

Sample Question Paper

Informatics Practices (Code:065)

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 – 1, 3, 8 and 12.

Section – A

Each question carries 2 marks.

1. **PREM CHURIWALA**, Executive manager of '**Purulia Finance Company**', recently discovered that the communication between his company's accounts office and HR office is extremely slow and signals drop quite frequently. These offices are 130 meters away from each other and connected by an Ethernet cable. (2)
- (i) Suggest him a device, which can be installed in between the offices for smooth communication.
- (ii) What type of network is formed by having this kind of connectivity out of LAN, MAN and WAN?
- OR**
- ANANYA SARKAR** of **Balarampur, Purulia** is learning about network topologies. Identify the following topologies to help her:
- (i) A signal/data packet transmits from one end to other end in linear way.
- (ii) Node failure does not lead to whole network failure.
2. Answer the following questions: (2)
- (i) **SANJANA SEN** of **Purulia** is not able to identify the Domain Name in the given URL. Identify and write it for her.

<http://www.cbse.nic.in/start.htm>

(ii) Write one advantage of using 'Star topology' over 'Bus topology'.

3. **HARSH AGARWAL** has created a table named '**Actor**' which contains a field called **aname**. (2)

Write MySQL queries for the followings:

- (i) To show all the names of the actors which contain the string 'ch' in it.
 (ii) To display all the names of the actors which contain exactly 5 characters and also the second character is 'o' (such as Gopal or Mohan).

OR

Given a table named '**Cricket**' below:

PID	PNAME	MATCHES
P01	OHM MISHRA	296
P06	KUSHAL SINGHANIA	245
P07	ANIKET THAKUR	162
P10	VANSH PODDAR	197
P13	NIHAL AGARWAL	182
P14	ANISH CHURIWALA	202
P18	ADARSH RAJGARIA	287

Based on the above table, identify with reasons the incorrect MySQL commands from the followings:

DELETE * FROM Cricket;

DELETE FROM Cricket WHERE Matches >= 250;

DELETE FROM Cricket;

DELETE Pid, PName, Matches FROM Cricket WHERE PName LIKE 'A%';

4. **HARSH SARAOGI** and **YASH LOHARIWAL** are learning about the network devices. But they are confused about the fact that why a switch is called an intelligent hub. Find the answer to help the (2)

5. **PARTH SARATHI GUIN** of **AGPN School, Purulia** has created the following '**RECORD**' table: (2)

ROLL	NAME	AGE
06	ADITI DUTTA	17
10	PURWAK SINGHANIA	18
11	KOMAL AGARWAL	17
12	SNEHA KUMARI	18
19	NABANITA MAHATO	17
22	SHIVAM JAISWAL	18
27	ANKIT JAISWAL	18
32	PREETI MALL	17

Write down the output of the following commands:

- (i) SELECT LENGTH(MAX(Name)) FROM RECORD;

(ii) SELECT MAX(LENGTH(Name)) FROM RECORD;

6. **VANSHIKA AGARWAL** of **AGCS SCHOOL, PURULIA** is preparing for the upcoming Board's Term – II examination to be started from 26th of April 2022. In this connection she is learning about different clauses in MySQL. Help her to understand the purpose of GROUP BY clause. Also help her to understand with example that how it is different from ORDER BY clause. (2)
7. Table '**COACHING**' is shown below. Write commands in MySQL for questions (i) to (ii). (2)

ID	NAME	MARKS	CITY	FEE
P1	SAWASTIKA KARMAKAR	89	DELHI	45000
P2	RIMSHA NAAZ	93	MUMBAI	54000
P3	SNEHA MANDAL	88	CHENNAI	45000
P4	KHUSHI KATARUKA	90	MUMBAI	60000
P5	SWARNALI DEY	96	INDORE	34000
P6	TRIPTY KUIRY	89	DELHI	23000
P7	RIYA DAS	87	DELHI	21000
P8	ADITI SAW	80	MUMBAI	36000
P9	ANUSHKA ROY	84	MUMBAI	30000

- (i) Write a query to display name in descending order whose marks is more than 90.
 (ii) Write a query to find the average fee grouped by city from coaching table.

OR

Find the output of the following commands:

- (i) SELECT SUM(FEE) FROM COACHING WHERE CITY LIKE "%N%";
 (ii) SELECT NAME, CITY FROM COACHING GROUP BY CITY HAVING COUNT(*) >= 2;

Section – B

Each question carries 3 marks.

8. **KHUSHI SULTANIA** and **SHRUTI LOHARIWAL** have created the table '**BUSINESS**' given below. (3)
 Write MySQL commands for questions (a) to (c).

CODE	NAME	TYPE	CAPITAL	BANKLOAN	DATEOFSTART
B1001	VINAMRA AGARWAL	Textile	5500000	2500000	2010-06-24
B1005	VARSHA DUTTA	Medicine	4200000	NULL	2012-07-05
B1007	KANISHKA SULTANIA	Household	3700000	1700000	2011-01-30
B1003	NISHANT TIBREWAL	Automobile	8600000	3200000	2009-08-04
B1006	SWARNABI DEY	Electrical Goods	6000000	4500000	2012-01-15

- To count number of business persons whose bank loan is less than the half of the capital.
- To list the Name, Type and Dateofstart for all the business persons whose business is started in 2012.
- To display the name of the business persons and their capital who have started their business in the month of January.

OR

Based on the table '**BUSINESS**' given above write output for (a) to (c).

