

# **LAKSHYA INSTITUTE OF TECHNOLOGY**



## ***BSC.CS***

**1<sup>ST</sup> SEM OLD  
UNIVERSITY  
QUESTION**

- b. Discuss different types of expressions in C with suitable examples. 4
5. a. Write a program to count the frequency of each character in a given string received from the keyboard. 5
- b. Explain multi-dimensional arrays in C with an example. 3
6. a. Write a C program to sort an array using pointers. 5
- b. Discuss properties and benefits of using pointers. 3
7. a. Discuss the differences between array and structure in C with examples. 5
- b. What is a global variable ? How do you declare it and discuss its benefits ? 3
8. Discuss in detail the file management in C. Write a program to copy the contents of one file into another. 3+5



**2024**

Time :As in Programme

Full Marks : 100

*The figures in the right-hand margin indicate marks.*

*Answer all questions.*

**PART-I**

1. Answer all questions. 1x10
  - a. Which of the following is not a valid C keyword ?
 

i. typedef	ii. class
iii. sizeof	iv. volatile
  - b. Which operator is used to perform bitwise AND operation in C ?
 

i. &&	ii. &
iii.	iv.
  - c. What is the default data type of a variable in C if not specified explicitly ?
  - d. Which statement is used to terminate a loop in C, in general ?
 

i. continue	ii. return
iii. exit(0)	iv. break
  - e. Name the operator used to increment the value of a variable by one in C.

(Turn Over)

- f. What is the index of the first element in an array ?
- g. Name the operator used to access the address of a variable in C.
- h. What is the correct syntax to open a file in write mode in C ?
  - i. `fopen("file.txt", "w");`      ii. `open("file.txt", "w");`
  - iii. `open("file.txt");`      iv. `file_open("file.txt", "w");`
- i. Name the operator used to access members of a structure using a pointer.
- j. Which file operation mode is used to open a file for both reading and writing ?

#### PART-II

2. Answer the following question in 50 words each.      2x9
  - a. Explain the difference between `int` and `float` data types in C.
  - b. Why do we use type qualifiers like `const` and `volatile` in C ?
  - d. Define an array and explain how it is different from a pointer.
  - e. Differentiate between function declaration and function definition.
  - f. Differentiate looping vs recursion.
  - g. What are storage classes ?
  - h. Define type casting.
  - i. Define *union* in C.

CSC-212(4)

(2)

(Contd.)

#### PART-III

3. Answer any eight questions of the followings in 250 words each.      5x8
  - a. Explain the structure of a C program along with its compilation and preprocessing stages.
  - b. Explain the different data types available in C, including their memory size and range on a standard system.
  - c. Write a program in C to demonstrate the use of arithmetic, relational, and logical operators.
  - d. Explain the `for` loop with an example. How is it different from a `while` loop ?
  - e. Discuss use of nested switch statements with an example.
  - f. Write a program that finds the maximum and minimum elements in a one-dimensional array.
  - g. Write a program demonstrating the use of *malloc* function.
  - h. Write a C program to swap two numbers using pointers.
  - i. Discuss the differences between structures and unions in C. Provide examples to illustrate memory allocation.
  - j. Explain the usage of command-line arguments in C programming. Provide an example to demonstrate their use.

#### PART-IV

Answer any four of the following questions in 800 words each.      8x4

4. a. Write a C program that accepts three integers and finds the largest number.      4

CSC-212(4)

(3)

(Turn Over)



- d. Write a program to print the following series of integers.  
1,2,4,8,16,32...
- e. Write a program to enter the elements into a 2D array of order 2\*3 and display the elements.
- f. Explain various relational and logical operators.
- g. Write a program to count the number of characters in a string without using `strlen()`.
- h. Differentiate between structure and union with example.
- i. Discuss different types of storage class used in C programming.
- j. Write a program to input a number and find the reverse of it.

#### PART-IV

Answer any four of the following in 800 words each. 8x4

4. a. Write a program to input ages of three brothers and find out the youngest one. 5
- b. State the concept of operator precedence and associativity. 3
5. a. Write a program to evaluate 1-2+3-4+5-6... up to n terms. 4
- b. Write a program to compute the factors of a given number. 4
6. a. Write a program to calculate factorial of a number using recursion. 5
- b. Differentiate between call by value and call by reference. 3
7. a. Write a program to print the even value elements of an array. 5
- b. Discuss the operations those are allowed on pointers. 3
8. What is command line argument? Write a program to create a file, input text data into it and display the file content. 3 + 5

## I-S-NEP-BCA-Major-1-P-1-Problem Solving Using C Prog.

**2024**

Time :As in Programme

Full Marks : 100

*The figures in the right-hand margin indicate marks.*

*Answer all the questions*

#### PART-I

1. Answer all questions. 1x10
  - a. A C variable cannot start with
    - i) An alphabet
    - ii) A number
    - iii) A special symbol
    - iv) Both (ii) and (iii) above
  - b. Which of the following statement is wrong?
    - i)  $x=12;$
    - ii)  $ch = 'A' * 'B';$
    - iii)  $a=10+b;$
    - iv)  $x+y=z;$
  - c. The expression  $x=4+2\%-3;$  evaluates to
    - i) -6
    - ii) 6
    - iii) 4
    - iv) None of the above
  - d. Given the statement, `maruti.engine.bolts=30;`  
Which of the following is true?
    - i) structure bolts is nested within structure engine.
    - ii) structure engine is nested within structure bolts.
    - iii) structure maruti is nested within structure engine.
    - iv) structure maruti is nested within structure bolts.



2018  
Full Marks - 50  
Time - As in the Programme  
The figure in the right hand margin indicate marks  
Answer All question.

Group-A

1. Answer the following questions.

- a) What is variable? Explain the syntax for variable declaration.
- b) What is Keyword? Explain with example.
- c) Write a program to find greatest among three numbers using conditional operator.
- d) What is the difference between continue and goto?
- e) Explain the difference between Structure and Union.
- f) Write down the output of the following codes.

```
main()
{
    int c = -- 2;
    print ("c=%d",c);
}
```

- g) Write down the output of the following codes.

```
#define square (x)x*x
main()
{
    int i;
    i=64/square (4);
    printf ("%d",i);
}
```

- h) Write down the output of the following codes main ()

```
{
    int i = 5;
    printf ("%d%d%d%d%d", i, i ++, i--, ++i,--i);
}
```

- i) Write down the syntax for different file opening modes with example.
- j) How many types of function argument are available in C? Explain.

Group - B

2. (a) What is Operator? Explain different types of operator with example.

b) Write a program to calculate factorial of a number.

OR

c) Define the following with example

i) Identifier

ii) Static

d) Write a program to swap two variables without using a third variable.

3.a) Write a program to display the lower triangular matrix.

b) Explain the different types of loops with syntax and example.

OR

a) Explain the Decision Making statements with appropriate examples.

b) Write a program to check a number is Prime or not.

4.a) Differentiate between Call by Value and Call by Reference with example.

b) What do you mean by Recursion? Write a program to display Fibonacci series using recursion.

OR

a) Write down different components of User-defined Function with example.

b) Write a program using function where enter employee name, age, basic salary and calculate the gross salary where TA, DA, HRA is 2%, 4%, 5% of Basic salary respectively.

5.a) Define pointer. Write a program to add two numbers using pointer.

b) Write a C program using pointer and Array.

OR

a) Write a C program to reverse a number using pointer.

b) Define the followings with example.

i) NULL pointer

ii) Void pointer

6. a) What are the different file handling functions available in C? Explain with syntax and example.

b) Write a program to create a file, store information into it and display the contents.

OR

a) Write a program to copy the content of one file to other using file handling methods.

b) What is Dynamic Memory Allocation? Explain with example.

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2017

Full Marks - 70

Time - As in the Programme

The figure in the right hand margin indicate marks

Answer All question.

1. a) Write a program to print the size of a character constant, double variable and different primitive data types.

- b) Write short notes on left shift and right shift operators with an example.

OR

- a) What is the differences between automatic and static storage class? Give an example of register storage class.

- b) Write a program to find distance between two points  $(x_1, y_1)$  and  $(x_2, y_2)$

2. a) A bank provides bonus to all its deposit holders based on following policy: For female depositor having balance more than 10000/- bonus given is 7%. For male depositor having balance more than Rs.10000/- bonus given is 5%. Less than 10000/- balance amount is given with 3% bonus. Calculate the balance amount of a depositor.

- b) Write a program to find second largest number in an integer array.

OR

- a) Write a program to count number of vowels present in a string.

- b) Print the following Pyramid structure
- $$f(x) = x - \frac{x^3}{3!} + \frac{x^5}{5!} - \frac{x^7}{7!} + \dots$$

E

F      F

G      G      G

H      H      H      H

I      I      I      I      I

- 3.a) Define a function. What are different types of functions used in C? Why prototyping is necessary?

- b) Using recursive function evaluate the following series.

$$f(x) = X - \frac{x^3}{3!} + \frac{x^5}{5!} - \frac{x^7}{7!} + \dots$$

OR

- a) Differentiate between structure and union. Write a program to input data into an Employee union type and display the data.

- b) Create a Structure Named Book, Write the functional block to count the number of books of a specific publisher present in your library.

4. a) What is chain of pointers? Write a program to illustrate this.

- b) What are the benefits of pointers?

OR



- a) Write a program to illustrate a function returning pointer.
- b) Write a program to copy a string to another string using call-by-reference
- 5.a) Explain different functions used for random access file.
- b) Using dynamic memory allocation input 'n' real numbers into an array and copy the content of the array into another array in reverse order.

OR

- a) Using command line argument, input set of lines into a file and read the content of the file.
- b) Discuss different file opening modes.

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2022  
Full Marks - 60  
Time - As in the Programme  
The figure in the right hand margin indicate marks  
Answer All question.

Group-A

1. Answer all the questions :
  - a) The operator \_\_\_\_\_ cannot be used with real operands.
  - b) \_\_\_\_\_ is known as statement terminator in C.
  - c) The \_\_\_\_\_ statement is used to take the control out of the loop instantly
  - d) Array elements can be accessed by \_\_\_\_\_
  - e) A pointer variable contains \_\_\_\_\_ of another variable.
  - f) \_\_\_\_\_ function gives the current position in the file.
  - g) \_\_\_\_\_ is the variable which keeps track of number of times the loop is going to be executed.
  - h) \_\_\_\_\_ operator is used for checking equality of two values.

Group -B

2. Answer any Eight questions
  - a) Differentiate between 2, '2' and "2".
  - b) Write the output of the following code

```
#include<stdio.h>

void main()
{
int num = -5, j;
j=(num<0? num+4: num*num);
printf("%d %d ",j,num);
}
```
  - c) Evaluate the following arithmetic expression.  
 $x=5*4/2+12-6/3+7*3$  (Assume x is an integer)
  - d) Explain the use of goto statement with example.
  - e) What is preprocessor directive?
  - f) Define wild pointer with example.
  - g) Mention the library functions used for dynamic memory management.
  - h) What is function prototype?
  - i) Differentiate between write mode (w) and append mode(a) in a file.
  - j) What is the output of the following code?

```
#include <stdio.h>
```

```

void main ()
{
int ar[ ] = {12,20,31,11,78};
int i;
for ( i=0; i < 5; i++)
{
if (ar[i]%2==0)
    Printf("%d ", ar[i]);
}
}

```

#### Group-C

#### 3. Answer any Eight questions

- a) Write the output of the following code.

```

#include<stdio.h>
void main()
{
    int a = 20, b=10, c;
    c= ++a - b++;
    printf("%d %d %d", a,b,c);
}

```

- b) When switch statement is used in C programming? Write the syntax of switch statement.
- c) What is storage class? Explain any two of them
- d) Differentiate between entry controlled and exit controlled loop.
- e) Which pointer operations are allowed?
- f) Differentiate between structure and union.
- g) Explain operator precedence and associativity.
- h) Differentiate between call by value and call by reference.
- i) Explain self-referential structure
- j) What is command line argument?

