SAMPLE QUESTION PAPER
COMPUTER SCIENCE (083) – CLASS XII

Maximum Marks: 35   Time: 2 Hours
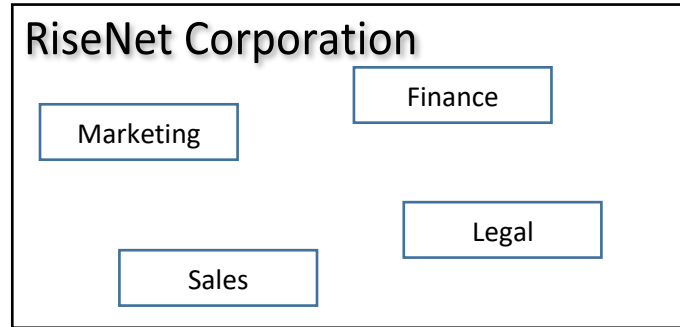
General Instructions

- The question paper is divided into 3 sections – A, B and C
- Section A, consists of 7 questions (1-7). Each question carries 2 marks.
- Section B, consists of 3 questions (8-10). Each question carries 3 marks.
- Section C, consists of 3 questions (11-13). Each question carries 4 marks.
- Internal choices have been given for question numbers 7, 8, 12.

Q.no	Part No.	Section – A Each question carries 2 marks Question	Marks
1.		Write any 2 application of Stack in computer application.	2
2.	(i)	Expand the following: HTTP, VoIP	1
	(ii)	Why Switch is known as Intelligent Hub?	1
3.		Difference between char(n) and varchar(n) data types with respect to databases	2
4.		A resultset is extracted from the table with 50 records using the cursor object (that has been already created) by giving the following statement. Records = cursor.fetchall() (a) How many records will be returned by fetchall() method? (b) What will be the datatype of Records object after the given command is executed?	2
5		Write the output of queries(a) to (d) based on the table, PERIPHERALS given below Table: PERIPHERALS	2

PID	NAME	BRAND	DOP	COST	DISCOUNT
K001	WIRELESS KEYBOARD	LOGITECH	2022-01-12	1200	5
M001	OPTICAL MOUSE	INDEX	2022-01-05	450	0
H001	EXTERNAL HDD 1TB	SEAGATE	2022-01-10	4200	10
K002	KEYBOARD	INDEX	2022-01-15	350	3
P001	LASER PRINTER	HP	2022-01-13	9500	8
S001	SCANNER	CANON	2022-01-12	3500	4
P002	INK JET PRINTER	CANON	2021-12-24	6500	5

(a) Select AVG(COST) from PERIPHERALS where COST>=3000;
(b) Select MAX(DOP),MIN(DOP) from PERIPHERALS;
(c) SELECT COST – COST*DISCOUNT/100 NET_COST from PERIPHERALS WHERE PID LIKE 'P%';
(d) SELECT NAME, COST FROM PERIPHERALS WHERE DOP LIKE '%-01-%' and discount in(5,10);

Q.no	Part No.	Question	Marks
6	(i)	Which command is used to see the structure of table which shows information like name of fields, datatype, size and other information?	1
	(ii)	Give one point difference between equi-join and natural join?	1

7		Consider the table GAMES given below: Table: GAMES	2

GCode	GameName	Type	Number	PrizeMoney	ScheduleDate
101	Carom Board	Indoor	2	5000	23-Jan-2004
102	Badminton	Outdoor	2	12000	12-Dec-2003
103	Table Tennis	Indoor	4	8000	14-Feb-2004
105	Chess	Indoor	2	9000	01-Jan-2004
108	Lawn Tennis	Outdoor	4	25000	19-Mar-2004

(a) Identify the Degree and Cardinality of the table
(b) Which field should be made the Primary Key? Justify your answer

OR

(a) Identify the candidate key(s) from the table GAMES
(b) Consider the given table

Table: PLAYER

PCode	Name	GCode
1	Nabi Ahmad	101
2	Ravi Sahai	108
3	Jatin	101
4	Nazneen	102

Which field will be considered as the foreign key if the tables GAMES and PLAYER are related in database?