- SELECT Name, Bankloan FROM Business WHERE Month(Dateofstart) > Day(Dateofstart);
- SELECT Name, Capital FROM Business WHERE Bankloan BETWEEN 4500000 AND 6000000;
- SELECT Type, Capital FROM Business WHERE Type LIKE '%o%';

9. **DIPIKA AGARWAL** of **AGCS, PURULIA** requested her friend **RAJANYA MUKHERJEE** to tell answers of few questions regarding Single Row Function and Multiple Row Function in MySQL. What answers will be suggested for the given questions by **RAJANYA** to help **DIPIKA**? (3)
- Differentiate between Single Row Function and Multiple Row Function.
 - Name any two functions in each category.
 - Write two separate queries showing the use of both types of functions.

10. Consider the following table '**Employee**' created by **AMAN DIKSHIT**: (3)

No	Name	Salary	Zone	Age	Grade	Dept
1	CHANDAN KATARUKA	60000	West	28	A	10
2	BIKRAM MAHATO	65000	Central	30	A	10
3	RIK SINGH	62000	West	40	NULL	20
4	AYUSH PODDAR	68000	North	38	C	30
5	SOUVIK SENAPATI	62000	East	26	NULL	20
6	SATTYAM AGARWAL	67000	South	28	B	10
7	SNEHASHISH NAIK	66000	North	26	A	30

Based on this table write SQL statements for the following queries:

- To display the total salary for all the employees who are from west zone.
- To count no of employees without any grade.
- To display zone wise highest salary and lowest salary.

Section – C

Each question carries 4 marks.

- 11.** Predict the output of the following queries: (4)
- (i) `SELECT MID('MEGHA SINGHANIA' , 17%10 , 5%10);`
 - (ii) `SELECT YEAR(NOW()) + DAY(NOW()) + MONTH(NOW()) "New Column";`
 - (iii) `SELECT YEAR(NOW()) % MONTH(NOW());`
 - (iv) `SELECT ROUND(4635.217 , -3) + ROUND(6107.239, -3);`
 - (v) `SELECT SUBSTR('ANJALI JAISWAL' , INSTR('SUBHRA MANDAL' , 'MAN'));`
 - (vi) `SELECT MID("AYUSHI AGARWAL" , MOD(5 , 6) , LENGTH("AGCS"));`
 - (vii) `SELECT MOD(130.500 , 5) + ROUND(130.50 , 1);`
 - (viii) `SELECT MONTH(NOW()) + YEAR('2022-04-20') % 5;`
- 12. RUCHI KATARUKA** a student of class **XII commerce** has created the following '**PLAYER**' table (4)
showing the batting records of Indian players in 'One Day International' cricket matches.
Write SQL commands for (i) to (iv).

Table : PLAYER

PName	Matches	Innings	Notouts	Runs	Highest	Average	Hundreds	Fifties
ARYAK MANDAL	280	243	66	8936	183	50.48	8	61
DHRUB KOTHARI	176	168	25	7570	183	52.93	26	38
MOHIT SHARMA	126	87	NULL	1849	87	32.43	0	10
DIPAK RAJGARIA	153	147	23	5131	264	41.37	10	29
MAYANK LODHA	74	73	3	3078	137	43.97	9	17
YASH AGARWAL	102	58	NULL	658	65	16.45	0	1

- (i) To show all the details of the players having scored hundreds and not played matches less than 150.
- (ii) To display player's name, matches played, runs scored of those players who have remained not out and scored more than 5000 runs.
- (iii) To list player's name, runs and average in descending order of their highest score.
- (iv) To count the number of players who have scored both hundreds and fifties.

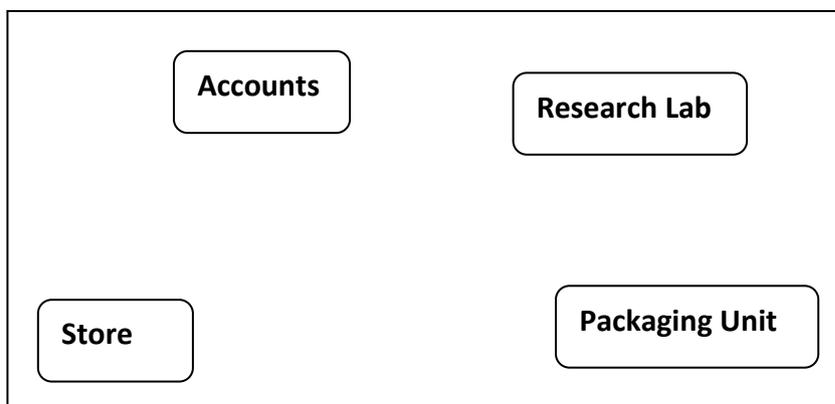
OR

Write output for the commands shown in questions (i) to (iv) on the basis of the table '**PLAYER**' given above:

- (i) `SELECT PName, Innings – Notouts "Total Outs" FROM Player WHERE Runs > 5000;`
- (ii) `SELECT PName, Runs FROM Player WHERE Fifties > (SELECT MAX(Hundreds) FROM Player);`

- (iii) SELECT PName, Hundreds, Fifties FROM Player WHERE Fifties > 2 * Hundreds;
 (iv) SELECT PName FROM Player WHERE Matches – Innings > 20;

13. 'METRO MEDICAL AND RESEARCH CENTER' of PURULIA has set up its new center in KOLKATA. (4)
 It has four buildings as shown in the diagram given below:



Distance between various buildings is as follows:

Accounts to Research Lab	55m
Accounts to Store	150m
Store to Packaging Unit	160m
Packaging Unit to Research Lab	60m
Accounts to Packaging Unit	125m
Store to Research Lab	180m

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:

- Suggest a cable layout of connections between the buildings.
- Suggest the most suitable place (i.e. buildings) to house the server of this organization.
- Suggest the placement of the following device with justification:
 - Repeater
 - Hub/Switch
- Suggest a system (hardware/software) to prevent unauthorized access to or from the network.

Sample Paper submitted by:

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