#### Group - D

Answer all questions:

4. Differentiate between constant and variable. What are different types of constants? Explain each one in brief.

OR

Write a program to find the largest of any three numbers using nested if-else.

5. Write a program to find the sum of digits of a number by taking the number as input from the keyboard.

OR

Write a program to find a specific element in an array.

6. Write a program to calculate factorial of a number using recursion.

OR

Discuss various string handling library functions such as strlen, strcpy, strcmp, strcat, strstr, strev.

7. Write a program to swap any two numbers using pointers.

OR

Write a program to create a file, input, text data into it and display the file content on the monitor.

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2022  
Full Marks - 60  
Time - As in the Programme  
The figure in the right hand margin indicate marks  
Answer All question.

Group-A

1. Answer all the questions :
- a) What is Variable? Explain the syntax for variable declaration.
- b) What is the difference between continue and goto?
- c) How the extern variables are declared?
- d) What is the difference between while and do while?
- e) The calloc() function is used for\_\_\_\_\_.
- f) What is Keyword? Explain with example.
- g) Write the syntax of conditional operator?
- h) Write down the output of following codes: main()  

```
{  
int i=5;  
printf ("%d%d%d%d%d",i,i++,i--,++i);  
}
```

Group -B

Answer any Eight questions

1. Explain the importance of C language.
2. What is the purpose of the scanf() function?
3. Why do we use header files?
4. What is the purpose of adding comments in a program?
5. Write the syntax for nested if an else-if ladder?
6. Write and explain syntax of for loop.
7. Write a program to print the multiplication table from 1 to n?
8. Differentiate between break and continue.
9. Define goto with an example.
10. Define exit and return statements.

Group-C

Answer any Eight questions

1. Distinguish between constant and variable
2. Write a program to check whether the person is eligible to vote
3. Classify the different types of decision making Statements.
4. How switch case works without break statement.

5. Classify the different types of decision making statements.
6. How switch case works without break statement.
7. What is Recursion?
8. What is #include, #define directives.
9. What is a Function? Write the types of functions.
10. Write a program to read and display the elements using 1-D array.

#### Group-C

Answer all questions:

1. Differentiate between constant and variable. What are the different types of constants? Explain each in brief

OR

Write a program to find sum and product of the digits of a given integer number.

2. Define Pointer. Write a program to add two numbers using pointer.

OR

Write and explain syntax of for loop. Write a program to generate prime numbers between 1 and N.

3. Write short notes on nested functions. Write a program to display the following pattern.

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OR

Write a program to find the sum of even and odd numbers from 1 to n.

4. Explain the following file handling functions:

- a) fseek ()
- b) ftell ()
- c) rewind()
- d) feof()

OR

Write a program to copy the content of one file to other.

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2021  
Full Marks - 60  
Time - As in the Programme  
The figure in the right hand margin indicate marks  
Answer All question.

Group-A

1. Answer all
- (a) What is the difference between the = symbol and ==symbol?
- b) What is the modulus operator?
- c) Give two example of valid real constant.
- d) What is the difference between "C" and 'C'?
- e) Differentiate between while and do while loop.
- f) Defien user defined function.
- g) What will be the outcome of the following conditional statement if the value of variable s is 10? $s \geq 10 \ \&\& s < 25 \ \&\& s \neq 12$
- h) Convert the following expression into its equivalent C statement:  $b^2 + 4ac + 7c^3$

Group-B

Answer any 8

- 1.a) What are variables and in what way is it different from constants?
- b) What does the && operator do in a program code?
- c) What is the functionality of strlen()?
- d) What are reserved words?
- e) Differentiate between Variable and Constant
- f) Differentiate between Compiler and Assembler
- g) What are the different types of constants used in C Programming language?
- h) Write the functionality of null pointer.
- i) State two features of C programming languages.
- j) What are the different types of Programming language?

Group-C

Answer any 8

- 1.a) How do you construct an increment statement or decrement statment in C?
- b) What is the difference between Call by Value and Call by Reference?
- c) What is a pointer?
- d) What is variable initialization and why is it important?
- e) What is the differnce between i++ and ++i?
- f) What is a nested loop?
- g) What is syntax error?

- h) What are header files and what are its uses in C programming?
- i) Differentiate between Integer Constant and Real Constant
- j) Differentiate between Program and Process

Group-D

Answer all

- 1.a) What are the different types of variables used in C programming? Give two examples of each category of basic C variable. Also state the rules to construct C variable

OR

- b) Write a C program to check whether a number is prime or not.

- 2.a) What are the different types of Loop Control Statement used in C programming? Explain each one in brief with suitable example.

OR

- b) Write C program to display the following

```
  *
 *  *
*  *  *
*  *  *  *
```

- 3.a) What are the different types of Storage Class used in C programming? Explain each one in brief with suitable example.

OR

- b) Write a C program to calculate factorial of a number using function.

- 4.a) What are the different types of File Opening modes used in C programming? Write a C program to open an already existing file.\

OR

- b) Differentiate between Structure and Union write a C program to implement structure.

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2021  
Full Marks - 70  
Time - As in the Programme  
The figure in the right hand margin indicate marks  
Answer All question.

1. (a) Write a Program to convert temperature in degree centigrade to Fahrenheit and vice versa.

b) Write short notes on conditional operator. Write the output of following program.

```
#include
<stdio.h>
main()
{
int a = 2,b,c;
b= a++ - ++a + a++;
c= a - b++*3;
Print f ("%d %d %d", a,b,c);
retuen 0;
}
```

OR

a) What is a Constant? Write the characteristics of real constant and character constant.

b) Write the valid 'C' statements to evaluate the following equations.

$$Energy = mass \left[ acceeration \times height + \frac{(Velocity)^2}{2} \right]$$

2.a) What is the purpose of continue statment? Write a program illustrating the use of continue statment.

b) An electric distribution company charges its consumers as follows:

Consumption units	Rate of change
0-200	Rs. 0.50/unit
201-+400	Rs. 100+Rs.0.65/unit
401-500	Rs. 250+Rs.0.90/unit
500 and above	Rs. 375+Rs.0.100 unit

Write a Programe to find the amount paid by the customer.

OR

a) Write a Programme to Pring following Pyramikd structure.

```
1    2    3    4    3    2    1
1    2    3          3    2    1
```

1	2	2	1
1			1

b) Write a Program to print the integers which are divisible by 5 but not divisible by 3 between 1-100.

3.a) Write a function which convert an upper case charaters to lower case and vice versa of an input string.

b) What is an argument? Differentiate between following?

i) Actual and formal arguments

ii) Global and local varriables

iii) Automatic and static variables.

OR

a) Write function which reads the value of 3 sides of a triangle and display its permeter and area. Where  $S = (a+b+c) / 2$ .

b) Write a program to illustrate nested structure.

4.a) With example, discuss various pointer arithmetics.

b) Using call by reference find GCD of two numbers.

OR

a) Write an example to illustrate pointer to structref.

b) Discuss different limitations of pointer.

5.a) Discuss the syntax of character I/O functions used in File.

b) Write short notes on command line argument Give an example.,

OR

a) Write a program to illustrate use of realloc() and free()

b) Write short notes on error handlign during I/O operations.

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2020  
Full Marks - 60  
Time - As in the Programme  
The figure in the right hand margin indicate marks  
Answer All question.  
Group-A

Answer all

1. How many times below for loop will be executed?

```
#include<stdio.h>

int main ()
{
    int i= 0;
    for (;;)
        Print f ("%d", i);
    return 0;
}
```

v) 10 times

vi) 1 time

vii) 0 time

viii) Infinite time

2. Find output of the following program?

```
#include<stdio.h>

int main ( )
{
    char str [ ] = "Smaller";
    int a = 100;
    printf(a>10? "Greater": "%s", str);
}
```

v) Smaller

vi) Greater

vii) 100

viii) Compile time error

3. How many main () function we can have in our project?

a) 1

b) 2

c) No Limit

d) Depends on Compiler

9. Mention the name of different types of storage class variable.

10. What are arguments in a function?

Group-D

Answer all

1.a) Differentiate between constant and variable. What are the different types of constants? Explain each one in brief.

OR

b) State the concept of operator precedence and associativity.

c) Determine the hierarchy of operation and evaluate the expression:

$$X = 5 + 6 - 4 / 4 * 2 / 2 - 1 + 4 * 3 + 5 * 1 - 8 / 2 + 3 * 5 * / 3$$

Assume X as integer.

2. Write a C programme to take the radius of circle through the key board and calculate the area and perimeter of that circle.

OR

Write a C program to check whether a number is prime or not.

3. Write a C program to display sum of two 3\*3 matrix.

OR

Write a C program to enter ten integers and sort in ascending order.

4. Write a C program to delete an already existing file.

OR

Explain the application of Pointer.

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1. Answer all following:
  - a. C programming language is also known as modular programming language. Why?
  - b. What is difference between syntax & semantic error?
  - c. What do you mean by reserved word? Name any three reserved words.
  - d. Describe wild pointer in C?
  - e. What is the explanation for prototype function in C?
  - f. What is the process to generate random numbers in C programming language?
  - g. What is the difference between #include "...." And #include <....>?
  - h. What are dangling pointers? How are dangling pointers different from memory leaks?
  - i. Find the output:

```
int x = 43, y=34;  
x = x < y;  
x=x++ + ++x + ++x + x++;  
print ("%d", x);
```
  - j. Write a program which does the following. It reads integer n repeatedly until n > 0 is satisfied. It then calculates the number of integers between 1 & n that are divisible either by 3 or 8 but not by both.
- 2.a. Explain about the different data types in C. Write a program to find the greatest and smallest element from an array.

OR

  - b. Which are formatted input output functions? Write a C language program using recursive function to enter 4 digit number and find the sum of all digits of the number.- 3.a. Write a C language program to print all Armstrong numbers between 1 to 500.
  - a. Explain details about the different types storage classes in C.

OR

    - b. What is multidimensional array? Write a C language program to enter n elements in array and find second smallest number from an array.- 4.a. What is function in C? explain different components of function.
  - b. Construct a function to calculate factorial of a number where enter the number as argument and return the result to the main function.

OR

    - a. Write a C program where enter the string as "The participants should be given copy" and prints the number of times the alphabet l occurs in the given string.
    - b. Differentiate between break & exit.

5.a. Write a program to add two string without using standard library function.

b. Write a program for the following:

A

AB

ABC

ABCD

ABCDE

OR

a. Write a program to reverse a string without using string library function.

b. Write a program for the following:

1

121

12321

1234321

123454321

6.a. What is a file? What are the different file opening modes are used? Explain with a suitable example.

OR

b. Write the short notes: (any TWO)

i. Pointer to pointer with example.

ii. Call by value and call by reference.

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2019  
Computer Science  
SUB-C

1. Answer all the questions : Each carries 1 mark.
  - a. What is the difference between call by value & call by reference
  - b. How do you construct an increment statement or decrement statement in C.
  - c. What is difference between the = symbol and ==symbol?
  - d. How do you declare a variable that willhold string values.
  - e. What are header files and what are its uses in C programming
  - f. What is syntax error.
  - g. What are variables and it what why is it different from constants.
  - h. When is the “void” keyword used in a function?
  - i. What is wrong in this statement? scanf(“%d”, whatnumber):
  - j. What does the & operator do in a program code?
2. Answer all question . Each carries 8 marks.
  - a. Explain the steps to execute a C program under any operating system
  - b. Difference between variables and constants. What are the different types variables used in C programming

OR

- c. What are the difference types of operators used in C Programme? Explain each one
- d. Write a C program to check whether a no is even or odd.
- 3.a. Write C programme using loop statement that will show the following output

1  
12  
123  
1234  
12345

OR

- a. Write a C programming to implement the following vanderwaal’s equation.  
$$RT = (P + a/v) (v - b)$$
- 2.a. What is the general from of function in C?
- b. Write a C programme to add two 3 x 3 matrix?

