



**EEE CONSORTIUM
PREBOARD EXAMINATION (2021-22)**

**INFORMATICS PRACTICES (Code: 065)
SET I (Answer Key)**

Maximum Marks: 35

Time: 2 hours

General Instructions

1. The question paper is divided into 3 sections – A, B and C
2. Section A, consists of 7 questions (1-7). Each question carries 2 marks.
3. Section B, consists of 3 questions (8-10). Each question carries 3 marks.
4. Section C, consists of 3 questions (11-13). Each question carries 4 marks.
5. Internal choices have been given for question numbers – 1 , 3,7, 8 and 12.

SECTION – A

Each question carries 2 marks

1. Zara Basic is a fashion company with design unit and market unit 130 meters away from each other. The company recently connected their LANs using Ethernet cable to share the stock related information. But, after joining their LANs, they are not able to share the information due to loss of signal in between. Suggest a device out of Repeater and Router should be used for a smooth communication by clearly differentiating between Repeater and Router on at least two points. 2

OR

Lehar, a beginner in IT field has just started learning web technologies. Help her in understanding the difference between Star topology and Bus topology with the help of a suitable diagram of each.

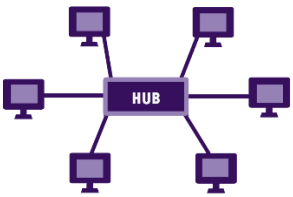
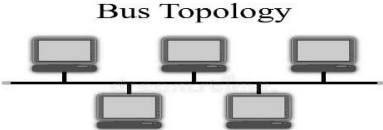
Answer:

Repeater

Router	Repeater
A Router is a communication device that is used to connect two different networks.	A Repeater is a communication device that is used to regenerate a signal.
Routers help the data packets to travel from source to destination over the best route possible.	Repeaters help signals to travel longer distances with the same strength or even at a higher power.

(1 mark for correct Identification of device and 1 mark for the differentiation)

OR

Star Topology	Bus Topology
Star topology is a topology in which all devices are connected to a central hub. ...	Bus topology is a topology where each device is connected to a single cable which is known as the backbone.
In star topology if central hub fails then whole network fails.	In Bus topology the failure of the network cable will cause the whole network to fail.
Star topology does not have any terminator.	Bus topology has a terminators at both end of the network.
Star topology has high implementation cost because of central hub and extra wires required for connection.	Bus topology is less expensive than star topology.
	

2. (i) Shubham wants to play a video in his browser but he is not able to do so. A message on the screen instructs him to install the Adobe Flash Player plug-in. Help him to add it in his browser. 1
- Ans :-**
TO ADD A PLUGIN into web browser, Shubham need to look for extensions store, which for example on Google Chrome, it is Chrome web store and for Opera, it is Opera Extension Store.
- After opening extensions store search Adobe Flash Player.
 - Then install or add Adobe Flash Player.
- This way Shubham can add Adobe Flash Player in his browser.**
(1 mark for correct explanation)
- (ii) What are cookies? 1
- Ans:**
Cookies are small text files stored on a user's computer and created and used by websites to remember basic information or to record the user's browsing activity.
In other words:-
(1 mark for correct explanation)
Cookies are messages that a web server transmits to a web browser so that the web server can keep track of the user's activity on a specific website. Cookies are saved in the form of text files in the client computer.
3. Give the output of the following commands: 2
- a) `select left(monthname(now()), length(day(now())));`
- Ans:**
Ja
1 Mark for the correct answer

b) Write a query to extract institute code from a string 'USS/23/67/09'. The first three characters tell the institute code.

Ans:

select right('USS/23/67/09',3);

1 Mark for the correct answer.

OR

Give commands for the following

a) Print the firstname in upper case and last name in lower case from the relation Student.

Ans:

Select upper(fname), lower(lname) from student;

Or

Select ucase(fname), lcase(lname) from student;

Or

Any other combination of these functions

(1 Mark for the correct command)

b) Using the relation Student, print a report showing the name of the student along with the marks scored and moderated marks. Moderated marks are calculated as marks +10.

Ans:

Select fname, marks, marks+10 'Moderated Marks' from student;

1 mark for the correct command

Note: The fields of the table are Rollno, FName, Lname, Marks, Result.

