Time: 3 HOURS
M.M.: 70
General Instructions:

Please check this question paper contains 35 questions.

The paper is divided into 4 Sections- A, B, C, D and E.

Section A, consists of 18 questions (1 to 18). Each question carries 1 Mark.

Section B, consists of 7 questions (19 to 25). Each question carries 2 Marks.

Section C, consists of 5 questions (26 to 30). Each question carries 3 Marks.

Section D, consists of 2 questions (31 to 32). Each question carries 4 Marks.

Section E, consists of 3 questions (33 to 35). Each question carries 5 Marks.

All programming questions are to be answered using Python Language only.

	SECTION A	
1	Determine if there are any backups available to look for recovery options. (or any other relevant answer)	1
2	(i) 1024	1
3	(ii) ALU	1
4	(iv) Specific Purpose Software	1
5	(i)Using reserved keywords	1
6	(i) avg = (marksMaths + marksEnglish + marksIP) / 3	1
7	(iv) If a > 10: #Will executes this block if the condition is true	1
8	iii) NULL represents a missing or unknown value.	1
9	INSERT INTO Student (Marks) VALUES (80); (½ mark to be awarded for writing Marks in its correct place) (½ mark to be awarded for writing Column name in its correct place)	1
10	False	1
11	(i) DDL	1
12	Error: A table must have at least 1 column	1
13	(iii) Alphabets and space	1
14	Cardinality=7, Degree=4	1
15	(i) Platform as a service	1
16	(ii) NLP	1

Q17 and 18 are ASSERTION AND REASONING based questions. Mark the correct choice as :
    i. Both A and R are true and R is the correct explanation for A
    ii. Both A and R are true and R is not the correct explanation for A
    iii.A is true but R is False
    iv.A is false but R is true		

17	(v)Both A and R are False.	1
18	(i) Both A and R are true and R is the correct explanation for A	1

	SECTION B	
19	Hardware need software instructions to function and perform useful tasks. For example, a CPU needs an operating system to manage its resources and run applications.	1
	The performance of software is directly tied to the capabilities of the hardware. For example, high-end graphics software requires powerful GPUs to render images and videos effectively.	1
	(or any other relevant answer)	
	Or	1
	RAM: (c), (d), (e)	1
	ROM: (a), (b)	
20	1	½
	10	½
	35	½
	84	½
21	i = 10	
	difference <u>= 0</u>	½
	for i in range<u>(10,0,-3)</u>:	½
	if i % 2 == 0:	
	<u>difference = difference - i</u>	½
	else:	
	<u>difference = difference + i</u>	½
	print(difference)	
22	i) 28	1
	ii)True	1
	OR	
	a) the loop will be executed 6 times.	1
	b) 36	1
23	a) ALTER table Employee modify Name VARCHAR(30);	1
	(½ mark to be awarded for writing 'table' in its correct place)	
	(½ mark to be awarded for replacing 'increase' with 'modify' keyword)	
	b) UPDATE Employee SET Dept = "Analyst" WHERE DeptID = 2 and Salary > 40000;	1
	(½ mark to be awarded for replacing ' ,' with logical 'and' operator)	
	(½ mark to be awarded for replacing ' =' with ' >' operator)	
	OR	
	To group the tables that are related to each other, we need to identify common fields among the tables that can establish relationships. Based on the given fields, here are the potential relationships:	1
	1. **Table1** and **Table3**:	½
	○ Common field: Field2	
	○ **Reason**: Table3 has Field2, which matches with Table1.	
	2. **Table2** and **Table4**:	½
	○ Common field: Field13	

	○ **Reason**: `Table4` has `Field13`, which matches with `Table2`. (or any other relevant answer)		

24	a) Delete from Netflix where rating=8.8;
	b) Select * from Netflix where rating!=8.8;
	
	(or any other relevant query)
	<center>**OR**</center>
	Primary Key: ClothID
	Candidate Key: ClothID, ItemName
	Alternate Key: ItemName
	