OR

- c. Explain the use of function toupper () with an example code?
- d. Differentiate between structure and union
- 3.a. What is a pointer on pointer in C programming language?
- b. Write a C programme to swap two numbers using pointer

OR

Write short notes on

- i. Array of pointers
- ii. Pointer as function argument
- 4.a. Write a C programme to insert a record into an already existing file.
- b. Write a C programme to create a new file.

OR

Write short notes on :

- i. Dynamic memory allocation
- ii. I/O operations of file.

\*\*\*



[ 4 ]

OR

Give an account on water pollution with all its effect, causes and measures to control it

- (b) What is population ? Describe all its characteristics.

OR

Write a detailed note on urbanisation and its impact.

- (c) Give a detailed note on the major environmental movements in India

OR

Write a note on role of women in environmental movements.

- (d) Write a note on different types of environmental laws of our country.

OR

What do you mean by disaster ? Give a note on the preparedness before and after flood and earthquake.



**I - S - B.Sc. - ITM - P - AEC - I**  
**(Environmental Science)**

**I - S - B.Sc. - ITM - P - AEC - I**  
**(Environmental Science)**

**2023**

**Full Marks - 80**

**Time - As in the Programme**

*The figure in the right hand margin indicates marks.*

*Answer All questions*

1. Answer all the Questions. [1 × 12 = 12]
  - (a) Write the full form of SPCB ?
  - (b) Who first use the term 'ecosystem' ?
  - (c) The living component of ecosystem us called \_\_\_\_\_.
  - (d) Which layer in the atmosphere protects the living organism from harmful radiation of the sun ?
  - (e) The Chipko movement started in which village of Uttar Pradesh ?
  - (f) In which year, the water Act was started?
  - (g) Write an example of in-situ conservation.
  - (h) \_\_\_\_\_ is the aggregation or arrangement of individual in a population.
  - (i) \_\_\_\_\_ means exit of individual in a group of population.

*[P.T.O.]*

[ 2 ]

- (j) \_\_\_\_\_ is the number of offspring produced per female per unit time.
- (k) In which state of India, Silent valley movement was started ?
- (l) \_\_\_\_\_ is the sudden shaking of ground caused in the Earth's crust.

2. Answer any eight of the following questions.

[2 × 8=16]

- (a) What do you mean by biogeochemical cycle ?
- (b) Define food chain with examples
- (c) What was the aim of NARMADA BACHAO ANDOLAN ?
- (d) What is an earthquake ?
- (e) What are pollutants ?
- (f) Define Trophic level.
- (g) What is pollution ? Write name some of the environmental pollution.
- (h) What do you mean by non- communicable diseases give some examples
- (i) Define Denitrification.
- (j) What was the objectives of Water Act ?

[Cont...

[ 3 ]

3. Answer any eight of the following questions.

[3 × 8=24]

- (a) Describe the steps of nitrogen cycle.
- (b) Write down the Control measures of noise pollution.
- (c) Write a note on Appiko movement.
- (d) Differentiate between biotic and abiotic component of ecosystem.
- (e) Write a note on consumers of ecosystem.
- (f) What is community ? Write 3 characteristics of community.
- (g) Write a note on water and vector borne diseases.
- (h) Write some steps that should be taken after the cyclone.
- (i) Differentiate between renewable and non-renewable resources.
- (j) Define urbanization. Write two impacts of urbanization.

4. Answer any four of the following questions.

[7 × 4=28]

- (a) What is ecosystem ? Describe it in details.

[Cont...

[ 4 ]

**Part – IV**

Answer all within 500 words maximum :

4. Describe the energy flow in Eco-system. [7]

OR

Describe the source, effects and control of water pollution.

5. Discuss the causes and effects of population growth in India. [7]

OR

Write an essay on HIV/AIDS, its prevention, control measures and awareness.

6. Write a note on Environmental Movements in Odisha. [7]

OR

Give an account of Women welfare in India.

7. Describe the salient features of the Wild Life Protection Act, 1972. [7]

OR

Discuss the equitable distribution of natural resources and wealth between rich and the poor countries will lead to sustainable life- styles.



**I - S - BCA - CBCS - AECC - I -**  
**(Environmental Science) - (R & B)**

**I - S - BCA - CBCS - AECC - I -**  
**(Environmental Science) - (R & B)**

**2023**

**Full Marks - 80**

**Time - As in the Programme**

*The figures in the right hand margin indicate marks.*

*Answer ALL questions.*

**Part – I**

1. Answer the following question with ONE word or fill in the blank : [1 x 12 = 12]
- (a) The peeling of Ozone Umbrella is mainly caused due to the release of \_\_\_\_\_ gas into the atmosphere.
- (b) Water which is suitable for \_\_\_\_\_ is called \_\_\_\_\_ water.
- (c) The collection of individuals which belongs to the same species when live together in a region is known as \_\_\_\_\_.
- (d) \_\_\_\_\_ disease continues for many days and causes \_\_\_\_\_ on body.
- (e) In \_\_\_\_\_ diseases, microbes cannot be transmitted from infected person to a susceptible person by contact or by any other methods.

[ Cont...

[ 2 ]

- (f) Narmada Bachavo Movement is led by \_\_\_\_\_.
- (g) The Central Pollution Control Board (CPCB) is established under \_\_\_\_\_.
- (h) Our society has changed a lot for women as a result of their struggle for \_\_\_\_\_.
- (i) A \_\_\_\_\_ plays numerous roles in the transmission of knowledge.
- (j) The resources that reproduce within a specified time span are \_\_\_\_\_.
- (k) Air is a \_\_\_\_\_.
- (l) A place where animals are protected in their natural habitat is called \_\_\_\_\_.

**Part – II**

2. Answer any EIGHT questions within TWO or THREE sentences maximum : [2 x 8 = 16]
- (a) Define Ecosystem.
  - (b) What is Biosphere ?
  - (c) What do you mean by Nitrogen Cycle ?
  - (d) What is Pollution ?
  - (e) Give some examples of Non-Communicable Diseases.
  - (f) What are the objectives of SPCB ?
  - (g) What are the 4 types of natural resources ?

[ Cont...

[ 3 ]

- (h) Differentiate the recyclable, renewable and non-renewable resources.
- (i) In your own words, define "Conservation."
- (j) Give the full form of ODRAF and NDMA.

**Part – III**

3. Answer any EIGHT questions within 75 words maximum : [3 x 8 = 24]
- (a) Describe the scope of environmental science.
  - (b) Differentiate between Ecology and Ecosystem.
  - (c) Differentiate between "population explosion and population clock".
  - (d) Lay out how people's health is negatively impacted by pollution.
  - (e) Describe the role of women in environment.
  - (f) Discuss some of the functions of Central Pollution Control Board.
  - (g) Give the features of Water Act, 1974.
  - (h) What is meant by Natural Resources and list out the problems associated with natural resources exploitation.
  - (i) How will you create awareness among people about natural resources ?
  - (j) How does soil erosion occur ? State your remedy for the same.

[ Cont. .

**2023**

Time :As in Programme

Full Marks : 80

*The figures in the right-hand margin indicate marks.*

*Answer **all** questions.*

**PART-I**

1. Fill in the blanks.

1x12

ଶୂନ୍ୟସ୍ଥାନ ପୂରଣ କର ।

- The study of human population is called \_\_\_\_\_.  
ମନୁଷ୍ୟ ଜନସଂଖ୍ୟା ପତନକୁ \_\_\_\_\_ କୁହାଯାଏ ।
- The influenza virus chiefly transmitted by \_\_\_\_\_.  
ଇନ୍‌ଫ୍ଲୁଏଞ୍ଜା ଭୂତାଣୁ ମୁଖ୍ୟତଃ \_\_\_\_\_ ଦ୍ୱାରା ସଞ୍ଚାରିତ ହୋଇଥାଏ ।
- The daily atmospheric condition of an area is called as \_\_\_\_\_.  
ଗୋଟିଏ ଅଞ୍ଚଳର ବାୟୁମଣ୍ଡଳର ଦୈନନ୍ଦିନ ଅବସ୍ଥାକୁ \_\_\_\_\_ କୁହାଯାଏ ।
- The \_\_\_\_\_ remain at the base of a pyramid of energy.  
ଶକ୍ତିର ପିରାମିଡ୍‌ରେ ତଳ ସ୍ତରରେ \_\_\_\_\_ ମାନେ ଅବସ୍ଥାନ କରୁଛନ୍ତି ।
- The chief contributor gases of acid rain are \_\_\_\_\_ and \_\_\_\_\_.  
ଅମ୍ଳବର୍ଷାର ମୁଖ୍ୟ ବାଷ୍ପରୂପକ ହେଲା \_\_\_\_\_ ଏବଂ \_\_\_\_\_ ।
- The Water Act was enacted in the year of \_\_\_\_\_.  
ଜଳ ପ୍ରଦୂଷଣ ଆଇନ \_\_\_\_\_ ମସିହାରେ ପ୍ରଣୟନ ହୋଇଥିଲା ।
- Rhizobium remains symbiotic in the roots of \_\_\_\_\_ crops.  
ରାଇଜୋବିଅମ୍ ବ୍ୟାକ୍ଟେରିଆ \_\_\_\_\_ ଗଛର ଚେରରେ ସହଜୀବୀ ଭାବରେ ସ୍ଥାପନ କରେ ।
- The wildlife protection Act enacted in the year of \_\_\_\_\_.  
ବନ୍ୟପ୍ରାଣୀ ସୁରକ୍ଷା ଆଇନ \_\_\_\_\_ ମସିହାରେ କାର୍ଯ୍ୟକାରୀ ହୋଇଥିଲା ।
- Both fog and smoke form \_\_\_\_\_ in the atmosphere.  
ବାୟୁମଣ୍ଡଳରେ ଧୂଆଁ ଓ କୁହୁଡ଼ି ମିଶ୍ରଣରେ \_\_\_\_\_ ସୃଷ୍ଟି ହୁଏ ।

(Turn Over)

- j. The KYOTO protocol is about the reduction of \_\_\_\_.  
କିୟୋଟୋ ପ୍ରୋଟୋକଲ୍/ମୁସାବିଦ୍ \_\_\_\_ ର ହ୍ରାସ ବିଷୟରେ ଗଠିତ ହୋଇଥିଲା ।
- k. The Chernobyl disaster is associated with \_\_\_\_ pollution.  
ଚେର୍ନୋବିଲ ବିପର୍ଯ୍ୟୟ \_\_\_\_ ପ୍ରଦୂଷଣ ସହିତ ଜଡ଼ିତ ।
- l. Ban on single use polythene restricts polythene bags below \_\_\_\_ of thickness.  
\_\_\_\_ ଠାରୁ କମ୍ ମୋଟେଇ ଥିବା ଏକକ ବ୍ୟବହାର ପ୍ଲାଷ୍ଟିକ୍ ବ୍ୟବହାର ଉପରେ କଟକଣା ଅଛି ।