4. Yash is working as sale promoter in Trimax Corporation, He is right now in Sri Lanka, and wants to address to some of his subordinates. He wants to have meeting in which they can watch each other and also communicate with audio in real time Identify and explain the protocol used for this requirement. 2

Ans:

VoIP

VoIP stands for Voice over Internet Protocol. It is also referred to as IP telephony, internet telephony, or internet calling. It's an alternative to a public switched telephone network (PSTN). ... It is a means of making phone calls using an internet connection, rather than making a call using a landline.

(1 mark for correct Protocol and 1 mark for correct explanation)

5. Help Mr.Ali in Predicting the output of the following: 2

a. SELECT ROUND(234.7894,0) *5;

b. SELECT ROUND(234.7894,-2) *5;

Ans:

a.1175

b. 1000

(1 Mark for the correct output)

6. Shewani has recently started working in MySQL. Help her in understanding how to organize similar data into cluster.

Suggest suitable clause for it and properly explain its usage with the help of an example.

Ans:

The GROUP BY Clause is utilized in SQL with the SELECT statement to organize similar data into groups. It combines the multiple records in single or more columns using some functions. Generally, these functions are aggregate

functions such as min(),max(),avg(), count(), and sum() to combine into single or multiple columns.

(1 mark for correct explanation of Group by clause)

7. Ms. Kanan, a HR Manager in a multinational company “Star-X world” has created the following table **Infant** to store the records.

2

ItemCode	Item	DatePurchase	UnitPrice	Discount
101	Frock	2022-01-23	700	10
102	Cot	2022-09-23	5000	25
103	Soft Toy	2021-09-17	800	10
104	Baby Socks	2021-08-18	100	7
105	Baby Suit	2019-08-01	500	5

Predict the output for the following queries.

- Select Item from Infant where month (DatePurchase)=8;
- Select min(DatePurchase) from Infant;

OR

Based on the table given above, help Ms. Kanan writing queries for the following task:

- To display the items of DatePurchase which is before 2021-09-17.
- To display the ItemCode and Item whose purchase date is of month September.

Ans:

Item
Baby Socks
Baby Suit

min(DatePurchase)
2019-08-01

(1 mark for each correct output)

OR

Ans:

i.SELECT ITEM FROM INFANT WHERE DATEPURCHASE <"2021-09-17";

ii.SELECT ITEMCODE, ITEM FROM INFANT WHERE MONTH(DATEPURCHASE)=9;

(1 mark for each correct query)

SECTION – B

Each question carries 3 marks

8. Predict the output of the following queries:

3

- Select mod(power(11,3), 5);
- Select power(mod(11,3), 5);
- Select instr("situation",substr("examination", 7,2));

Ans:

OR

Using the table given below, answer the questions that follow:

TABLE : SALESPERSON

Code	NAME	SALARY	Item
1001	TANDEEP JHA	60000	Stationery
1002	YOGRAJ SINHA	70000	Electronics
1003	TENZIN JACK	45000	clothes
1005	ANOKHI RAJ	50000	Stationery
1004	TARANA SEN	55000	Cosmetics

i) Write a query to display the firstname (first part of the name before blank) of the salesperson.

Ans:

Select left(name, instr(name, ' ')) from salesperson;
(1 mark for the correct command)

ii) Write a query to display the names of those salesperson whose name is less than 12 characters long.

Ans:

Select name from salesperson where length(name)<12;
(1 mark for correct command)

iii) Write a query to display four characters from fifth position from the item field.

Ans:

Select mid(item,5,4) from salesperson;

OR

Select substr(item,5,4) from salesperson;

OR

Select substring(item,5,4) from salesperson;
(1 mark for correct command)

9.

Write the output of the following

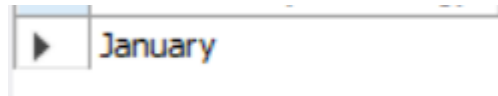
3

i. **SELECT MONTHNAME(CURDATE());**

ii. Explain the purpose of monthname()

iii. How many parameters does it accept.

Ans:



ii. The MONTHNAME() function returns the name of the month for a given date.

iii. 1 parameter - date-Required. The date or datetime value to extract the month name from

10.

While dealing with string data type in MySQL, it is observed that sometimes unnecessary space character comes, which hampers the successful execution of a string manipulation module. Name the suitable MySQL function(s) to remove leading, trailing and both type of space characters from a string. Also give MySQL queries to depict the same.

