())
	print(result)
	OR
	B.
	def sum_positive(list1): #list1 is a list of numbers
	total = 0
	for num in list1:
	if num > 0:
		2

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<table>
<tr><td></td><td>total += num
print(total)
(1/2 mark for function definition)
(1 mark for the correct/similar logic)
(1/2 mark for correct print statement)</td><td></td></tr>
<tr><td>25</td><td>Answer:
A.
I. username.startswith("admin") (1 mark for correct answer)
II. data.count(max(data)) (1 mark for correct answer)
OR
B.
Pyth0n Pr0gramming (1 mark for correct answer)
-1 (1 mark for correct answer)</td><td>2</td></tr>
<tr><td>26</td><td>Answer:
['#', 'l', '#', 'd', 10]
(2 marks for the correct output)</td><td>2</td></tr>
<tr><td>27</td><td>Answer:
A. I. Show tables; (1 mark for correct answer)
II. Drop database CS_SP; (1 mark for correct answer)
OR
B.<table><tr><td>ALTER</td><td>UPDATE</td></tr><tr><td>Used to change the structure of a table. It adds, deletes or modifies columns or constraints.</td><td>Used to modify the data stored in the table. It changes the values in rows.</td></tr><tr><td>Ex: ALTER TABLE Employee ADD age INT;</td><td>Ex: UPDATE Employee SET salary = 50000 WHERE emp_id = 10;</td></tr></table>(1 mark for correct answer)
(1/2 mark for each correct example)
C.</td><td>2</td></tr>
<tr><td>28</td><td>Answer:
A. HTTP (Hyper Text Transfer Protocol) helps us browse web pages using internet browsers.
Name of any one internet browser can be Chrome / Firefox / Edge / Safari / Opera.
(1 mark for correct definition)
(1 mark for any one browser name)
OR
B. Tree topology is a network topology that combines characteristics of bus and star topologies, where groups of star-configured computers are connected to a central bus backbone.
Limitations: Failure of the main backbone cable can bring down the entire network. It is expensive because it requires a lot of cable and network devices.
(1 mark for correct definition)
(1 mark for any one limitation)</td><td>2</td></tr>
</table>

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	Section-C (3 x 3 = 9 Marks)	

29	**Answer:**
	A. def DisplayYearLines( ):
	f = open("History.txt", "r")
	for line in f:
	words = line.split()
	for w in words:
	if w.isdigit() and len(w) == 4:
	print(line)
	break
	f.close()
	DisplayYearLines( )
	(1/2 mark for correct function header)
	(1/2 mark for correctly opening the file)
	(1 1/2 mark for correct/similar logic for displaying the desired lines)
	(1/2 mark for correctly calling the function)
	OR
	
	B. def count_python():
	count = 0
	with open("Prog.txt", 'r') as file:
	text = file.read()
	words = text.split()
	for word in words:
	if word.lower() == "python":
	count += 1
	print("The word Python appears", count, "times.")
	(1/2 mark for correct function header)
	(1/2 mark for correctly opening the file)
	(1/2 mark for correctly reading from the file)
	(1/2 mark for splitting the text into words)
	(1/2 mark for correct use of counter variable)
	(1/2 mark for displaying the result)
		3

30	**Answer:**
	I.
	B = [("Machine Learning Basics", 550),("World Geography", 450),("Wonder World", 140),("AI Revolution", 750)]
	Books = [ ]
	def Push_element():
	for item in B:
	if item[1] > 250:
	Books.append(item)
	II.
	def Pop_element():
	while Books:
	print(Books.pop())
	print("Stack Empty")
	(1½ marks for each correct part)
		3

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31	**Answer:**
	A.
	def avg_len(words):
	  total = 0
	  count = 0
	  for w in words:
	  total += len(w)
	  count += 1
	  return total / count
	my_words = ["computer", "science", "python", "data"]
	print("Average word length:", avg_len(my_words))
	OR
	B.
	pairs = ((2,5), (4,2), (9,8), (12,10))
	def cnt_even(t):
	  c = 0
	  for a, b in t:
	  if a % 2 == 0 and b % 2 == 0:
	  c += 1
	  return c
	print("Number of even-even pairs:", cnt_even(pairs))
	(1/2 mark for function definition)
	(2 marks for the correct/similar logic)
	(1/2 mark to print/return statement)
		3

	Section-D (4 x 4 = 16 Marks)	
32	**Answer:** A. I. select event_name, count(*) as total_participants from tech_event_reg group by event_name having count(*) > 1; II. select distinct event_name from tech_event_reg; III. select * from tech_event_reg where participant_name like '%an%'; IV. select * from tech_event_reg order by participant_name desc; **(4 x 1 mark for each correct query)** **OR** B. I.	4

participant_name	event_name
Aarav	Hackathon
Navya	Hackathon

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II.

event_name	COUNT(*)
Hackathon	2
RoboRace	2
WebDev Challenge	1
CodeSprint	1

III.

participant_name
Krish

IV.

