Serial No. of Q. Paper	:	8109
Unique Paper Code	:	61018217
Name of the Paper	:	Internet and Java Programming
Name of the Course	:	B.Voc. (Web Designing)
Semester	:	II
Duration	:	3 Hours
Maximum Marks	:	75

Instructions for Candidates:

1. Write your roll no. on the top immediately on receipt of this question paper.
2. Section A is compulsory.
3. Attempt any Six Questions from Section B.
4. Parts of a question must be answered together.
5. Use of scientific calculator is allowed.

Section A

1. (a) Find Output /Errors of the following: 3

```
class Test
{
    public static void main(String[] args)
    {
        for(int i = 0; true; i++)
        {
            System.out.println("Welcome");
            break;
        }
    }
}
```

(b) Find Output /Errors of the following: 3

```
class Test
{
    private static int x;
    public static void main(String args[])
    {
        System.out.println(fun());
    }
    static int fun()
    {
        return x++;
    }
}
```

P.T.O.

(c) Find Output /Errors of the following: 3

```java
public class Main
{
    public static void f(String s)
    {
        System.out.println("String");
    }
    public static void f(Object o)
    {
        System.out.println("Object");
    }
    public static void main(String args[])
    {
        f(null);
    }
}
```

(d) Explain multilevel inheritance with suitable example. 3

(e) Draw transition diagram of Applet life cycle. 3

Section B

2. (a) Explain various hardware requirements to connect to the Internet. 5

(b) What is need of IP ADDRESS? Discuss different types of classes in IPV4. 5

3. (a) Why Java is called object oriented programming language. Discuss any two basic features of object oriented programming languages. 5

(b) Discuss method overloading in java with taking suitable example. 5

4. (a) Explain public and private access modifiers with suitable examples. 5

(b) Write Short notes on the following: 5
    i. this keyword
    ii. final Class

5. (a) Differentiate between parameterized and non-parameterized constructors. 5

(b) Write a java program to find sum of following series. 5
    sum=2+4+6+8+10+12...............n terms.

6. (a) Discuss life cycle of thread with suitable diagram. 5

(b) What do you mean by synchronization in multithreading. 5

7. (a) Write short notes on the following multithreading methods: 5
    i. sleep method
    ii. stop method

(b) Define different exceptions in java. Also discuss mechanism for exception handling. 5

8. (a) Write a java program to add two matrices of size 3X3. 5

(b) Discuss nested try statement with suitable example. 5

9. (a) Write Short notes on: 5
    i. Class variable
    ii. Instance variable

(b) Explain continue and break statements with suitable examples. 5

(g) Write the Situations where we can use GET Form Method and POST Form d? (3)

(h) Differentiate between index-based array and Associative array in PHP? (3)

(i) What will be the output of the code below? (3)

```
$x = 5;
echo    $x;
echo "<br />";
echo $x+++$x++;
echo "<br />";
echo $x;
echo "<br />";
echo $x---$x--;
echo "<br />";
echo $x;
```

(j) Write and Explain the output of below PITP Script? (3)

P.T.O.

```
<!DOCTYPE html>
    <html>
    <body>
    <?php
        $str = "Visit India";
        $pattern = "/india/i";
        echo preg_match($pattern, $str);
     ?>

    </body>
    < / html>
```

Section B

2. (a) Write a PHP Script to find the Second Minimum
        Element in an PHP array?   (7)

        Example : Input - 2 6 1 8 6 9 4

        Output - 2.

    (b) Write a Program in PHP to demonstrate
        Inheritance object oriented concept?   (5)

    (c) Write a PHP function that checks whether a given
        number N is positive or negative.   (3)

3. (a) Create a HTML form for Student Registration. Following fields must be present: (12)

> (i) Student Name
>
> (ii) Email Id
>
> (iii) Phone No
>
> (iv) Address
>
> (v) Age

Appropriate Form method must be used. On submission, data must be directed to a PHP Script where the data will get concatenated in a single string and printed on the browser.

(b) How can you Validate correct Email-Id and Phone No format in PHP Forms?   (3)

4. (a) Write a PHP Script using Regular Expression for below problem: (7)

How many letters in the text "Welcome to Kalindi College" are alphabetically between uppercase "T" and lowercase "z":

(Hint: use preg_match_all function)

P.T.O.

(b) Write use and advantage of regular expression library functions in PHP? (5)

(c) Write and Explain the output of below PHP Script? (3)

```php
<?php
$a = 100;
if ($a > 10)
    printf("PHP Quiz");
else if ($a > 20)
    printf("PHP MCQ");
else if($a > 30)
    printf("PHP Program");
?>
```

5. (a) Write a PHP Function to find the Mean, Mode and Median of an array element? (8)

Note : Function takes PHP array as an argument.

Return Associative array which stores the result.

(b) Explain Call by Value and Call by Reference in PHP Functions with example? (7)

3680

6. (a) Create a PHP script that shows a list of products in a simple e-commerce catalog. Each product will have a name, description, price and featured image. You can store the product data in an array, a JSON file or a database. The script should generate an HTML page that will display the product details in a user-friendly format. (12)

(b) Explain Object Oriented behaviour of PITP?

(3)

7. (a) How can you embed PHP code in an HTML page? (3)

(b) What do you understand about Numeric array, Associative array and Multidimensional array? Explain with help of example. (6)

(c) Name and define three scope levels in PHP? (3)

(d) What will be the output of the following PHP code? (3)

```php
<?php
function calc($price, $tax="") 3.   {
    $total = $price + ($price * $tax);
    echo "$total"; 6.  }
    calc(42);
?>
```

[This question paper contains 8 printed pages.]

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.

2. **Section A** is compulsory.

