

Pratap Public School, Karnal

(Set-A)

TERM-II Practice Test-1

Class-XII

Subject – Computer Science (083)

Time: 2 Hrs.

Max. 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			
Q. No	Part No.	Question	Marks
1.		What is Stack ? Why is it called LIFO data structure?	(2)
2.	(i)	Expand the following: VoIP , IRC	(1)
	(ii)	Out of the following, which is the fastest wired and wireless medium of transmission? Infrared, coaxial cable, optical fibre, microwave, Ethernet cable	(1)
3.		What is the difference between Primary Key and Candidate Key ?	(2)
4.		A resultset is extracted from the database using the cursor object (that has been already created) by giving the following statement. <code>Mydata=cursor.fetchone()</code> (a) How many records will be returned by fetchone() method? (b) What will be the datatype of Mydata object after the given command is executed?	(2)

5.

Write the output of the queries (a) to (d) based on the table, Furniture given below:

Table: FURNITURE

FID	NAME	DATEOFPURCHASE	COST	DISCOUNT
B001	Double Bed	03-Jan-2018	45000	10
T010	Dining Table	10-Mar-2020	51000	5
B004	Single Bed	19-Jul-2021	22000	0
C003	Long Back Chair	30-Dec-2016	12000	3
T006	Console Table	17-Nov-2019	15000	12
B006	Bunk Bed	01-Jan-2021	28000	14

- (a) `SELECT AVG(DISCOUNT) FROM FURNITURE WHERE COST>15000;`
- (b) `SELECT MIN (DATEOFPURCHASE) FROM FURNITURE;`
- (c) `SELECT * FROM FURNITURE WHERE DISCOUNT>5 AND FID LIKE "T%";`
- (d) `SELECT DATEOFPURCHASE FROM FURNITURE WHERE NAME IN ("Dining Table", "Console Table");`

6.

(i) Which command is used to view the list of tables in a database? (1)

(ii) Give one point of difference between an equi-join and a natural join. (1)

7.

Consider the table, MOVIEDetails given below:

Table: MOVIEDetails

MOVIEID	TITLE	LANGUAGE	RATING	PLATFORM
M001	Minari	Korean	5	Netflix
M004	MGR Magan	Tamil	4	Hotstar

(2)

M010	Kaagaz	Hindi	3	Zee5
M011	Harry Potter and the Chamber of Secrets	English	4	Prime Video
M015	Uri	Hindi	5	Zee5
M020	Avengers: Endgame	English	4	Hotstar

- (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 **MOVIEDETAILS**.
 (b) Consider the table **SCHEDULE** given below:

Table: SCHEDULE

SLOTID	MOVIEID	TIMESLOT
S001	M010	10 AM to 12 PM
S002	M020	2 PM to 5 PM
S003	M010	6 PM to 8 PM
S004	M011	9 PM to 11 PM

Which field will be considered as the foreign key if the tables **MOVIEDETAILS** and **SCHEDULE** are related in a database?

SECTION – B

Each question carries 3 marks

8. Write functions in python, `do_push (Num)` and `do_pop (Num)` to add a new number and delete a number from a list of Numbers , considering them to act as push and pop operations of the Stack data structure. (3)

OR

Write a function in python , INSERT_QUEUE (List1) that accepts data from the user and performs insertion and DELETE_QUEUE (List1) to perform delete operation in a Queue. List1 is the list used for implementing queue and data is the value to be inserted.

9. (i) A table, **PRODUCT** has been created in a database with the following fields:

P_ID, PRODUCTNAME, MANUFACTURE, PRICE

Give the SQL command to add a new field, **DATEOFEXP** (of type Date) to the **PRODUCT** table.

(1)

(ii) Categorize following commands into DDL and DML commands?

