KENDRIYA VIDYALAYA SANGATHAN AGRA REGION

Term-II Pre- Board Exam-2021-22

COMPUTER SCIENCE (083)

CLASS:XII

Maximum Marks: 35   **Time Allowed: 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 and 12.

Q.No.	Section -A	Marks Allocated
1.	What is Stack? Write any one application of Stack?	2
2.	(i) Name the device used for security of a Network.	1
	(ii) Name the connector used to connect the computer with LAN.	1
3.	Choose correct DDL,DML,DCL and TCL commands from the following:- INSERT INTO, SELECT, COMMIT, GRANT, SAVEPOINT, REVOKE, ROLLBACK, CREATE, UPDATE, DELETE,ALTER,ADD	2
4.	Define Constraints in data base with suitable example.	2
5.	Write SQL commands on the basis of table HOSPITAL **Table: HOSPITAL**	2

Write SQL commands on the basis of table HOSPITAL

Table: HOSPITAL

P_No	Name	Age	Department	Dateofadmin	Fee
1256	Arpit	62	Surgery	21/01/06	300
8790	Zayana	18	ENT	12/12/05	250
1254	Kareem	68	Orthopaedic	19/02/06	450
1300	Abhilash	26	Surgery	24/11/06	300
1824	Dhanya	24	ENT	20/10/06	350

	(i) To add a new column as Address of type characters in table HOSPITAL. (ii) Create a new table named PDATA having column Name, Age, Department and fee from existing table HOSPITAL.	
6.	Arvind is learning MySQL for managing different databases and tables for his Python based application/software. Tell him the SQL commands for the following:- (i) How to show pre-existing databases. (ii) How to use a desired database.	2
7.	Write the answers on the basis of table **PRODUCT** **Table: PRODUCT** (table below) (i) Write the names of most appropriate columns, which can be considered as Primary Key in table **PRODUCT** and justify your answer. (ii)What is the degree and cardinality of the table **PRODUCT**? **OR** **Table: SUPPLY** (table below) (i) Write the names of most appropriate columns, which can be considered as Candidate Key in table **PRODUCT** and justify your answer.	2

Table: PRODUCT

Pno	Pname	Qty	PurchaseDate
101	Pen	102	12-12-2011
102	Pencil	201	21-02-2013
103	Eraser	90	09-08-2010
109	Sharpener	90	31-08-2012
113	Clips	900	12-12-2011

Table: SUPPLY

Cname	Pno	Qtysold
M/S Rajeev Enterprises	101	50
M/S Vinod Fittings	102	100
M/S Pooja Traders	103	30
M/S Jagat Suppliers	109	60
M/S New Raj Enterprises	113	630

	(ii) Write the type of key which can be given for the identical columns in table **PRODUCT** and **SUPPLY**.	
	Section-B	
8.	Avni is trying to connect Python with MySQL for her project. Help her to write the python statement on the following:- (i) Name the library, which should be imported to connect MySQL with Python. (ii)Name the function, used to run SQL query in Python. (iii) Write Python statement of connect function having the arguments values as : **Host name :192.168.11.111** **User : root** **Password: Admin** **Database : MYPROJECT** **OR** (i) Raju's tutor has given instructions to write a table in MySQL as given below. Help him to get the solution. ● Name of the relation should be **Employee** ● Column name with data type as : ▢ **Empid** ,integer value and set constraint as Primary Key ▢ **Empname**, which can hold at least 20 characters ▢ **Empdesig**, which can hold at least 15 variable characters ▢ **Empsal**, which can hold decimal value in the format (4,2)	3
9.	Write a function push (student) and pop (student) to add a new student name and remove a student name from a list student, considering them to act as PUSH and POP operations of stack Data Structure in Python.	3
10.	Give the output of the following SQL statements using table **CLUB.**	3

Table : CLUB

CID	CNAME	AGE	GENDER	SPORTS	PAY	DOAPP
5246	AMRITA	35	FEMALE	CHESS	900	27/03/2006
4687	SHYAM	37	MALE	CRICKET	1300	15/04/2004
1245	MEENA	23	FEMALE	VOLLYBALL	1000	18/06/2007
1622	AMRIT	28	MALE	KARATE	1000	05/09/2007
1256	KRISHNA	36	MALE	CHESS	1100	15/08/2003
1720	MANJU	33	FEMALE	KARATE	1250	10/04/2004

2321	VIRAT	35	MALE	CRICKET	1050	30/04/2005

(i) SELECT CNAME FROM CLUB WHERE SPORTS="CHESS";

(ii) SELECT NAME,AGE, FROM CLUB WHERE AGE BETWEEN 25 AND 35;

(iii) SELECT COUNT(DISTINCT SPORTS) FROM CLUB;

(iv) SELECT MIN(AGE) FROM CLUB WHERE GENDER="FEMALE";

(v) SELECT SUM(PAY) FROM CLUB WHERE DOAPP<"30/04/2005";

(vi) SELECT CNAME,AGE FROM CLUB WHERE GENDER="MALE" ORDER BY AGE DESC;

Section- C

11.

Consider the following tables BOOKS and ISSUED. Write SQL commands for the statements (i) to (iv).

Table: BOOKS

BID	BNAME	AUNAME	PUBNAME	PRICE	TYPE	QTY
COMP11	LET US C	YASHWANT	ARIHANT	350	COMPUTER	15
GEOG33	INDIA MAP	RANJEET P	ATLAS	150	GEOGRAPHY	20
HIST66	MODERN HISTORY	R BALA	GAMMA	210	HISTORY	25
COMP12	MY FIRST C++	VINOD DUA	WHITE BIRD	330	COMPUTER	18
LITR88	MY DREAMS	ARVIND AD	TIGERWOOD	470	NOBEL	24

Table: ISSUED

BID	QTY_ISSUED
HIST66	10
COMP11	5
LITR88	15

(i) Display book name and author name and price of computer type books.

(ii) To increase the price of all computer books by 50.

(iii) Show the details of all books in ascending order of their prices.

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	(iv) To display book id, book name and quantity issued for all books which have been issued.	
12.	(i) Name a network topology, which is used to maximize speed and make each computer independent of network. (ii) Suggest a switching technique in which the information is transferred using Store and Forward mechanism. **OR** What is the difference between MAC and IP address?(any two on each) (iii) Expand the following:- (a) WLL (b) ARPANET (c) CSMA (d) DNS	2 2
13.	Polymath IT Infrastructure Limited has set up its new center in Dubai. It has four buildings as shown in the diagram given below: **Distances between various buildings are as follows:** | Accounts to Research Lab	55 m
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Accounts to Store	150 m
Store to Packaging Unit	160 m
Packaging Unit to Research Lab	60 m
Accounts to Packaging Unit	125 m
Store to Research Lab	180 m		4

Number of Computers

Accounts	25
Research Lab	100
Store	15
Packaging Unit	60

As a network expert, provide the best possible answer for the following queries:

(i) Suggest a cable layout of connections between the buildings.

(ii) Suggest the most suitable place (i.e. buildings) to house the server of this organization.

(iii) Suggest the placement of the following device with justification:

    (a) Repeater   (b) Hub/Switch

(iv) Which fast and very effective wire based transmission medium should preferably be used to connect the buildings for their web-based activities?

*****END OF QUESTION PAPER*****