	(or any other relevant answer)
		1
		1
		
		½
		1
		½	

25	a) Use Employee; b) Create database Employee;	1 1	
<center>SECTION C</center>			
26	a) for num in range(30,9,-10): print(num) b) 3 times	2 1	
27	Length of my_list: 5 [10, 20] Sorted list: [10, 20, 30, 40, 50]	1 1 1	
28	a) Update School set NoOfStudents=NoOfStudents+5; b)	1 1	

Class	Section	NoOfStudents
IX	A	45
X	B	40
XI	A	NULL
XII	B	5

	c) Null values in databases represent missing or unknown information. They are placeholders indicating that data does not exist or is not yet known. Here's why nothing can be added to null values. (or any other correct answer) <center>**OR**</center> a) Between and b) Show c) Drop	1 ½ ½ 1 1	

29	a) <u>rating>8.8</u>
	    1
	    0
	    0
		1	

	b) (i) Data Security: ensures that data is protected from unauthorized access, breaches, and other threats.	1
	(ii) Flexibility: makes it a popular choice for diverse applications.	1
	(or any other relevant answer)	
30	a) AI	1
	b) IOT	1
	c) NLP	1

<div align="center">SECTION D</div>

31	a)	

a) Interpreter	iv) Language Processor	½
b) Backup Software	iii) Utility Software	½
c) PowerPoint	ii) Application Software	½
d) Linux	i) System Software	½

	b)	
	Input Devices: Scanner, Barcode Reader	1
	Output Devices: Plotter, Speaker	1
32	a)	
	{'Aman': 80, 'Sumit': 30, 'Dinesh': 50, 'Suresh': 80}	1
	{'Aman': 80, 'Sumit': 30, 'Dinesh': 30, 'Suresh': 20}	1
	b) [10, 20,30, 40, 50, 60]	1
	[10, 20, 40, 50, 60]	1

<div align="center">SECTION E</div>

33	a) Select CarName from Carden where Colour = "Silver";	1
	b) Alter table Carden add Charges integer;	1
	c) Select CarCode from Carden where CarName = "Indigo";	1
	d) Update Carden set CarName ="Fortuner" where Capacity = 7;	1
	e) Select Make from Carden where Capacity>3;	1
	(or any other relevant answer)	
34	a) <u>CandidateName</u>	1
	John Doe	
	Michael Johnson	
	b) <u>PartyName</u>	1
	Green Party	
	Liberal Party	
	Conservative Party	
	c) <u>ElectionID</u>	1
	(Empty Set)	
	d) <u>Constituency</u>	1
	District B	
	District C	
	e) <u>VotesReceived+50</u>	1
	4050	
	Or	
	a) i) CREATE TABLE Orders	2
	(OrderID INTEGER, CustomerName VARCHAR(50),	

		OrderDate DATE,
		TotalAmount DECIMAL(10, 2));
		
		(1 mark to be awarded for appropriate structure)
		(1 mark to be awarded for choosing appropriate data types)
		
		  ii) Alter table Orders drop OrderDate;
		  iii) Alter table Orders modify CustomerName Varchar(80);
		
		b) Update orders set TotalAmount=0 where TotalAmount is Null;
			
			1
			1
			
			1

35		a) print(indian_library_catalog ["Literary Fiction"])
		b) del indian_library_catalog ["Novel"]
		               or
		  indian_library_catalog .pop("Novel")
		c) print(len(indian_library_catalog))
		d) print(indian_library_catalog .values())
		e) indian_library_catalog ["Thriller"]="The girl on the train"
		 Or
		a) print(MYLIST[3])
		b) MYLIST[2]="MUTABLE"
		c) MYLIST.reverse()
		       or
		  MYLIST[::-1]
		d) MYLIST.insert(4,"SEQUENCE")
		e) MYLIST[2:5]
			1
			1
			
			1
			1
			1
			
			1
			1
			1
			
			1
			1