CREATE TABLE, INSERT INTO, ALTER TABLE, UPDATE . . . SET

(2)

10. Charu has to create a database named **MYEARTH** in MySQL. She now needs to create a table named **CITY** in the database to store the records of various cities across the globe. The table **CITY** has the following structure:

Table: CITY

FIELD NAME	DATA TYPE	REMARKS
CITYCODE	CHAR(5)	Primary Key
CITYNAME	CHAR(30)	
SIZE	INTEGER	

(3)

AVGTEMP	INTEGER	
POLLUTIONRATE	INTEGER	
POPULATION	INTEGER	

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 tables **EMPLOYEE** and **DEPARTMENT** given below:

(4)

Table: EMPLOYEE

EMPID	NAME	DOB	DEPTID	DESIG	SALARY
120	Alisha	23-Jan-1978	D001	Manager	75000
123	Nitin	10-Oct-1977	D002	AO	59000
129	Navjot	12-Jul-1971	D003	Supervisor	40000
130	Jimmy	30-Dec-1980	D004	Sales Rep	
131	Faiz	06-Apr-1984	D001	Dep Manager	65000

Table: DEPARTMENT

DEPTID	DEPTNAME	FLOORNO
D001	Personal	4
D002	Admin	10
D003	Production	1
D004	Sales	3

- (a) To count the number of supervisors in the organization.
 (b) To display name and respective department name of each employee whose salary is more than 50000.

		<p>(c) To display the maximum salary of employees in each department.</p> <p>(d) To display DEPTID from the table EMPLOYEE without repetition.</p>													
12.	(i)	<p>Give two advantages and two disadvantages of star topology</p> <p style="text-align: center;">OR</p> <p>Define the following terms: Repeater , Bandwidth</p>	(2)												
	(ii)	<p>Differentiate between web server and web browser. Write any two popular web browsers.</p>	(2)												
13.		<p>Kia Corporation has set up its new centre at Mumbai, Maharashtra for its office and web-based activities. It has 4 blocks of buildings.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <p style="text-align: center;">Kia Corporation</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="border: 1px solid black; padding: 5px; margin: 5px;">Block A</div> <div style="border: 1px solid black; padding: 5px; margin: 5px;">Block B</div> </div> <div style="display: flex; justify-content: space-around; align-items: center; margin-top: 20px;"> <div style="border: 1px solid black; padding: 5px; margin: 5px;">Block C</div> <div style="border: 1px solid black; padding: 5px; margin: 5px;">Block D</div> </div> </div> <p>Distance between the various blocks is as follows:</p> <table style="margin-left: 40px;"> <tr><td>A to B</td><td>40 m</td></tr> <tr><td>B to C</td><td>120m</td></tr> <tr><td>C to D</td><td>100m</td></tr> <tr><td>A to D</td><td>170m</td></tr> <tr><td>B to D</td><td>150m</td></tr> <tr><td>A to C</td><td>70m</td></tr> </table> <p>Numbers of computers in each block Block A - 25</p>	A to B	40 m	B to C	120m	C to D	100m	A to D	170m	B to D	150m	A to C	70m	(4)
A to B	40 m														
B to C	120m														
C to D	100m														
A to D	170m														
B to D	150m														
A to C	70m														

Block B - 50

Block C - 125

Block D - 10

- (a) Suggest and draw the cable layout to efficiently connect various blocks of buildings within the Mumbai centre for connecting the 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 Mumbai 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 Mumbai?

Pratap Public School, Karnal

(Set-B)

TERM-II Practice Test-1

Class-XII

Subject – Computer Science (083)

Time: 2 Hrs.

Max. 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

1. Give any two characteristics of queues. (2)

2. a) Expand the following: (1)
VoIP , CDMA

b) Out of the following, which is the fastest wired and wireless medium of transmission? (1)

Infrared, coaxial cable, optical fibre, microwave

3. What do you understand by Foreign Key in a table? Give a suitable example of Foreign Key from a table containing some meaningful data. (2)