## PART-II

2. Answer any eight of the following within two to three sentences each. 2x8

ନିମ୍ନଲିଖିତ ଯେକୌଣସି ଆଠଟିର ଉତ୍ତର ଦୁଇ ବା ତିନୋଟି ବାକ୍ୟରେ ଦିଅ ।

- a. Sanitization  
ବିଶୋଧନ
- b. Food chain  
ଖାଦ୍ୟ ଶୃଙ୍ଖଳ
- c. Soil pollution  
ମୃତ୍ତିକା ପ୍ରଦୂଷଣ
- d. Earth summit  
ବିଶ୍ୱ ଶିଖର ସମ୍ମିଳନୀ
- e. Carbon foot print  
ଅଙ୍ଗାର ପାଦଚିହ୍ନ
- f. IMD  
ଆଇଏମ୍ଡି
- g. Survival skills during lightening  
ବିଜୁଳି ମାରିବା ସମୟର ନୈପୁଣ୍ୟତା
- h. Role of Revenue Department in flood management  
ବନ୍ୟା ପରିଚାଳନାରେ ରାଜସ୍ୱ ବିଭାଗର ଭୂମିକା
- i. Pandemic disease  
ବିଶ୍ୱ ମହାମାରୀ
- j. Sustainable development  
ପରିପୋଷଣକାରୀ ବିକାଶ

### PART-III

3. Answer any eight of the following within 75 words each. 3x8

ନିମ୍ନଲିଖିତ ଯେକୌଣସି ଆଠଟିର ଉତ୍ତର ୭୫ ଶବ୍ଦରେ ଦିଅ ।

- a. Ecosysem  
ପରିସଂସ୍ଥା
- b. Water cycle  
ଜଳଚକ୍ର
- c. Sound pollution  
ଶବ୍ଦ ପ୍ରଦୂଷଣ
- d. Anthropogenic causes of global warming  
ବିଶ୍ୱତାପନର ମନୁଷ୍ୟକୃତ କାରଣଗୁଡ଼ିକ
- e. Flood disaster  
ବନ୍ୟା ବିପର୍ଯ୍ୟୟ
- f. Earthquake  
ଭୂମିକମ୍ପ
- g. Corporate Social Responsibility  
ଶିଳ୍ପ ସଂସ୍ଥାମାନଙ୍କର ସାମାଜିକ ଦାୟିତ୍ୱବୋଧ
- h. Balanced diet  
ସନ୍ତୁଳିତ ଆହାର
- i. Quarantine  
କ୍ୱାରେନ୍ଟାଇନ୍
- j. National Health Mission  
ଜାତୀୟ ସ୍ୱାସ୍ଥ୍ୟ ମିଶନ

### PART-IV

- Answer all the following within 500 words each. 7x4

ନିମ୍ନଲିଖିତ ସମସ୍ତ ପ୍ରଶ୍ନର ଉତ୍ତର ୫୦୦ ଶବ୍ଦରେ ଦିଅ ।

4. Describe the components and usefulness of atmosphere.

ବାୟୁମଣ୍ଡଳର ଉପାଦାନ ଓ ଉପକାରିତା ସମ୍ବନ୍ଧରେ ବର୍ଣ୍ଣନା କର ।

**OR/କିମ୍ବା**

Discuss the causes, effects and control measures of air pollution.

ବାୟୁ ପ୍ରଦୂଷଣର କାରଣ, ପ୍ରଭାବ ଏବଂ ନିୟନ୍ତ୍ରଣ ଉପାୟଗୁଡ଼ିକ ଆଲୋଚନା କର ।

5. Explain, in brief, the effects of population explosion and the methods adopted to control population growth.

ଜନସଂଖ୍ୟା ବିସ୍ଫୋରଣର ପ୍ରଭାବ ଏବଂ ଏହାକୁ ନିୟନ୍ତ୍ରଣ କରିବା ପାଇଁ ଅବଲମ୍ବନ ଗ୍ରହଣିତ ଗୁଡ଼ିକ ସଂକ୍ଷେପରେ ବ୍ୟାଖ୍ୟା କର ।

**OR/କିମ୍ବା**

Discuss the different steps taken by government for a sustainable development.

ପରିପୋଷଣକାରୀ ବିକାଶ ପାଇଁ ସରକାର ନେଇଥିବା ପଦକ୍ଷେପଗୁଡ଼ିକ ଆଲୋଚନା କର ।

6. Discuss the organization, functions and a few success stories of NDRF or ODRAF.

NDRF କିମ୍ବା ODRAFର ସଙ୍ଗଠନ, କାର୍ଯ୍ୟ ଓ କେତୋଟି ସଫଳ କାହାଣୀ ଆଲୋଚନା କର ।

**OR/କିମ୍ବା**

Give an account of survival skills adopted during and post-disaster periods of cyclone and fire.

ଘୂର୍ଣ୍ଣିବାତ୍ୟା ଓ ଅଗ୍ନି ବିପର୍ଯ୍ୟୟରୁ ବଞ୍ଚିରହିବା ନୈପୁଣ୍ୟ ଏବଂ ଏହା ପରବର୍ତ୍ତୀ କାର୍ଯ୍ୟପଦ୍ଧତି ଉପରେ ରେଖାପାତ କର ।

7. Discuss the different approaches of life style management for maintaining a good health.

ଏକ ସୁନ୍ଦର ସ୍ୱସ୍ଥ ଜୀବନ ପାଇଁ ଆବଶ୍ୟକ ବିଭିନ୍ନ ଜୀବନଚର୍ଯ୍ୟା ପରିଚାଳନା ଉପରେ ଆଲୋଚନା କର ।

**OR/କିମ୍ବା**

Explain three non-communicable diseases with their causes and effects.

ତିନିଗୋଟି ଅଣ-ସଂକ୍ରାମକ ରୋଗର କାରଣ ଏବଂ ପ୍ରଭାବଗୁଡ଼ିକ ବ୍ୟାଖ୍ୟା କର ।





**2024**

Time :As in Programme

Full Marks : 100

*The figures in the right-hand margin indicate marks.*

*Answer **all** questions.*

**PART-I**

1. Answer all the questions. [1×10]
- a) Name one secondary Air pollutant.
  - b) What is biodiversity?
  - c) Which type of disaster is earthquake classified as?
  - d) Who is the head of National Disaster Management Authority (NDMA)?
  - e) Name the Act related to the preservation of air quality in India.
  - f) What is the unit of noise pollution?
  - g) How can urban and industrial waste be managed effectively?
  - h) What is the term used to describe the interrelationship of individuals, species, and population in an ecosystem?
  - i) Name one ex-situ method of biodiversity conservation.
  - j) State one reason for conflicts over water resources.

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## PART-II

2. Answer all the questions in 50 words each. [2×9]

- a) Name two mega-biodiversity countries in the World.
- b) Write two methods for controlling human population?
- c) Name a bio-geographic province of the world.
- d) What do GHGs contribute to concerning the environment?
- e) What is biodiversity Hotspots?
- f) In which year ODRAF was established?
- g) Write examples of Non-renewable sources of energy?
- h) Which Act focuses on controlling and preserving air quality in the environment?
- i) What is the term that describes the act of protecting endangered species within their natural habitats?

## PART-III

3. Answer any eight of the following in 250 words each. [5×8]

- a) Discuss the major types of environmental pollution and elaborate on their control measures.
- b) Explain the concept of biodiversity with a focus on threats faced by biodiversity and the conservation measures required to protect endangered species.
- c) Outline the different types of natural resources and associated problems, emphasizing issues related to water resources.
- d) Discuss the institutional framework, preparedness measures, and community participation in disaster management.

(2)

(Contd.)

VAC-002(4)

- e) Explore the social issues related to the environment, focusing on environmental ethics and the impact of climate change.
- f) Explain the causes, effects, and control measures of soil pollution.
- g) Explain urbanization and its effect on the society.
- h) Differentiate between natural disasters and man-made disasters, providing examples of each type along with their causes and effects.
- i) Explain the importance of public awareness in environmental studies.
- j) Discuss the causes, effects, and control measures of water pollution.

## PART-IV

4. Answer any four of the following in 800 words each. [8×4]

- a) Define the term 'biodiversity' and explain the concept of hotspots of biodiversity with examples.
- b) Discuss the causes and effects of air pollution, providing examples for each.
- c) Explain the importance of public awareness in environmental studies and provide examples with success story.
- d) Illustrate the role of stakeholders in disaster management and discuss how their participation can improve response and recovery efforts.
- e) Identify the key components of the Disaster Management cycle and explain the significance of each phase in reducing the impact of disasters.



(3)

VAC-002(4)

2018  
Full Marks - 80  
Time - As in the Programme  
The figure in the right hand margin indicate marks  
Answer All question.

Group-A

1. (a) Define photochemical smog.
- b) Explain cyclone management
- c) How does earthquake occurs.
- d) What are the important aspects of sustainable development?
- e) What are the important causes of climate change?
- f) What is Green House Effect?
- g) Define population density?
- h) What is full form of HIV & AIDS?
- i) What are the causes of ozone layer depletion?
- j) Define Immigration?

Group - B

2. a) Explain the four spheres of present above Earth surface.
- b) Explain Nitrogen Cycle.

OR

- a) Explain any Two :-
  - i) Carbon Cycle
  - ii) Ecology
  - iii) Ecosystem
3. a) What is Pollution? Explain causes and effects of Air Pollution.
- b) Explain different type of Natural Disasters and write down methods to manage these situations.

OR

- a) Explain causes and effects of any two Pollutions.
  - i) Thermal Pollution
  - ii) Noise Pollution
  - iii) Soil Pollution
4. a) Explain Urbanization and how it affects the environment?
- b) Define the terms like 'Species' & 'Community'

OR

Explain different Communicable Diseases . Also describe its transmission methods and how to control such Diseases.

5. a) Explain different Environmental movements in India and also in Odisha.

OR

a) Explain followings

i) Central pollution Control Board.

ii) Role of Women in Environmental Movements.

6.a) What is Natural Resources? Explain different Natural Resources and why do we need to conserve all these Resources?

OR

b) Explain any Two :-

i) Water Act

ii) The Wildlife Act

iii) Environmental Protection

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2022  
Full Marks - 60  
Time - As in the Programme  
Sub: Atomic Structure, Bonding, General Organic  
Chemistry & Aliphatic Hydrocarbons  
The figure in the right hand margin indicate marks  
Answer All question.

Part-I  
(Answer all questions)

1. Answer the following question with ONE word or fill in the blank.
  - a) \_\_\_\_\_ and \_\_\_\_\_ are two examples of greenhouse gases?
  - b) The lower part of atmosphere is called \_\_\_\_\_?
  - c) Presently, there are \_\_\_\_\_ numbers of notified biosphere reserve in India?
  - d) \_\_\_\_\_ is the macro and \_\_\_\_\_ is the micro nutrient present in soil.
  - e) Harmful algal blooms and fish kills in the water bodies are the results of a process called \_\_\_\_\_.
  - f) Which UN agency works for the welfare of children?
  - g) Who heads the central pollution control board (CPCB) meeting?
  - h) Name a key person linked to Narmada Bachao Andolan?
  - i) What is AIDS stands for?
  - j) \_\_\_\_\_ are those resources which we are not extracting at present despite technological availability.
  - k) NDMA stands for \_\_\_\_\_.
  - l) \_\_\_\_\_ is an example of exhaustible resource.

Part-II

2. Answer any EIGHT questions within TWO or THREE sentences maximum
  - a) Define Ecological Pyramid?
  - b) What is genetic effect of nuclear radiation?
  - c) Write two effects of global warming?
  - d) What is the significance of Red Data book?
  - e) What is mutualism in environmental science?
  - f) Write two objectives of SPCB?
  - g) What is Buffer Zone?
  - h) Differentiate between Hazard and Disaster?
  - i) What are the causes of soil erosion?
  - j) Differentiate between epidemic and pandemic diseases?