3

i. To remove leading space characters: **ltrim()**

ii. To remove trailing space characters: **rtrim()**

iii. To remove both type of space characters: **trim()**

Ans:

MySQL Queries:

i. **Select ltrim(' Hello ');**

ii. **Select rtrim(' Hello ');**

iii. **Select trim(' Hello ');**

(1/2 mark for each function and 1/2 mark for example)

SECTION – C

Each question carries 4 marks

11.

Using the table given below, answer the questions that follow:

4

‘Teacher’

T_no	Name	D_O_J	Net_sal	Grade	Subject
T098	Amita	1998/4/10	49000	PGT	Math
T023	Lalit	1992/9/22	39500	TGT	Chemistry
T193	Pankaj	1999/8/21	41000	PGT	Physics
T234	Harman	2001/12/2	28900	PRT	Physics
T077	Sadiq	1991/2/12	25000	PRT	Math
T089	Prita	2008/2/21	28900	PRT	Hindi
T290	Pooja	2010/1/10	47500	PGT	Math

- Display the name, net salary and subject of PGT teachers in descending order of salary.
- Display the total number of teachers along with the maximum salary for each subject.
- Display the name and number of years of experience of each teacher. Years of experience is to be calculated as the number of years the teacher has been working.
- Delete the record of teacher who joined before 1998.

Ans:

a)Select name, net_sal, subject from teacher where grade = ‘PGT’ order by net_sal desc;

1 mark for the correct command

b)Select count(*) , max(net_sal), subject from teacher group by subject;

1 mark for the correct command

c)Select name, year(now()) – year(D_O_J) ‘Experience’ from teacher;

1 mark for the correct command

d)Delete from teacher where year(D_O_J)< 1998;

OR

Delete from teacher where D_O_J like ‘1998-%’;

1 mark for the correct command

12.

Write the output for (i) to (iv) on the basis of Student table.

4

Table: Student

S_ID	SNAME	STREAM	CLASS	MARKS
1	Rohit	Arts	11	30.0
2	Anshu	Commerce	12	70.0
3	Arun	Arts	11	null
4	Babli	Commerce	11	85.0
5	Sonia	Science	12	null
6	Zubair	Science	12	90.0

- SELECT AVG(MARKS) FROM STUDENT;
- SELECT CLASS, SUM(MARKS) From STUDENT GROUP BY CLASS;
- SELECT STREAM, MAX(MARKS)FROM STUDENT GROUP BY STREAM HAVING MAX(MARKS)>80;
- SELECT SNAME ,marks from student where marks between 70 and 90 order by marks DESC.

OR

Based on the above given table named ‘Student’, Satyam has executed following queries:

Select count(*) from student;

Select count(MARKS) from student;

Predict the output of the above given queries. Also give proper justifications of the output generated through each query.

Ans:

AVG(MARKS)
100

CLASS	SUM(MARKS)
11	230
12	170

STREAM	MAX(MARKS)
COMMERC E	85
SCIENCE	90

1 mark for each correct output)

SNAME	MARKS
Zubair	90.0
Babli	85.0
Anshu	70

1 mark for each correct output)

OR

First query will produce the output 6.

Justification: count (*) will count and display total number of rows (irrespective of any null value present in any of the column).

Second query will produce the output 4.

Justification: count (col_name) will count and display total number of not null values in the specified column.

(1 Mark each for each correct output 1 Mark for correct justification)

13.

ABC Corporation is planning its web based activities in Shimla, Himachal Pradesh. The different blocks and the distance between the blocks is given along with the number of computers in each block. As a network advisor, you are required to help with the set up.

Distance between the blocks:

Block A to Block Z	180 mts
Block A to Block Y	200 mts
Block B to Block A	80 mts
Block Y to Block B	78 mts
Block Z to Block Y	134 mts
Block B to Block Z	90 mts

Number of computers in each block is given below:

Block A	280
Block B	35
Block Y	90
Block Z	190

4

Suggest a cable layout along with the topology to connect all the blocks together.

Ans:

Bus topology ½ mark for topology

Z - Y- B – A ½ mark for the correct layout

Suggest the placement of the server. Justify your answer.

Ans:

Server should be placed at Block A as the maximum number of computers are placed in that block.

½ mark for the correct block and ½ for the justification.

The company is planning on connecting its head office situated in Bangalore to the office in Shimla. Suggest a way to connect and justify your answer.

Ans:

Microwave as in hilly regions it is most suited.

½ mark for the medium and ½ for justification.

Suggest a device/software to be installed in the Shimla office to take care of data security.

Ans:

Firewall – 1 mark for the correct answer.