4. What are the basic steps to connect with MYSQL using table Members? (2)

5. Write the output of the queries (a) to (d) based on the table, Furniture given below: (2)

Table: FURNITURE

FID	NAME	DATE OF PURCHASE	COST	DISCOUNT
B001	DOUBLE BED	03-JAN-2018	44000	10
T010	DINNING TABLE	10-MAR-2020	49000	05
B004	SINGLE BED	19-JUL-2021	21000	00
C003	LONG BACK CHAIR	30-DEC-2016	15000	06
T006	CONSOLE CHAIR	15-NOV-2019	12000	12
B006	BUNK BED	01-JAN-2021	28000	14

- (a) `SELECT AVG(DISCOUNT) FROM FURNITURE
WHERE COST<15000;`
- (b) `SELECT MIN(DATEOFPURCHASE) FROM FURNITURE
WHERE DISCOUNT<=10;`
- (c) `SELECT * FROM FURNITURE
WHERE DISCOUNT>5 AND FID LIKE "T%";`
- d) `SELECT NAME, DATEOFPURCHASE FROM FURNITURE WHERE NAME IN
("Dining Table", "Console Table");`
6. a) What is NULL value? (1)
b) How can you eliminate duplicate records in a table with select query? (1)
7. Consider the table, **MOVIEDETAILS** given below: (2)

Table : PASSENGERS

PNR	TNO	PNAME	GENDER	AGE	TRAVELDATE
P001	13005	R N AGRAWAL	MALE	45	2018-12-25
P002	12015	P TIWARY	MALE	28	2018-11-10
P003	12015	S TIWARY	FEMALE	22	2018-11-10
P004	12030	S K SAXENA	MALE	42	2018-10-12
P005	12030	S SAXENA	FEMALE	35	2018-10-12
P006	12030	P SAXENA	FEMALE	12	2018-10-12
P007	13005	N S SINGH	MALE	52	2018-05-09
P008	12030	J K SHARMA	MALE	65	2018-05-09
P009	12030	R SHARMA	FEMALE	58	2018-05-09

- (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 from the table PASSENGERS
(b) What will be the domain for the field GENDER?

8. Mohan has created a dictionary containing names and marks as key value pairs of 5 students. Write a program, with separate user defined functions to perform the following operations: (3)

- Push the keys (name of the student) of the dictionary into a stack, where the corresponding value (marks) is less than or equal to 60.
- Pop and display the content of the stack. For example:

If the sample content of the dictionary is as follows:

R={"RAM":86, "AJAI":55, "BOBY":98, "BALI":56, "MANJU":90}

The output from the program should be:

AJAI BALI

OR

SHUBHAM has a list containing 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 ODD numbers into a stack.
- Pop and display the content of the stack.

For Example:

If the sample Content of the list is as follows:

N=[12, 13, 34, 56, 21, 79, 95, 22, 35, 38]

Sample Output of the code should be:

35 95 79 21 13

9. a) A table, **STOCK** has been created in a database with the following fields: (1)
ITEM_CODE, ITEM_NAME, QTY, PRICE, AMOUNT

Give the SQL command to add a new field, **DISCOUNT** (of type Integer) to the **STOCK** table.

- b) Categorize the following as DML and DDL Commands: (2)
SELECT, INSERT, CREATE, UPDATE, ALTER, DELETE, DROP

10. DIVYA has to create a database named **MYCOUNTRY** in MYSQL. (3)
She now needs to create a table named **CITY** in the database to store the records of

various cities across the globe. The table CITY has the following structure:

FIELD NAME	DATA TYPE	REMARKS
C_CODE	CHAR(8)	PRIMARY KEY
C_NAME	CHAR(25)	
AREA	INTEGER	
POPULATION	INTEGER	

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

Section C

Each question carries 4 marks

11. Consider the following tables Client and Bill. Write SQL commands for the statements (i) to (iv) (4)

Table : Client

Cust_Id	Cust_Name	Address	Phone_no	City
C007	Pritam Sharma	12,M.G Road	71274250	Bangalore
C008	Sutopa	14/1 Pritam Pura	41206819	Delhi
C010	Anurag Basu	15A, Park Road	61281921	Kolkata
C012	Hrithik	7/2 Vasant Kunj	26121949	Delhi
C013	Firoz Shah	2, Servamali road	25014192	Bangalore
C025	Vinod Nagpal	46-a Navi Mumbai	64104944	Mumbai
C027	Sameer	41,Dwarka	42101619	Delhi
C002	Pasunjit Bose	16/A K.G Marg	27220012	Bangalore
C035	Aamina Begum	13/A Versova	41612181	Mumbai