Part-III

3. Answer any EIGHT questions within 75 words maximum

- a) Explain the term "Ozone Layer Depletion"?
- b) Write on three scopes of environmental study?
- c) Define the term population density, and population distribution?
- d) What are the features of K-species and R-species?
- e) Differentiate between biotic and abiotic factors?
- f) What are the powers of CPCB?
- g) What are the major causes of population growth?
- h) Differentiate between renewable and non-renewable resources?
- i) Explain Air Act 1981?
- j) Explain the terms BOD and COD in water sample?

#### Part-IV

Answer all within 500 words maximum

- 4.(a) Discuss causes, advantages, disadvantages and solution of Acid Rain?

OR

- b) What are different segments and elements of environment, explain in brief? Write the name of any four environmental concerns presently we are facing?
- 5.a) What are the communicable diseases and non communicable diseases, explain with examples? What are the characteristics of communicable diseases?

OR

- b) Explain the various causes of Urbanization? What are its effects on society? Write the solutions of urbanization?
- 6.a) Explain about different causes of environmental conflicts? Explain the role of women in environmental movements?

OR

- b) Write a short note on Bishnoi Movement?
7. a) What are the purposes of wildlife conservation? What are the different threats to wildlife? Write two steps to be taken for wildlife conservation?

OR

- b) Write one aspect of disaster management? Explain natural disaster management? Write a short note on effective way of natural disaster management.

\*\*\*

2022  
Full Marks - 80  
Time - As in the Programme  
The figure in the right hand margin indicate marks  
Answer All question.

1. Answer all the questions:

- a) What is vector borne disease?
- b) What is CPCB?
- c) Which chemical used to kill pest in agriculture?
- d) Jungle Bachao Andolan started from which state of India?
- e) What is goal of water act and which year it was started?
- f) Define BOD.
- g) What is greenhouse gas?
- h) Which layer of atmosphere protect earth from harmful UV ray?

2. Answer any EIGHT of the following questions:

- a) Explain food chain with an example.
- b) What is ecological pyramid?
- c) Write notes on non-communicable disease with an example.
- d) What is water borne disease?
- e) What is the role of SPCB?
- f) Write a short note about AIDS.
- g) Write short note on Appiko movement.
- h) What is ammonification?
- i) Difference between renewable and non-renewable resources.
- j) What is Ecology?

3. Answer any EIGHT of the following questions.

- a) Define food web with an example.
- b) Write short note on nitrogen cycle.
- c) Discuss various layers of atmosphere.
- d) Write the impact of urbanization on our society.
- e) Write the impact of overpopulation.
- f) What is Biodiversity ? Discuss about the types of biodiversity.
- g) What is Chipko Movement?
- h) What are the roles of women in environmental movement?
- i) Explain forest as an ecosystem.
- j) What are the laws of thermodynamics?

4. Answer any FOUR of the following questions.

- a) Describe about structure and function of ecosystem

OR

Write the cause, effect and control of water pollution.

- b) Write a detailed note about control method of population.

OR

Define natural disasters. Explain the impact of flood & its management.

- c) Write the structure and function of central pollution control board.

OR

Write a note on different environmental movement in India.

- d) Explain briefly about the wild life and its management. Discuss the procedure of conservation.

OR

Discuss different types of soil erosion and its conservation method.

\*\*\*



2022  
Full Marks - 80  
Time - As in the Programme  
The figure in the right hand margin indicate marks  
Answer All question.

1. Answer all the questions:

- a) In Ecological Pyramid, Pyramid of Energy is always\_\_\_\_\_.
- b) The process in which ammonia is converted into nitrite is called\_\_\_\_\_.
- c) All population of a given area is called\_\_\_\_\_.
- d) The birth rate of a population per unit area at a given time is called \_\_\_\_\_.
- e) Malaria is a \_\_\_\_\_type of disease.
- f) The movement of individuals from an area & return to the same area afterwards is called\_\_\_\_\_.
- g) \_\_\_\_\_is the leader of Chipko Movement.
- h) CPCB stands for\_\_\_\_\_.
- i) Save Silent Valley Movement occurs in \_\_\_\_\_ state of India.
- j) The Water Act enacted in the year\_\_\_\_\_.
- k) Solar energy is a \_\_\_\_\_ type of natural resources.
- l) An\_\_\_\_\_is a sudden shaking (vibration) of ground caused disturbances in the earth crust.

2. Answer any EIGHT of the following questions:

- i) What is Food Chain? Define with example.
- ii) Different between nitrification & de-nitrification.
- iii) What is Pollutants? What is the full form of PAN?
- iv) Who is the leader of Bishnoi Movement? What is the cause of Bishnoi movement?
- v) What is communicable disease? Give two examples of water borne disease.
- vi) What is the role of State Pollution Control Board?
- vii) Difference between Renewable & Non-renewable resources.
- viii) Write a note on Narmada Bachao Andolon.
- ix) What is Biodiversity? Difference between in-Situ & Ex-Situ Conservation.
- x) When the Air Act Established? What is its objectives?

3. Answer any EIGHT of the following questions

- a) Write a note on Atmosphere.
- b) Describe Carbon Cycle.
- c) Control measures against soil pollution.
- d) Give a brief note on Air Borne disease

- e) What are the consequences of overpopulation?
- f) Write a brief note on Appiko movement.
- g) Write a note on role of women in Environment movement.
- h) What is Natural disaster? What is the Behavioural response during & after the cyclone?
- i) Write a note on Wild Life Protection Act.
- j) Define Urbanization. Write two effects of Urbanization.
- 4. Answer any FOUR of the following questions.
- a) Write a note on structure & function of Ecosystem.

OR

Write a detailed notes on causes effect & measures of control of Air-Pollution.

- b) What are Communicable Diseases?

OR

Write a note on control methods of population.

- c) Write a note on different environment movements in Odisha.

OR

Write the structure & function of Central Pollution Control Board.

- d) Write a note on management & conservation of soil.

OR

What are natural disasters ? Write about flood & its management.

\*\*\*

2020

Full Marks - 50

Time - As in the Programme

The figure in the right hand margin indicate marks

Answer All question.

Group-A

(Answer all questions. Each carries 2 marks)

1. (i) What is Biosphere?
- ii) How Lithosphere, Hydrosphere & Atmosphere interact Biosphere?
- iii) What is Green Marketing?
- iv) How Eco Mark helpful?
- v) What is Plastic Waste?
- vi) Describe the categories of Plastic & its Recovery.
- vii) How Ozone layer depletion causes?
- viii) Give the difference between GIS, GPS & RS.
- ix) Define the term Eco labelling.
- x) What is Green Technology?

Group -B

(Answer all questions. Each Carries 12 marks)

- 2.(a) What is Energy RESources? Explain about the Non Renewable resources & types.
- b) What is Renewable resources? Why alternative Renewable resources need to the environment?

OR

- a) How Land use planning to the environment. Describe Land Resources.
- b) Explain about Nuclear Energy Resources
- 3.a) Write the 12 principles of Green Chemistry?
- b) Explain about ISO certification for the substances.

OR

- a) How Green computing design helpful for the Environment?
- b) Explain the causes of climate change? How Global warming responsible for it?
- 4.a) Describe the Stages of EIA?
- b) What is Solid Waste? Explain about the E-Waste sources, Causes & Management.

OR

- a) What is EIA? Explain its Roles & objectives.  
Write the difference between EIA, EIS & EA.
- b) Describe about the Environmental Protection Act. 1986.
5. Write short notes on : (Any two)
- i) Water Act
- ii) Air Act
- iii) Wildlife Protection Act.

\*\*\*

2020

Full Marks - 80

Time - As in the Programme

The figure in the right hand margin indicate marks

Answer All questions including Q.No-1.

1. Answer the following questions.
  - a) What are the control methods of population?
  - b) What are the effects of radiation pollution?
  - c) What is soil pollution?
  - d) Define wild life management.
  - e) What is radiation pollution?
  - f) How does nitrogen return to the soil?
  - g) How can land pollution be prevented?
  - h) What is soil erosion?
  - i) What is biogeochemical cycle?
  - j) What are the compositions of air?
2. Explain various components of ecosystem in details.

OR

Discuss various components of environment and layers of each component with suitable diagram.

3. Define urbanization. Discuss its effect on the society.

OR

Discuss different sources of water pollution. Explain different measures to control over water pollution.

4. What is noise pollution? Discuss different sources of noise pollution? What are the effects of noise pollution?

OR

What are communicable diseases? Write down its transmission methods. How it is different from non-communicable diseases.

5. Write down the role of Central and State Pollution Control Board in details.

OR

Discuss various environment movements in India for safety of the environment. Also explain how women contribute towards such movement.

6. Write down different steps taken by the government for management and conservation of wild life.

OR

Write short notes. (Answer any two)

- a) Wild life Act, 1972
- b) Environment Protection
- c) Conservation of natural resources
- d) Management of natural disaster

\*\*\*

2019  
Full Marks - 80  
Time - As in the Programme  
The figure in the right hand margin indicate marks  
Answer All question.

Group-A

1. Define each of the following in ONE sentence only.
  - i) Ecology
  - ii) Pollution
  - iii) Disaster
  - iv) Disease
  - v) Urbanization
  - vi) Nitrogen Cycle
  - vii) Conservation
  - viii) Wildlife
  - ix) Biosphere
  - x) Atmosphere

Group-B

2. Give an account of carbon cycle with diagram.

OR

Explain hydrosphere with its importance.
3. Describe the causes and control measures of soil pollution.

OR

Enlist the management during and after cyclone.
4. State the control measures of population.

OR

Give an account of non-communicable diseases.
5. Discuss the role of women in environmental movements.

OR

Mention the role of State Pollution Control Board.
6. Narrate the conservation of wildlife in detail.

OR

Give an account of conservation of forest with its importance.

2022  
Full Marks - 80  
Time - As in the Programme  
The figure in the right hand margin indicate marks  
Answer All question.

PART-I

1. Answer in one sentence
  - (a) Give one example of manmade disaster.
  - b) Give one example of Natural Disaster.
  - c) Cholera is example of what types of disease?
  - d) What are the mode of communication to warn people during Natural Disaster.
  - e) What is the Green House Gases?
  - f) What is the importance of Ozone Layer?
  - g) Give one soical cause behind the population growth in India.
  - h) Give one economic cause responsible for population growth.
  - i) What was the main objective of the Environment protection Act-1986?
  - j) What step can be taken to prevent soil erosion?
  - k) What types of forest has the maximum biodiversity?
  - l) What is meant by life style diseases?

PART-II

2. Answer any eight of the following within two to three sentences each
  - a) What is light pollution?
  - b) What is the necessity of Quarantine?
  - c) What is Hydrosphere?
  - d) What are the importance of The Wild Life Protection Act-1972?
  - e) What cause Tsunami?
  - f) What is Vehicular pollution?
  - g) What is the significance of environment?
  - h) What is nitrification?
  - i) H OW to protect one from lighting?
  - j) What is Immunity?

PART-III

3. Answer any eight of the following within 75 words each.
  - a. Biosphere
  - b. Ecosystem

- c. Sound pollution
- d. Community
- e. Global warming
- f. Sustainable Development
- g. Man-made Disaster
- h. National Disaster Management Authority
- i. Preventive measures of Covid-19
- j. HIV and AIDs
- k. Methods to control population growth

#### PART-IV

Answer the following within 500 words each.

4. Explain the significance of carbon cycle.

OR

Discuss the causes, effects and measures to control industrial pollution.

5. What is climate change? Explain its causes & effects on environment.

OR

Explain the effects of increasing urbanisation on society and growth

6. Give a brief description of types of disasters and their effects.

OR

What are the various institutions and their role in disaster management? Explain.

7. Give an account of communicable diseases and their transmission.

OR

Explain the role of different sectors in managing Health Disaster.

\*\*\*

2021

Full Marks - 80

Time - As in the Programme

The figure in the right hand margin indicate marks

Answer All question.

