

Revision Exam Question Paper -SET-3

XII-COMPUTER SCIENCE (083)

Time allowed: 2 hours

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.

(SECTION A)

Each question carries 2 marks

- Q1. Differentiate between push and pop in stacks. (2)
- Q2. (i) Expand the following: (1)
FTP, TCP/IP
(ii) What is the approximate bandwidth of a typical voice signal? (1)
- Q3. Which SQL logical operator allows the existence of multiple conditions in an SQL statement's WHERE clause? (1)
Which SQL logical operator is used to compare a value to any applicable value in the list as per the condition? (2)
- Q4. Which method of the Cursor Class is used to execute an SQL statement? What does the cursor() do? (2)
- Q5. Write the output of the queries (a) to (d) based on the table SCHOOLADMIN, given below: (2)

ADMNO	NAME	STREAM	DOB	PHONE	SECTION
101	Srishti B	Business Admin	2005-05-12	1234322934	NULL
102	Aman Pratap	Sciences	2005-11-02	671343224	B
103	Shivam	Sciences	2006-01-23	511343224	A
104	Banita	Business Admin	2005-10-12	132412934	NULL
105	Myra	Fine Arts	2005-07-01	124455931	C
106	Raghav	Humanities	2005-06-05	42155931	D
107	Medini	Fine Arts	2005-09-05	512155931	C

108	Udai Veer	Sciences	2006-11-25	551343224	B
109	Gaurav	Legal Studies	2005-03-15	321155931	NULL

- a) SELECT Max(DOB) FROM SCHOOLADMIN;
b) SELECT Name FROM SCHOOLADMIN WHERE STREAM!="Business Admin" AND SECTION IS NULL;
c) SELECT count(NAME) FROM SCHOOLADMIN WHERE SECTION IS NOT NULL;
d) SELECT count(NAME) FROM SCHOOLADMIN WHERE SECTION IS NOT NULL AND STREAM="FINE ARTS";

Q6. (i) Which clause aggregates the base data? (2)

Which clause filters the aggregated data?

(ii) What is a natural join? (2)

Q7. Consider the tables **GSTCategory** and **Store_Items** given below:

(a) Table: **GSTCategory**

CategoryID	Category_Name	GST
Cat1	Fresh Dairy	0
Cat10	DryFruit Cat1	5
Cat11	DryFruit Cat2	5
Cat12	Spice Cat 2	5
Cat13	Packaged Fat	12
Cat14	Packaged Oil	12
Cat15	DryFruit Cat2	12

Table Store_Items:

Item_Id	Item_Name	Item_Brand	CategoryID	Price	Unit
1010	Milk	Verka	Cat1	20	litre
1012	Curd	Amul	Cat1	50	kg
1003	Lassi	Vita	Cat1	30	litre
1024	Chaach	Amul	Cat1	20	litre
1006	Eggs	None	Cat2	48	dozen
1007	Gur	None	Cat3	40	kg
1008	Honey	None	Cat3	200	litre
1009	Salt	None	Cat4	21	kg

- (a) Identify the degree and cardinality of the GSTCategory table.
- (b) Which field will be considered the foreign key if the tables GSTCategory and Store_Items: are related in a database?

(SECTION B)

Each question carries 3 marks

- Q8.** Competent Couriers take user input for the name, address and phone number of the receiver and store these in a tuple which is then pushed to a stack called parcelstock. Write a program, with separate user defined functions to perform the following operations: (3)
- Push the details(name, address, phone) into a stack using the function Push(parcelstock,details).
 - Pop and display the content of the stack
- Q9.** (i) Write the SQL statement to add a field Country_Code(of type Integer) to the table Countries with the following fields. **Country_id, Country_name, Continent, Region_id**
- (ii) Which of the following is not a DML command?

DELETE FROM, DROP TABLE, CREATE TABLE, INSERT INTO

- Q10.** Sahil wants to create a database HARDWARE which has a table RENTAL. He wants to make sure that city name is unique and no field is left empty in the table. Write the SQL commands for the fields given below.