Table : BILL

Ord_id	Cust_id	Item	Ord_date	Qty	Price
7002	C007	Pizza	20-11-07	1	249.50
7003	C013	Garlic Bread	24-10-05	3	75.75
7004	C012	Pasta	03-03-07	4	173.00
7005	C010	Ice Cream	01-01-08	30	195.75
7006	C035	Pizza	02-03-06	4	249.50
7009	C035	Garlic Bread	02-03-08	2	75.75
7010	C013	Brownie	04-05-07	4	40.50
7011	C014	Ice Cream	02-06-08	5	195.75
7012	C002	Pizza	01-02-08	7	249.50

- (i) Display a report containing cust_id, cust_name, Item, qty, price and bill amount. Bill amount is calculated as the sum of qty*price
- (ii) Display how many customers have ordered Pizza in the month of March.
- (iii) Count the number of customer who have ordered item worth more than 1700. Total amount = sum of qty* price
- (iv) Display the name of customer along with their city in alphabetical order of city

12. a) Give two advantages and two disadvantages of network (2)

OR

What is protocol? Name some commonly used protocols.

b) How is FTP different from HTTP? (2)

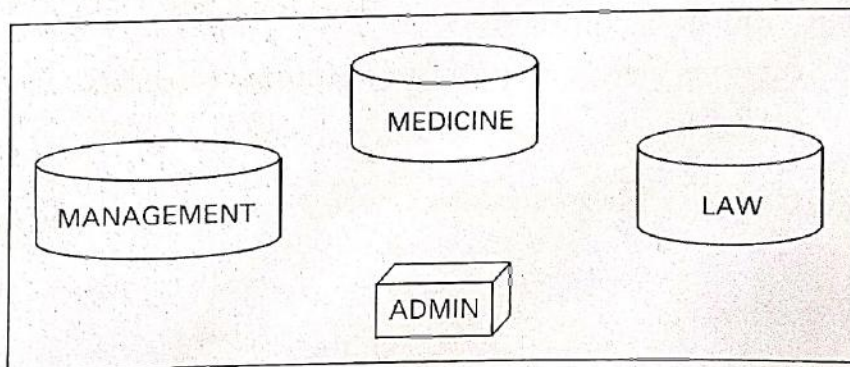
13. Jonathan and Jonathan Training Institute is planning to set up its centre in Amritsar with four specialised blocks for Medicine, Management, Law courses alongwith an Admission block in separate buildings. The physical distances between these blocks and the number of computers to be installed in these blocks are given below. You as a network expert have to answer the queries as raised by their board of directors as given in (i) to (iv). (4)

Shortest distances between various locations in metres :

Admin Block to Management Block	60
Admin Block to Medicine Block	40
Admin Block to Law Block	60
Management Block to Medicine Block	50
Management Block to Law Block	110
Law Block to Medicine Block	40

Number of Computers installed at various locations are as follows :

Admin Block	150
Management Block	70
Medicine Block	20
Law Block	50



- a) Suggest the most suitable location to install the main server of this institution to get efficient connectivity.
- b) Suggest the devices to be installed in each of these buildings for connecting computers installed within the building out of the following :
- i. Modem
 - ii. Switch
 - iii. Gateway
 - iv. Router
- c) Suggest by drawing the best cable layout for effective network connectivity of the blocks having server with all the other blocks.
- d) Suggest the most suitable wired medium for efficiently connecting each computer installed in every building out of the following network cables :
- i. Co-axial Cable
 - ii. Ethernet Cable
 - iii. Single Pair Telephone Cable