Section – B
Each question carries 3 marks

8	Samantha has created a dictionary containing ID and their Names as the Key – Value pair of 8 students. Write a program with separate user defined function to perform the following operations: • Push the Keys (ID of the students) of the dictionary into a Stack, where corresponding name begins from letter 'A' • Pop and display the content of Stack. For example if the content of Dictionary is as follows: Student={"S001":"Amit","S002":"Lucky","S003":"Akshay","S004":"Navneet", "S005":"Jeetu","S006":"Ajay"} The output of the program should be : Ajay Akshay Amit <div align=center>OR</div>Shaban has a list of 10 integers. You need to help him create a program with separate user defined functions to perform the following operations based on this list. • Traverse the content of the list and push the numbers whose last digit is 5 into a stack • Pop and display the content of the stack For example: If the sample Content of the list is as follows: Num = [17, 25, 32, 65, 96, 56, 95, 105,33,27] Sample Output of the code should be: 105 95 65 25	3

9.	(i)	A table EMP has been created in a database by Arun with the following fields: EMPNO, EMPNAME, DEPT, SALARY, COMM But, Arun forgot to add primary key on EMPNO column. Give the SQL command to add primary key on the column EMPNO.	1
	(ii)	What is DDL & DML? Give name of any 2 commands of DDL & DML	2

10	Priyanka has to create a database named PANDEMIC in MYSQL. She now needs to create a name named COVID in the database to store the records of patients. The table COVID has the following structure Table: COVID	3

FIELD NAME	DATA TYPE	REMARKS
PATID	CHAR(5)	Primary Key
PATNAME	VARCHAR(20)	
PAT_ADDRESS	VARCHAR(30)	
PAT_MOBILE	CHAR(10)	
FEE_APP	INTEGER	
VACCINATED	CHAR(1)	
ADM_DATE	DATE	

Help her to complete the task by suggesting appropriate SQL commands.

Section C
Each question carries 4 marks

11	Write queries (a) to (d) based on the table GAME and PLAYER given below: GAMES and PLAYER	4

Table: GAMES

GCode	GameName	Type	Number	PrizeMoney	ScheduleDate
101	Carom Board	Indoor	2	5000	23-Jan-2004
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Table: PLAYER

PCode	Name	GCode
1	Nabi Ahmad	101
2	Ravi Sahai	108
3	Jatin	101
4	Nazneen	102

(a) To display sum of prize for all game, type wise
(b) To display name of game and respective player of each game whose prize money is 10000 or above.
(c) To display gamename, type and prizemoney of all games which are scheduled in month of Jan in alphabetical order
(d) To display type of game from the table GAMES without repetition.

12	(i)	Give two differences between Star topology and Bus Topology OR Define the following terms: Web Server, XML	(2)
	(ii)	How Radio wave signals are different from Microwave signals?	(2)

| 13 | | RiseNet Corporation is setting up the network in the Kanpur. There are four departments named as Marketing, Finance, Legal and Sales | |

RiseNet Corporation

Marketing

Finance

Legal

Sales

Distance between various buildings is given as:

Marketing to Finance	80m
Marketing to Legal	180m
Marketing to Sales	100m
Legal to Sales	150m
Legal to Finance	100m
Finance to Sales	50m

Number of Computers in the buildings:

Marketing	20
Legal	10
Finance	08
Sales	42

(a) Suggest and draw the cable layout to efficiently connect various blocks of building within the Kanpur centre for connecting digital devices

(b) Suggest the placement of the following device with Justification
   (i) Repeater
   (ii) Hub/Switch

(c) Which kind of network (PAN/LAN/WAN) will be formed if the Kanpur office is connected to its head office in Chennai?

(d) Which fast and very effective wireless transmission medium should preferably be used to connect the head office at Chennai with the centre at Kanpur?