RENTAL_ID	INT	PRIMARY KEY
RENTAL_DATE	DATETIME	NOT NULL
INVENTORY_ID	VARCHAR(6)	NOT NULL
CUSTOMER_ID	VARCHAR(6)	NOT NULL
RETURN_DATE	DATETIME	NOT NULL
CITY	VARCHAR(6)	UNIQUE NOT NULL

(SECTION C)

Each question carries 4 marks

- Q11.** The table FLIGHT_BAGGAGE shows data about the number of baggage , total weight in kg for baggage and cost per extra kg for different classes. The PASSENGER table shows the passengers with extra baggage weight. Using the information given below write the SQL query for a)-d) (4)

TABLE FLIGHT_BAGGAGE

PAXCODE	PAX_CLASS	BA	TKGA	CPEKG
101	FIRST	3	90	300
102	BUSINESS	3	80	300

103	ECOPLUS	2	50	400
104	ECONOMY	2	40	500
105	SPECIAL	4	100	400

TABLE PASSENGER

NO	NAME	TRAVELDATE	EKG	PAXCODE	NOB
11	Ridhima Sen	2019-12-13	10	101	3
13	Gary Sandhu	2019-12-21	15	103	3
15	Ganesh V	2019-12-23	8	102	2
12	Salim Malik	2019-11-13	15	102	3
17	Geralene N	2019-12-10	11	104	2
14	Venkatesh	2019-11-28	8	105	4
16	Saed Bajwa	2019-11-06	20	101	3

BA-Bags Allowed

TKGA- Total Kilograms Allowed

EKG- Extra KG

CPEKG- Cost per extra KG

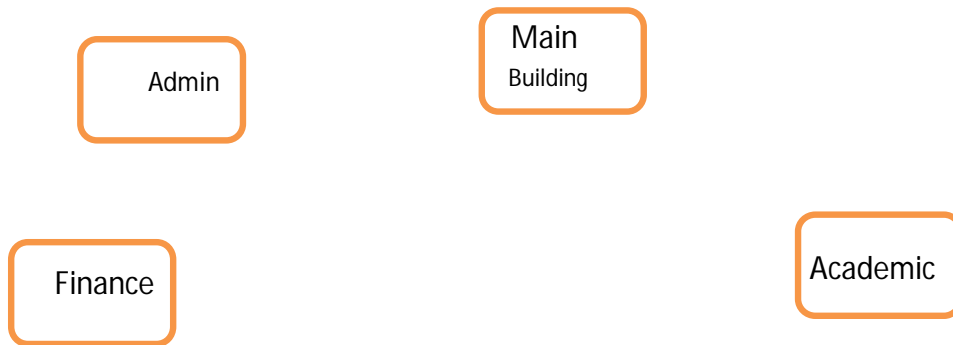
NOB- Number of Bags

- Write an SQL statement to display NO,NAME,TRAVELDATE from the table PASSENGER in descending order of NO.
- Write an SQL statement to display all the classes from table FLIGHT_BAGGAGE where weight allowed is more than 75 Kg
- Write an SQL statement to display the PAXCODE and their number from PASSENGER table, grouped by the PAXCODE more than 1 in number.
- Write an SQL statement to display the PAXCODE, NAME, PAX_CLASS from both tables where Extra KG is more than 10

Q12. (i) What are five Components of Data Communication? (4)

(ii) Differentiate between a Hub and a Switch.

Q13. National Centre for Indigineous Arts has just set up a new campus and they want to set up a Local area network. (4)



The distances between various buildings of university are given as:-

Main to Admin	50mtr
Main to Finance	100 mtr
Main to Academic	70 mtr
Admin to Finance	50 mtr
Finance to Academic	70 mtr
Admin to Academic	60 mtr

Number of computers in each building:-

Main Building	150
Admin Building	75
Finance Building	50
Academic Building	60

As a network expert, you are required to give best possible solutions for the given queries of the university administration:-

- Suggest cable layout for the connections between the various buildings,
- Suggest the most suitable building to house the server of the network of the university,
- Suggest the placement of following devices with justification:
 - Switch/Hub
 - Repeater
- Suggest the technology out of the following for setting-up very fast Internet connectivity among buildings of the university
 - Optical Fibre
 - Coaxial cable
 - Ethernet Cable