1. Fill in the blanks.

- i) Carbon dioxide, methane, nitrous, oxide and chlorofluorocarbon are together called \_\_\_\_\_ gases.
- ii) \_\_\_\_\_ proposed the term "ecosystem".
- iii) \_\_\_\_\_ is defined as group of individuals of any one kind of organism.
- iv) The part of the earth where different ecosystems operate is called the \_\_\_\_\_
- v) The transfer of food energy from plant sources through a series of organization in an ecosystem is known as \_\_\_\_\_
- vi) When sulphur dioxide and nitrogen oxides react in the atmosphere it forms \_\_\_\_\_ rain.
- vii) Unwanted sound is called \_\_\_\_\_
- viii) Increased radiation from atomic bomb blasts or radioactive wastes are hazardous, because such radiations are called \_\_\_\_\_ radiation.
- ix) An \_\_\_\_\_ is a sudden shaking (vibrations) of ground caused by disturbances in the earth's crust.
- x) The diseases that are transferred from one person to another is called \_\_\_\_\_ diseases.
- xi) In ecosystem the living organisms are placed in different levels called \_\_\_\_\_ level.
- xii) The plants synthesize/prepare their own food, so they are called \_\_\_\_\_

2. Answer any EIGHT of the following

- i) What is soil erosion and what are its effects?
- ii) Define ecosystem and this term was given by whom?
- iii) What are the causes of air pollution?
- iv) Give difference between food chain and food web.
- v) Define atmosphere
- vi) When was the Environment Protection Act established? Write its objective.
- vii) When was the Water Act established and what was its objective.
- viii) Write down the role of central pollution control boards.
- ix) Define pollutants? How many ways are they available?
- x) What is photochemical smog?

3. Answer any EIGHT of the following:

- i) Write a note on hydrosphere.
- ii) Give some points for conservation of soil.
- iii) Write some points on flood.



- iv) Write the functions of State Pollution Control Board.
- v) Define urbanization and its effects.
- vi) What are natural resources and its types.
- vii) How resources can be conserved?
- viii) Write a note on carbon cycle.
- ix) What are the components of lithosphere?
- x) What are the causes and effects of radiation pollution?
- 4. Answer any FOUR of the following
- i) What do you mean by ecosystem? What are the different components of ecosystem? Mention in detail
- ii) What are communicable diseases? Mention some communicable diseases.
- iii) Write notes on different environmental movements in India.
- iv) Write notes on Environment protection. Discuss various acts related to Environmental Protection.
- v) What are natural disasters? Write some of the disaster and their management.
- vi) Write a detailed notes on causes, effect and measures of control of air pollution.
- vii) Write a note on management and conservation of wildlife.

\*\*\*

2021  
Full Marks - 80  
Time - As in the Programme  
The figure in the right hand margin indicate marks  
Answer All question.

Part-I

A. Define the following:

1. Ecological pyramid
2. Chipko movement
3. SPCB
4. CNG
5. CPCB
6. Noise Pollution
7. Sustainable Development
8. Nuclear Hazard
9. Water Conservation
10. Biodiversity
11. Child Welfare
12. Red Data Book

Part-II

B. Answer the following questions

1. What is the causes of soil erosion?
2. Write two effects of airpollution?
3. Write scope of the environment?
4. What is the meanign of K-selected species?
5. What do you mean Communicable diseases?Give the two examples.
6. What are the main objectives of State PollutionControl Board?
7. What is the difference between Hazard & Disaster?
8. Write the name of two Non Communicable diseases.
9. What is the main objective of Wild life Protection Act 1972?
10. What are the causes of Acid Rain?

Part-III

C. Answer the following questions in brief (any 8)

1. Define the term population density
2. Define the term population distribution?
3. What is a Eco-system?
4. Differentiate between Biotic factors & Abioticfactors.

5. Differentiate between communicable diseases and non -communicable diseases.
6. What is a community?
7. How does radiation cause Pollution? Write two examples.
8. What do you mean by Speciation & Competition of Individuals?
9. What are the objectives of CPCB?
10. What are natural resources?

#### Part-IV

D. Answer the following questions

1. Describe broadly the constituents of atmosphere and atmosphere structure? Mention which major gasses are present in different levels of atmosphere?

OR

What are different segments and elements of environment? Explain in brief.

2. Explain various causes of Urbanization and its effects on society? How does population affect ecology?

OR

Explain different modes of contact of communicable diseases and non-communicable diseases? What are the steps to be taken to prevent disease transmission?

3. What are the root causes of environmental movements? What are different types of environmental movements? Explain the role of women in environmental movements?

OR

Explain Functions and powers of CPCB?

4. Classify natural resources? What are the causes of depletion of natural resources?

OR

What is natural disaster and classify them? What are the aspects of disaster management? Write a short note on effective way of natural disaster management?

\*\*\*

2021  
Full Marks - 80  
Time - As in the Programme  
The figure in the right hand margin indicate marks  
Answer All question.

Part - I

1. a. Fill in the blanks with word(s)

- a) World Environment Day is observed every year on \_\_\_\_\_
- b) Silent Valley is situated in the state of \_\_\_\_\_
- c) Maximum biodiversity is found in the \_\_\_\_\_ forests.
- d) \_\_\_\_\_ is the major constituent of biogas.
- e) For measuring intensity of earthquake \_\_\_\_\_ scale is used
- f) Soil erosion can be prevented by \_\_\_\_\_
- g) Cholera is a \_\_\_\_\_ type of disease
- h) Generic name of man is \_\_\_\_\_
- i) \_\_\_\_\_ is the national animal of India.
- j) Coal is a \_\_\_\_\_ resource
- k) \_\_\_\_\_ is a fossil fuel
- l) Wildlife protection Act was enacted in the year \_\_\_\_\_

PART-II

2. Answer any eight questions, each within two to three sentence

- |                      |                          |
|----------------------|--------------------------|
| (a) Food chain       | (b) Biosphere            |
| (c) Contact Tracing  | (d) Mortality            |
| (e) Hydrosphere      | (f) Renewable Resource   |
| (g) Pandemic disease | (h) Quarantine           |
| (i) Tsunami          | (j) Social afforestation |

PART-III

3. Answer any eight questions, each within 75 words

- a) Troposphere
- b) Threats to biodiversity
- c) Effect of yoga on Covid patients
- d) Radiation pollution
- e) The Wildlife Protection Act
- f) Renewable energy
- g) Natural Disaster management

- h) Explain 3R principle
- i) Ozone layer depletion
- j) Corporate Social Responsibility
- k) Chipko Movement

## PART-IV

Answer any four questions, each within 500 words

4. Describe the nitrogen cycle and its significance.

OR

Discuss the causes, effects and measures to control water pollution.

5. What is sustainable development? Discuss the steps taken by government towards sustainable development.

OR

Discuss the causes of population growth and different methods adopted to control population.

6. Explain global warming with its causes and effects.

OR

Discuss the preparedness measures taken by government for disaster management.

7. Discuss the different preventive measure adopted during Covid-19 pandemic.

OR

Briefly discuss on water borne diseases.

8. Discuss the effects of urbanisation on the society and methods of urban wastes managment.

OR

Write notes on :

- a) NDRF                      b) Communicable disease

9. Discuss environmental laws.

OR

Discuss the characteristics of a community.

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2019  
SUB-EVS  
BSc. ITM

1. Write the answer of the following questions.
  - a) Define food chain.
  - b) Write down the biotic component of an ecosystem
  - c) Define the composition of air.
  - d) Define noise pollution
  - e) Define biodiversity.
  - f) Give two examples of control method of population.
  - g) Write down the major roles of State Pollution Control Board.
  - h) What is objective of Chipko movement?
  - i) What is air pollution?
  - j) Define wild life management.

2. Write down the structure and function of ecosystem.

OR

Write notes on:

- a) Atmosphere
- b) Nitrogen cycle

3. Define water pollution. Write down the sources of water pollution. Explain different measures to control water pollution.

OR

Write notes on :

- a) Flood and its management
- b) Thermal Pollution

4. Define what are communicable diseases? Write down its transmission methods.

OR

Explain the following terms in detail.

- a) Urbanization
- b) Population Growth Curve

5. Write down the role of Central Pollution Control Board in details

OR

- a) Chipko Movement
- b) Role of Women in Environmental Movements

6. Write down the conservation of wild life and discuss its management methods.

OR

- a) Wild Life Act
- b) Soil Erosion and conservation

#### PART-IV

Answer any four of the following question in 800 words each.

8x4

4. Provide a detailed explanation of different types of networks, their advantages and disadvantages.
5. Describe the purpose of flowcharts, their standard symbols. Draw a flow chart to check if a given number is even or odd.
6. a. Explain different types of loops in Python, their syntax and how break, continue and else work within loops. 5  
b. Write a Python program that will receive a set of integers from the keyboard and check whether a new number entered by the user is present in the set or not. 3
7. a. Write a Python program to merge two dictionaries and update one dictionary with values from another. 5  
b. Explain the use of set, tuple and dictionary. 3
8. a. Write a program to receive the name and roll number of five Students and store them using appropriate data structure. Receive a roll number from the keyboard and display the corresponding name of the student. 5  
b. Differentiate tuples and list with examples 3



(4)

#### +3-I-S-NEP-Major-I-P-1-Sc-Comp.Sc

2024

Time :As in Programme

Full Marks : 100

*The figures in the right-hand margin indicate marks.*

*Answer all questions.*

#### PART-I

1. Answer all questions. 1x10
  - a. Which of the following network devices operates at the Data Link Layer (Layer 2) of the OSI model ?
    - i. Router
    - ii. Switch
    - iii. Hub
    - iv. Repeater
  - b. Name the primary storage device in a computer where active processes and data reside.
  - c. What is the fastest memory in the memory hierarchy ?
  - d. Which of the following control structures is used for making decisions in an algorithm ?
    - i. Sequence
    - ii. Selection
    - iii. Iteration
    - iv. None of the above
  - e. Name the diagrammatic representation of an algorithm using predefined symbols.
  - f. What is the error that occurs when a program runs but produces incorrect results due to flawed logic ?

(Turn Over)

- g. Which of the following is a mutable data type in Python ?
- |            |             |
|------------|-------------|
| i. String  | ii. List    |
| iii. Tuple | iv. Integer |
- h. What is the keyword used to define a function in Python ?
- i. What function is used to receive input from the user in Python ?
- j. Which data structure allows duplicate elements ?
- |            |                |
|------------|----------------|
| i. Set     | ii. List       |
| iii. Tuple | iv. Dictionary |

### PART-II

2. Answer the following questions in 50 words each. 2x9
- What is the role of the ALU in a computer system ?
  - Explain the difference between primary and secondary memory.
  - What are the basic control structures in programming ?
  - How does an Integrated Development Environment help in programming ?
  - Explain the difference between break and continue in loops.
  - Explain the difference between mutable and immutable types in Python with examples.
  - What are container types in Python ? List a few examples.
  - How do you create and access elements in a tuple ? Provide an example.
  - Explain the use of zip operation in a dictionary in Python ?

(2)

(Contd.)

CSC-211(4)

### PART-III

3. Answer any eight questions of the followings in 250 words each. 5x8
- Draw and explain the block diagram of a computer system.
  - Explain the different types of computer networks and their importance.
  - Explain different types of programming errors with examples.
  - Write a Python program to receive names of five Students and print the name that has the highest length.
  - Discuss Python's string properties, methods and conversions with examples.
  - Write a Python program to count the number of vowels in a string received from the keyboard.
  - Explain the concept of recursion in Python. Provide an example of a recursive function.
  - Write a python program to define a function that will receive a number from the keyboard and find the sum of the digits in the number.
  - Write a Python program to demonstrate list comprehension by generating squares of even numbers from 1 to 10.
  - Discuss the various built-in functions and methods applicable to Python lists with examples.