3. Attempt any **Four** Questions from **Section B.**

4. Parts of a question must be answered together.

5. Use of scientific calculator is allowed.

Section A

1. (a) Differentiate between the Truncate and Delete SQL commands with the help of suitable example.

    (3)

P.T.O.

(b) What do you understand by the referential integrity rule? Explain with the help of suitable example.

(3)

(c) In a database, the following relations exist:

EMPLOYEE(empno, empname, jobcode)

JOB(jobcode, jobdesc)

Identify the primary key and foreign key in the provided relations.

(3)

(d) Define the term candidate key with taking suitable example.

(3)

(e) Differentiate between weak and strong entities.

(3)

(f) Illustrate how a deletion anomaly can occur in a database with a suitable example.

(3)

(g) Describe the four ACID properties in database transactions and discuss why they are essential for maintaining data consistency and reliability.

(3)

(h) Describe any 3 SQL aggregation functions used in database queries.   (3)

(i) Provide an example scenario where utilizing a file system would be more advantageous than employing a database management system (DBMS) for data storage and retrieval.   (3)

(j) Explain the need for data recovery and the role of log files in database management systems.   (3)

Section B

2. (a) What are the advantages of using a database management system (DBMS) over traditional file-based systems for data storage and retrieval?   (8)

P.T.O.

(b) Explain two-tier and three-tier architectures in database systems. (7)

3. You are tasked with designing a database system for a university. The university has the following entities: students, courses, professors, and departments. Each student is uniquely identified by their student ID and has attributes such as name, address, and phone number. Each course is identified by a course code and has attributes such as title, description, and credit hours. Professors are identified by their employee ID and have attributes like name, department, and contact information. Departments have a department code and attributes like name and location.

(i) Design an Entity-Relationship (ER) diagram to represent the relationships between these entities. (8)

(ii) Convert the ER model into the relational model. (7)

4. Write SQL Queries for the Following Tables :

Given tables:

Salesperson(salesperson_id, salesperson_name, region_id, city, sales, gender)

Region(region_id, region_name)

(i) Retrieve the names of salespersons working in the North region. (3)

(ii) Retrieve the names of salespersons based on their cities. (3)

(iii) Retrievethe salesperson_name and region_id with the highest sales. (3)

P.T.O.

(iv) Retrieve the region_name and cities where the average sales per person are greater than 550. (3)

(v) Calculate the total number of salespersons operating in the North region. (3)

5. Given the following relational database schema :

Student (sid, sname, age, gender)

Course (cid, cname, credits)

Enrollment (sid, cid, grade)

Answer the following questions using relational algebra queries :

(i) Get the complete details of all students enrolled in the course "Database Systems". (5)

(ii) Get the names of courses with more than 3 credits. (5)

(iii) Find the student names who have enrolled in at least one course. (5)

6. What do you understand by normalization? Normalize the following relation into first and second normal forms. (15)

BILLS(bill_no, Date, Item_no, Item_description, unit_price, qty_bought, total_cost)

Assume that each bill contains multiple items. Each item has a unique item number and is identified by its item description and unit price. (Items may be repeated for a single bill number)

P.T.O.

7. (a) Discuss multilevel indexing and explain how it differs from single-level indexing. Provide examples to illustrate the advantages of multilevel indexing in managing large datasets. (7)

(b) Explain the techniques used to prevent or minimize Lost Updates in a database system. Describe in detail how these strategies can effectively mitigate the problem of Lost Updates. (8)

Your Roll No.......................

Sr. No. of Question Paper	:	8121
Unique Paper Code	:	61018629
Name of the Paper	:	Communication Competency
Name of the Course	:	B.Voc. (Web Designing)
Semester	:	VI
Duration	:	3 Hours
Maximum Marks	:	75

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.

2. The paper has **seven** questions.

3. All questions carry equal marks. 15 marks for each question

4. Answer any **five** questions.

1. Discuss the role of social media in shaping self-perception in today's world.

2. What is the significance of communication in leadership? Discuss with specific examples of leaders from any walk of life.

3. Imagine you have to appear in an interview for the post of Human Resource Manager. Write at least 15 responses each for the interviewer and the interviewee.

4. Discuss how cultural barriers can affect communication negatively and suggest remedies to overcome them.

P.T.O.

5. Distinguish between verbal and non-verbal communication. Discuss the importance of Non-verbal communication using concrete examples.

6. Write a short essay on the topic - "Advertisements mislead customers through false-perception building".

7. Empathy is not just a feeling but is a key 'soft-skill' which requires hardwork and intelligence. Discuss in detail.

[This question paper contains 2 printed pages.]

Your Roll No...........................

Sr. No. of Question Paper	:	8125
Unique Paper Code	:	61018630
Name of the Paper	:	Effective Leadership
Name of the Course	:	B.Voc. (Web Designing)
Semester	:	VI
Duration	:	3 Hours
Maximum Marks	:	75

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.

2. Attempt **any five** questions.

3. **All Questions** carry equal marks.   (15 marks for each question)

1. Explore how effective leaders integrate communication skills and participatory communication strategies to enhance their leadership effectiveness.

2. How do leaders' behavioural styles influence team dynamics and performance within the context of web designing projects?

3. Can you discuss specific strategies that effective leaders employ to ensure that consideration for members remains a central tenet of their leadership approach in web designing endeavours?

4. Reflecting on your experiences, how have leaders adeptly distributed tasks among team members to maximize efficiency and leverage individual strengths?

P.T.O.

5. How do leaders infuse a sense of purpose and collective identity to foster team cohesion amidst diverse skill sets and personalities?

6. Could you delve into the strategies leaders employ to cultivate a culture of mutual respect and trust, essential for fostering cohesiveness within teams?

(200)