

CLASS XII - CBSE

Time Allowed : 2 Hour

COMPUTER SCIENCE

Maximum Marks : 35

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 and 12.

HAVE CONTROL → HAVE PATIENCE → HAVE CONFIDENCE ⇒ 100% SUCCESS

SECTION – A

1. What is insertion and deletion in a stack ? (2)
2. Identify the type of topology from the following :
 - (a) Each node is connected with the help of a single cable. (1)
 - (b) Each node is connected with central switching through independent cables. (1)
3. What is relation ? Define the relational data model ? (2)
4. Write the full forms of DDL and DML. Write any two commands of DML in SQL. (2)
5. Write output for SQL queries (i) and (ii), which are based on the table : STUDENT given below : (2)

Table: STUDENT

Roll No	Name	Class	DOB	Gender	City	Marks
1	Nanda	X	06-06-1995	M	Agra	551
2	Saurabh	XII	07-05-1993	M	Mumbai	462
3	Sonal	XI	06-05-1994	F	Delhi	400
4	Trisla	XII	08-08-1995	F	Mumbai	450
5	Store	XII	08-10-1995	M	Delhi	369
6	Marisla	XI	12-12-1994	F	Dubai	250
7	Neha	X	08-12-1995	F	Moscow	377
8	Nishant	X	12-06-1995	M	Moscow	489

- (a) SELECT COUNT(*) City FROM STUDENT GROUP BY CITY HAVING COUNT(*)>1;
 - (b) SELECT MAX(DOB), MIN(DOB) FROM STUDENT ;
6. (i) Which clause is used to sort the records of a table ? (1)
 - (ii) MySQL support different character sets, which command is used to display all character sets ? (1)

7. Observe the table CLUB given below :

(2)

Table: CLUB

Member_ID	Member_Name	Address	Age	Fee
M0001	Sumit	New Delhi	20	2000
M0002	Nisha	Gurgaon	19	3500
M0003	Niharika	New Delhi	21	2100
M004	Sachin	Faridabad	18	3500

- (a) What is the cardinality and degree of the given table ?
- (b) If a new column ContactNo. is added and three more members join the club then how these changes will affect the degree and cardinality of the table.

OR

A table CUSTOMER has 10 columns but no row. Later, 10 new rows are inserted and 3 rows are deleted in the table. What is the degree and cardinality of the table CUSTOMER ?

SECTION – B

- 8. (i) How to create an empty stack? (3)
- (ii) How to add elements to a stack?
- (iii) How to delete / remove elements from the stack

OR

How to traverse or displaying elements of stack? .and How to check for empty stack?

- 9. Write the steps to perform an Insert query in database connectivity application. (3)
Table 'student' values are rollno, name, age (10, 'Ashok', 26)
- 10. Write a Python database connectivity script that deletes records from **category** table of database **items** that have name = 'Stockable'

SECTION – C

- 11. Consider the following tables STORE and answer the questions : (4)

Table: STORE

Item No.	Item	Scode	Qty	Rate	Last Buy
2005	Sharpener Classic	23	60	8	31-Jun-09
2003	Balls	22	50	25	01-Feb-10
2002	Gel Pen Premium	21	150	12	24-Feb-10
2006	Gen Pen Classic	21	250	20	11-Mar-09
2001	Eraser Small	22	220	6	19-Jan-09
2004	Eraser Big	22	110	8	02-Dec-09
2009	Ball Pen 0.5	21	180	18	03-Nov-09

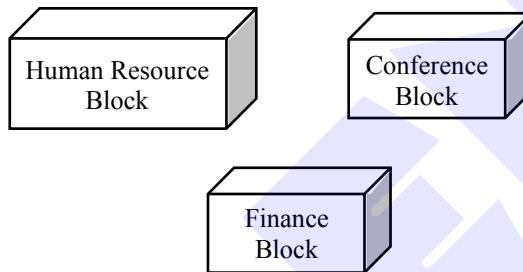
Write SQL commands for the following statements :

- (i) To display details of all the items in the STORE table in ascending order of LastBuy.
 - (ii) To display ItemNo and Item name of those items from STORE table, whose Rate is more than Rs. 15
 - (iii) To display the details of those items whose Supplier code (Scode) is 22 or Quantity in Store (Qty) is more than 110 from the table STORE
 - (iv) To display minimum rate of items for each Supplier individually as per Scode from the table STORE.
12. (i) Write any two uses of Internet. (2)
- (ii) Differentiate between the terms Internet and Intranet. (2)

OR

- (i) What is the difference between packet and message switching ? (2)
 - (ii) Write any two difference between twisted pair-cable and coaxial cable ? (2)
13. Trine Tech Corporation (TTC) is a professional consultancy company. The company is planning to set up their new offices in India with its hub at Hyderabad. As a network adviser, you have to understand their requirement and suggest them the best available solutions. Their queries are mentioned as (i) to (iv) below : (4)

Physical locations of the blocks of TTC



Block to block distance (in m)

Block (from)	Block (To)	Distance
Human Resource	Conference	110
Human Resource	Finance	40
Conference	Finance	80

Expected number of computers

Block	Computers
Human Resource	25
Finance	120
Conference	90

- (i) Which will be the most appropriate block, where TTC should plane to install their server ?
- (ii) Draw a block to block cable layout to connect all the buildings in the most appropriate manner for efficient communication.
- (iii) What will be the best possible connectivity out of the following, you will suggest to connect the new set up of offices in Bangalore with its London based office.
 - Satellite Link
 - Infrared
 - Ethernet
- (iv) Which of the following device will be suggested by you to connect each computer in each of the buidlings ?
 - Switch
 - Modem
 - Gateway