MAX(reg_fee)
150

(4 x 1 mark for each correct query output)

33 **Answer:** 4

```
import csv
def AddRental():
    Vehicle_ID = input("Enter Vehicle ID: ")
    Vehicle_Type = input("Enter Vehicle Type: ")
    Hours_Rented = input("Enter Hours Rented: ")
    Rate_Per_Hour = input("Enter Rate Per Hour: ")
    with open("Rentals.csv", "a") as f:
        w = csv.writer(f)
        w.writerow([Vehicle_ID, Vehicle_Type, Hours_Rented, Rate_Per_Hour])
    print("Rental record added successfully.")
```

(½ mark for correctly taking user input)
(½ mark for opening the file in append mode)
(½ mark for correctly creating the writer object)
(½ mark for correctly using writerow() of writer object)

```
def CalculateTotalRent():
```

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	total = 0 f = open("Rentals.csv", "r") r = csv.reader(f) for row in r: hours = int(row[2]) rate = int(row[3]) total += hours * rate print("Total Rent Earned:", total) f.close() **(1⁄2 mark for opening in the file in right mode)** **(1⁄2 mark for correctly creating the reader object)** **(1⁄2 mark for correc calculation by converting it into integers)** **(1⁄2 mark for correctly displaying the total rent earned)** **Note (for both parts (I) and (II)):** **Ignore import csv as it may be considered the part of the complete program.**	
34	**Answer:** I. UPDATE CHESS_EVENTS SET Venue = **'**Multi-Purpose Hall**'** WHERE Event_Name = 'Inter-School Chess Championship'; II. SELECT * FROM CHESS_EVENTS WHERE Event_Date > '2025-01-01'; III. SELECT * FROM REGISTRATIONS R JOIN CHESS_EVENTS C ON R.Event_ID = C.Event_ID WHERE C.Venue IN ('Auditorium Hall', 'Activity Room 3', 'Library Conference Area'); IV. A. SELECT R.Student_Name, C.Event_Name FROM REGISTRATIONS R JOIN CHESS_EVENTS C ON R.Event_ID = C.Event_ID; OR B. SELECT * FROM CHESS_EVENTS, REGISTRATIONS; **(4 x 1 mark for each correct query)**	4
35	**Answer:** import mysql.connector con=mysql.connector.connect(host="localhost",user="librarian",password="lib@2025", database="LibraryDB") cur = con.cursor() q = "UPDATE book_records SET Book_Title='Data Structures in Python' WHERE Book_ID=109" cur.execute(q) con.commit() print("Book title updated successfully.") cur.close() con.close() **(1⁄2 mark for correctly importing the connector object)** **(1⁄2 mark for correctly creating the connection object)** **(1⁄2 mark for correctly creating the cursor object)** **(1 mark for correct creation of update query)** **(1 mark for correctly executing the query with commit)** **(1⁄2 mark for correctly closing the connection)**	4

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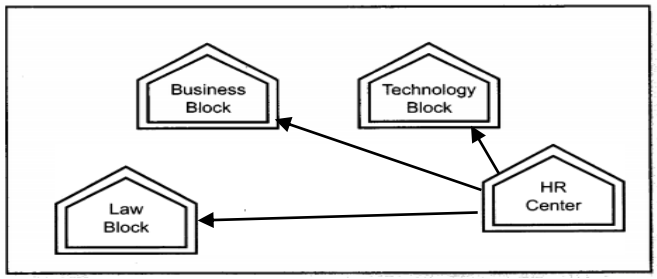
	Section-E (2 X 5 = 10 Marks)	

36	**Answer:**
	I.
	def AddEnrollment():
	Roll = int(input("Enter Roll No: "))
	Name = input("Enter Student Name: ")
	Course = input("Enter Course: ")
	Fees = int(input("Enter Fees: "))
	rec = [Roll, Name, Course, Fees] # LIST record
	with open("Enrollments.dat", "ab") as f:
	pickle.dump(rec, f)
	print("Record added successfully.")
	(1/2 mark for correctly defining the function header)
	(1/2 mark for correctly opening the file in append mode)
	(1/2 mark for correctly taking user input)
	(1/2 mark for using dump() method of the pickle module)
	
	II.
	import pickle
	def UpdateFees():
	updated = False
	records = []
	with open("Enrollments.dat", "rb") as file:
	try:
	while True:
	rec = pickle.load(file)
	if rec[2] == "Data Science": # Course at index 2
	rec[3] = 75000 # Fees at index 3
	updated = True
	records.append(rec)
	except EOFError:
	pass
	with open("Enrollments.dat", "wb") as file:
	for rec in records:
	pickle.dump(rec, file)
	if updated:
	print("Fees updated for Data Science students.")
	else:
	print("No student enrolled in Data Science found.")
	(1/2 mark for correctly defining the function header)
	(1/2 mark for correctly opening the file)
	(1 mark for using load() with while loop and try-except block)
	(1 mark for checking the condition and updating the value)
	
	Note (for both parts (I) and (II)):
	Ignore import pickle as it may be considered the part of the complete program.
		2+3

37	**Answer:** I. HR Centre as it has maximum number of computers.	5

*There is no change in the Question Paper Design and Assessment Pattern for Academic Session 2026-27.

II. Star Topology



III. a. Repeater is to be placed between HR Center to Law Block and from HR Center to Business Block as distance between them is more than 100 meters.
b. Switch is to be placed in all the block as network is to be formed in each and every block.

IV. Optical Fibre

V. A. VOIP (Voice Over Internet Protocol)

OR

B. Voice over Internet Protocol (VoIP) is a technology that allows users to make phone calls and other communications over the Internet instead of a traditional phone line.

(5 x 1 mark for each correct part)

*There is no change in the Question Paper Design and Assessment Pattern for Academic Session 2026-27.