(3)

(Turn Over)

CSC-211(4)



[ 4 ]

- (c) Write a program in python the display star in right angled triangular shape.

OR

Explain any two types of looping statement with suitable example.

- (d) What is Function ? How it different from methods. Describe about the anonymous function.

OR

Write a program in python to check whether a given number is prime or not using function.



**III - S - B.Sc. - (ITM) - SEC - I -**  
**(Python Programming)**

**III - S - B.Sc. - (ITM) - SEC - I -**

**(Python Programming)**

**2023**

**Full Marks - 80**

**Time - As in the Programme**

*The figure in the right hand margin indicate marks.*

*Answer ALL questions.*

1. Answer any EIGHT of the following questions :  
[1 x 8 = 8

- (a) Which library is used for doing approximate and phonetic matching of strings ?
- (b) What is CherryPy ?
- (c) Python schedules the garbage collector depending upon a number called \_\_\_\_\_.
- (d) Which package is used for processing array of single or multidimensional type ?
- (e) Which is a python imaging library ?
- (f) Write the name of the library that consists of web related functions.
- (g) Which is the standard python compiler implement c ?

*[P.T.O...]*

**[ 2 ]**

(h) What is the extension of byte code of python file ?

2. Answer any EIGHT of the following questions :

[2 x 8 = 16]

(a) Which website is used to download python freely ?

(b) Write any two ways a python program can be executed ?

(c) Write any two built in data type in python ?

(d) Write the name of the data type that represents sequence of number and is generally used to repeat a for loop ?

(e) Write a two bit wise operator ?

(f) Write any one membership operator used in python ?

(g) Write the general format of input() function ?

(h) Which command is used to read all the command line argument except 0th argument ?

(i) What is control statement ?

(j) What is assert statement ?

3. Answer any EIGHT of the following questions :

[3 x 8 = 24]

(a) Write any two types of sequences in python ?

(b) Describe the concept of tuple ?

[Cont...

**[ 3 ]**

(c) Explain list with example.

(d) What is Set ? Explain it with example.

(e) What is byte code ? Can you run python byte code ?

(f) What is PVM ?

(g) What is multiple comments ? Explain it with example.

(h) Explain Boolean data type with example.

(i) What is frozen set ?

(j) What is the need of type() function ?

4. Answer any FOUR of the following questions :

[8 x 4 = 32]

(a) Briefly explain about different type of data type used in python programming.

OR

Write a program in python to convert numbers of octal, binary and hexadecimal system in to decimal number system.

(b) Explain different types of operator with example.

OR

Write a program in python to display all even numbers that lies in between 0 to 100.

[Cont...

**2021**

**Full Marks - 80**

**Time - As in the Programme**

*The figure in the right hand margin indicates marks.*

*Answer ALL questions.*

1. Answer any FOUR of the following questions : [2½ 6=12]
  - (a) Write down two properties of an algorithm.
  - (b) What is the difference between intermediate mode and script mode ?
  - (c) Define range function.
  - (d) How to input data in python program ?
  - (e) S="UTKAL UNIVERSITY"  
print(S[-10 : -4]), what is the output of the code ?
  - (f) Define ternary operator in python.
2. Answer any FOUR of the following questions : [4½ 4=16]
  - (a) Write down the difference between List and Tuple.
  - (b) Explain python Dictionaries.
  - (c) What is Pseudocode ? Explain with example.
  - (d) What is an identifier ? Write down the rules for naming identifiers.
3. Answer any FOUR of the following questions : [5½ 5=25]
  - (a) What is documentation ? Write some advantages of documentation.
  - (b) Draw a flowchart to calculate the average of 5 numbers.
  - (c) Define Top-down and Bottom-up programming.
  - (d) What is String and how do you create a String in Python ?
  - (e) Explain bitwise operator with example.

[ 2 ]

4. Answer any THREE of the following questions :

[9] 3=27

- (a) What is Debugging ? Explain types of error in programming.
- (b) What is an algorithm ? Write down the characteristic of an algorithm. Write an algorithm to find all the roots of a quadratic equation  $ax^2 + bx + c = 0$ .
- (c) Define Flowchart. Draw a flowchart to find the Fibonacci series till the term  $\leq 100$ .
- (d) What is Data type ? Explain Basic Data type available in python.
- (e) What is Function in Python ? How to set default argument in function ? Explain it with a suitable example.
- (f) Define Loop ? Explain different types of loop available in python.



**III - S - B.Sc. - (ITM) - SEC - I - (PP)**

**2024**

***Full Marks - 80***

***Time - As in the Programme***

The figure in the right hand margin indicate marks.

Answer ALL the questions.

**GROUP - A**

**(Answer all questions. Each question carries 1 mark )**

1. Answer all questions :- [1 \* 12 = 12]
- a) Define program.
  - b) Define instructions.
  - c) Define keyword.
  - d) Define decision table.
  - e) Define immutable.
  - f) Write the membership operators used in python?
  - g) Define two mutable data types?
  - h) Temp-123 is an valid identifier. (True / False)
  - i) Write the output of  
    `t=(1,2,3,'r')`  
    `print(t[2]+t[-3])`
  - j) What do you mean by traversing of string?
  - k) Which function is used to return smallest element of list?
  - l) String is a mutable data type. (true or False)

**GROUP - B**

**(Answer any EIGHT questions. Each question carries 2 marks)**

2. Answer any eight questions:- [2 \* 8 =16]
- a) Define Python.
  - b) Define high level programming language.
  - c) Define slicing a string?

- d) Define algorithm?
- e) Define mutable data type. Give example.
- f) Define append() function in list. Give example.
- g) How to declare single and multiline comment?
- h) What is the use of sum() in list?
- i) What is the use of as keyword in python?
- j) Define IndexError in python?

### **GROUP - C**

**(Answer any EIGHT questions. Each question carries 3 marks)**

3. Answer any eight questions:- [3 \* 8 = 24]
- a) Define nested list?
  - b) Define modes of operation in python programming language.
  - c) Define flow of control of data.
  - d) Define function.
  - e) Write a program to calculate the factorial of a number.
  - f) Define debugging.
  - g) Explain concatenation and repetition operations in string.
  - h) What is the difference between tuple and list data type?
  - i) Difference between append() and extend() function in List.
  - j) What is the use of default argument?

### **GROUP - D**

**(Answer all questions. (Each question carries 7 marks each)**

4. What is the concept of problem solving? What are the steps involved in order to find solution of an problem.

OR

Define error and debugging in programming. Explain the types of errors used in programming language.

5. Explain the types of problem solving techniques in brief.

OR

Short notes on:-

- a) Structured programming language
  - b) Programming methodology
6. Write a Program to calculate total marks, percentage and grade of a student. Marks obtained in each of the three subjects are to be input by the user. Assign grades according to the following criteria:
- Grade A: Percentage  $\geq 80$
  - Grade B: Percentage  $\geq 70$  and  $< 80$
  - Grade C: Percentage  $\geq 60$  and  $< 70$
  - Grade D: Percentage  $\geq 40$  and  $< 60$
  - Grade E: Percentage  $< 40$

OR

Explain the following list methods with an example.

- a) len()                      b) extend()      c) insert()      d) index()
- e) sort()                      f) max()      g) min()

7. Write a python program to calculate the series  $1+3!+5!+7!+\dots+n!$ .

OR

Write a python program to create a list of 10 elements defined by the user. And then calculate the average of even numbers in python.

\*

[4]

- (b) Explain different types of loop statements used in python with example.
- 6.(a) Explain different token used in python with example.

OR

- (b) Discuss the structure and elements of python program.
- 7.(a) What is a function in python ? Write a function to calculate the square of a Number ?

OR

- (b) Discuss various data types in python.



III - S - BCA - SEC - 1 -  
(Python Programming) - (R & B)

III - S - BCA - SEC - 1 -  
(Python Programming) - (R & B)

2024

Full Marks - 60

Time - As in the Programme

*The figure in the right hand margin indicate marks.*

*Answer ALL questions.*

Group - A

1. Answer all questions : [8 x 1 = 8]
- (a) Define Keyword.
- (b) Define source code.
- (c) Explain bug in programming.
- (d) Missing semicolon(;) is a \_\_\_\_\_ type of error ?
- (e) Which symbol of flowchart is used for decision making ?
- (f) What is the use of break statement ?
- (g) What is the answer of the expression (22%3) ?
- (h) What is the answer of the expression (3 ^ 4) ?

[ Cont...

[ 2 ]  
Group - B

2. Answer all questions : [8 x 1.5 = 12]

- (a) What is an algorithm in python program ?
- (b) What is the use of an interpreter ?
- (c) Write the snippet to display "hello world" in python interpreter ?
- (d) What do you mean by an assignment statement ?
- (e) Write any two disadvantage of flowchart ?
- (f) Define range function ?
- (g) How to input data in python program ?
- (h) What is flow iteration ?
- (i) Write the nested if statement with syntax ?
- (j) Define ternary operator in python.

Group - C

3. Answer any 8 questions : [8 x 2 = 16]

- (a) Write the types of error in programming ?
- (b) Draw a flowchart to calculate the average of 5 numbers.
- (c) What is pseudo code explain with example ?
- (d) What do you mean by default argument ? How it is implemented ?

[ Cont...

[ 3 ]

- (e) What is Boolean Operator ? How it is used in Python ?
- (f) What is identifier and write down the rules for naming an identifier ?
- (g) What is break statement in python programming ?
- (h) How do you create a default argument function in python.
- (i) Write the advantage of documentation.
- (j) Write down an algorithm to find the largest number among three different number entered by the user.

Group - D

Answer all questions : [4 x 6 = 24]

- 4.(a) Define Error. Explain different types of error produced by a program.

OR

- (b) Write a program in python to convert the given temperature from Fahrenheit to Celsius and vice versa ?
- 5.(a) What are symbol used in a flowchart ? Draw a flowchart to calculate factorial of a number ?

OR

[ Cont...



[ 4 ]

- (c) A list of integers : numbers = [12, 7, 5, 18, 25, 3, 10],  
a tuple of integers: values = (15, 30, 10, 5, 50, 25)  
and set of integers: unique\_numbers = {20, 15, 30, 25, 10}. Perform the following tasks :
- (i) From the list numbers, find all numbers greater than 10 and calculate their sum.
  - (ii) From the tuple values, find the largest and smallest elements and explain the immutability of tuples.
  - (iii) From the set unique\_numbers, add the number 35, and then remove all numbers less than 20. Print the updated set.
  - (iv) Explain with examples how lists, tuples and sets differ in terms of their usage.

OR

Explain the different types of operators in Python with examples.

- (d) Explain any two types of looping statement with suitable example.

OR

Write a program to check whether a given number is an Armstrong number or not using function.



III - S - B.Sc. - (ITM) - SEC - I -  
(Python Programming) - (R & B)

III - S - B.Sc. - (ITM) - SEC - I -  
(Python Programming) - (R & B)

2024

Full Marks - 80

Time - As in the Programme

*The figure in the right hand margin indicate marks.*

*Answer ALL questions.*

1. Answer any EIGHT of the following questions :

[1 x 8 = 8

- (a) What is the role of the Python interpreter ?
- (b) What is the difference between break and continue statements ?
- (c) What is program design ?
- (d) What is flowchart ?
- (e) Name any two arithmetic operators in Python.
- (f) How is a list different from a dictionary in Python ?
- (g) What is default argument in a Python function ?
- (h) What is tuple in Python ?

2. Answer any EIGHT of the following questions :

[2 x 8 = 16

- (a) Write any one membership operator used in python.

[ Cont...

[ 2 ]

- (b) How do you define a function in Python with as keyword arguments ? Give an example.
- (c) How tuple is different from a list ?
- (d) What is list slicing ? Give an example.
- (e) How to add a new key-value pair to a dictionary in Python ?
- (f) Differentiate between break, continue, and pass in Python.
- (g) Explain dictionary with example.
- (h) What is debugging, and why is it essential in programming ?
- (i) What is the purpose of an algorithm in program design ?
- (j) Write the difference between the top-down and bottom-up programming methodologies.

3. Answer any EIGHT of the following questions :

[ 3 x 8 = 24 ]

- (a) What is f-string ? Give an example.
- (b) What is documentation ? Write its type.
- (c) Write the difference between interpreter and compiler.
- (d) What is PVM ? Explain its work flow.
- (e) Write the differences between set and frozen set.

[ Cont...

[ 3 ]

- (f) Draw the flow chart to find factorial of a number.
- (g) Write a program to check a number whether it is even or odd using function.
- (h) If a = [3,6,1,4,5,2], sort the list in ascending and descending order.
- (i) Write a program to check the string is palindrome or not. (Take user input)
- (j) Explain keyword variable length function with example.

4. Answer any FOUR of the following questions :

[ 8 x 4 = 32 ]

- (a) Explain the steps involved in program design with an example. How does a well-structured design improve program efficiency and readability ?

OR

Discuss the different types of errors in programming and explain with suitable examples.

- (b) Draw a detailed flowchart to create a program that calculates the area and circumference of a circle based on the user's input radius.

OR

Explain the concept of a decision table. Create a decision table for a program that determines eligibility for a loan based on conditions like age, income, and credit score.

[ Cont...

31/5/2025

**I-S-NEP-BCA-Major-1-P-2-Intro to Python Prog.**

**2024**

Time :As in Programme

Full Marks : 100

*The figures in the right-hand margin indicate marks.*

*Answer all the questions*

**PART-I**

1. Answer all questions. 1x10
- a. Classes are created using \_\_\_\_\_ keyword.
  - b. We can check if a list is empty using \_\_\_\_\_ operator.
  - c. A function is defined using \_\_\_\_\_ keyword.
  - d. \_\_\_\_\_ data structure allows duplicate element.
  - e. \_\_\_\_\_ method closes the file and ensures that any changes made to the file are saved.
  - f. \_\_\_\_\_ returns a tuple consisting of quotient and remainder.
  - g. \_\_\_\_\_ function initializes objects attributes automatically when object is created.
  - h. \_\_\_\_\_ block always runs regardless of whether an exception occurred or not.
  - i. \_\_\_\_\_ function is used to return unique identifier of an object.
  - j. \_\_\_\_\_ functions are called inline functions.

## PART-II

2. Answer the following questions in 50 words each. 2x9
- Explain the difference between mutable and immutable types in python with examples.
  - What is Dictionary? Write the syntax of creating dictionary .
  - Write the difference between set & dictionary.
  - What are the modes of opening a file?
  - State the difference between iteration and recursion?
  - Describe three built-in functions of string in python?
  - What is operator overloading?
  - What is the use of input () function in python. How strings are declared?
  - Write the difference between selective control & iterative control.

## PART-III

3. Answer any eight questions of the followings in 250 words each. 5x8
- Write a python program to define a function that will receive a number as per user choice and find sum of digits
  - WAP to receive names of 5 students & print the name that has highest length.
  - Discuss various built in functions and methods applicable to python dictionary with example.
  - Write a recursive function that reverses the list of numbers that it receives.
  - What is single inheritance? Explain with suitable example
  - WAP to enter three integers and print the largest of the three.

- Explain the three ways of decision control in a program with examples.
- WAP to implement stack data structure.
- Write the difference between stack data structure and Queue data structure.
- What is a tuple? Explain the concept of looping in tuples.

## PART-IV

Answer any four of the following in 800 words each. 8x4

- What is class? Write a program using class. 5
  - Explain the use of set, tuple and dictionary . 3
- WAP using recursive function to obtain the running sum of first n natural numbers. 5
  - What is looping in Python? Give one example of a loop statement. 3
- What is the use of lambda() function in map() and reduce() explain with examples. 5
  - What is the use of break & continue statement in python? Give an example to show this. 3
- Explain hybrid inheritance and hierarchical inheritance with suitable examples. 8
- Explain the basic set operations and set methods and built in functions on sets. 5
  - Write the two types of recursion with example. 3



**2022**

**Full Marks - 80**

**Time - As in the Programme**

*The figure in the right hand margin indicate marks.*

*Answer ALL the questions.*

1. Answer all the question. [1 X 8 = 8]
- a) What is the role of interpreter?
  - b) Which symbol of flowchart is used for decision making.
  - c) Missing semicolon (;) is a \_\_\_\_\_ type of error.
  - d) What is debugging?
  - e) What is the use of break statement?
  - f) Who was the founder of python?
  - g) Define algorithm.
  - h) S="I am expert in Python"  
Print(S[-10 : -6])  
what is the output of the above code?
2. Answer any eight from the following questions. [2 X 8 = 16]
- a) Write any two disadvantages of flowchart.
  - b) What is the difference between intermediate mode and script mode?

**[ 2 ]**

- c) What is python dictionary?
  - d) How to input data in python program.
  - e) Write down the difference between List and Tuple.
  - f) Define range function.
  - g) Write the nested if statement with syntax.
  - h) What is python shell?
  - i) Write down two properties of an algorithm.
  - j) Define ternary operator in python.
3. Answer any Eight from the following question.  
[3 X 8 = 24]
- a) What do you mean by default argument. How it is implemented?
  - b) What is pseudo code explain with example.
  - c) Draw a flowchart to calculate the average of 5 numbers.
  - d) Define Top-down and Bottom-up programming.
  - e) Write down an algorithm to find the largest number among three different number entered by the user.
  - f) What is Boolean operator? How it is used in Python?
  - g) What is an identifier and write down the rules for naming an identifier.
  - h) What are the advantages of Tuple over List.
  - i) How do you create a String in python?
  - j) Write the advantages of documentation.

[Cont...

**[ 3 ]**

4. Answer the following question. [4 X 8 = 32]
- (a) Define problem and explain different stages in solving a problem using computer.

OR

Define error. Explain different types of error produced by a programme.

- (b) What are the symbols used in a flowchart? Draw a flowchart to calculate factorial of a number.

OR

Explain different types of loop statements used in python with example.

- (c) Discuss the structure and elements of python program.

OR

Explain top-down and bottom-up problem solving techniques with their advantages.

- (d) Discuss various data types used in python.

OR

What is function in python? Write a function to calculate the square of a number.



**II - S - BSc. - Computer. Sc. (H)**  
**(PYTHON PROGRAMMING) (R/B)**

[Cont...

**2024**

Time :As in Programme

Full Marks : 100

*The figures in the right-hand margin indicate marks.*

*Answer **all** the questions*

**विभाग - क**

1. निम्नलिखित प्रश्नों का उत्तर 1 या 2 शब्दों में दीजिये । 1x10
- (क) राजभाषा किसे कहते हैं ?
- (ख) आलेखन के कितने अवयव माने जाते हैं ?
- (ग) कौन हमारे हृदय की भावनाओं को खोल कर रख देते हैं ?
- (घ) भारत में पारिभाषिक शब्दावली का प्रारंभ किसके शासनकाल में हुआ ?
- (ङ) Manifesto का हिंदी शब्द क्या है ?
- (च) विश्लेषण का अंग्रेजी शब्द क्या है ?
- (छ) भारत के प्रथम सुपर कम्प्यूटर का नाम क्या है ?
- (ज) डॉ. ब्रजेश्वर मिश्र प्रयोजनमूलक हिंदी के मुख्य कितने भेद मानते हैं ?
- (झ) राजभाषा नियम, 1976 के आधार पर भारत को कितने क्षेत्रों में बाँटा गया है ?
- (ञ) संपर्क भाषा को अंग्रेजी में क्या कहते हैं ?

**विभाग - ख**

2. किन्हीं 9 प्रश्नों का उत्तर 1-2 वाक्यों में दीजिये । 2x9
- (क) प्रयोजनमूलक हिंदी की किसी एक विशेषता का उल्लेख कीजिये ।
- (ख) संपर्क भाषा से क्या तात्पर्य है ?
- (ग) व्यक्तिगत पत्र से आप क्या समझते हैं ?
- (घ) संसदीय राजभाषा समिति क्या है ?

(Turn Over)

- (ड) Draft has been amended accordingly का हिंदी अनुवाद क्या है ?
- (च) संक्षिप्त टिप्पणी नीचे दी जा रही है, का अंग्रेजी अनुवाद क्या है ?
- (छ) कंप्यूटर के जनक कौन हैं ?
- (ज) व्यावसायिक हिंदी किसे कहते हैं ?
- (झ) 'क' क्षेत्र की भाषा क्या होती है ?
- (ञ) अधिसूचित कार्यालय से क्या तात्पर्य है ?
- (ट) संक्षेपण की परिभाषा दीजिये ।

### विभाग - ग

3. किन्हीं 8 प्रश्नों का उत्तर 200 शब्दों में दीजिये । 5x8
- (क) सामान्य हिंदी एवं प्रयोजनमूलक हिंदी में क्या अंतर है ?
- (ख) राजभाषा अधिनियम 1963 की प्रमुख बातों का उल्लेख कीजिये ।
- (ग) व्यक्तिगत पत्र की भाषा-शैली कैसी होती है ?
- (घ) सरकारी पत्र किसे कहते हैं ?
- (ङ) कार्यालय में पल्लवन का क्या महत्व होता है ?
- (च) पारिभाषिक शब्दावली निर्माण में लोकवादी सिद्धांत से क्या अभिप्राय है ?
- (छ) कम्प्यूटर की तीन उपयोगिताओं पर प्रकाश डालिये ।
- (ज) प्रयोजनमूलक हिंदी के व्यवहार क्षेत्र की चर्चा कीजिये ।
- (झ) संपर्क भाषा के रूप में हिंदी की रूपरेखा प्रस्तुत कीजिये ।
- (ञ) राजभाषा और राष्ट्रभाषा में अंतर बताइये ।

### विभाग - घ

- किन्हीं 4 प्रश्नों का उत्तर 500 शब्दों में दीजिये । 8x4
4. प्रयोजनमूलक हिंदी की समस्या और संभावनाओं की चर्चा कीजिये ।
5. पारिभाषिक शब्दावली निर्माण के संदर्भ में समन्वयवादी सिद्धांत की समीक्षा कीजिये ।
6. कम्प्यूटर के विविध अंगों का वर्णन कीजिये ।
7. राजभाषा नीति संबंधी संकल्प का विस्तृत वर्णन कीजिये ।
8. व्यावसायिक पत्र के अर्थ और स्वरूप की चर्चा कीजिये ।





**PART-IV**

Answer any four of the following questions.

8x4

4. If  $y = (\sin^{-1} x)^2$ , then use Leibniz's theorem to prove that

$$(1-x^2)y_{n+2} - (2n+1)xy_{n+1} - n^2y_n = 0$$

5. Evaluate  $\int_0^{\pi/2} \ln \sin x dx$ .

6. The part of the parabola  $y^2=4ax$  bounded by the latus rectum revolves about the tangent at the vertex. Find the area of the curved surface of revolution thus generated.

7. Find the asymptotes to the curve  $x^3 + y^3 = 3x^2$ .

8. Evaluate  $\int \log(x^2 + x + 2) dx$ .



(4)

**2024**

Time :As in Programme

Full Marks : 100

*The figures in the right-hand margin indicate marks.*

*Answer **all** questions.*

**PART-I**

1. Answer all Questions. 1x10

- a. The point of inflexion of  $f(x)=x^3$  is \_\_\_\_.

- b.  $\int x \cdot e^{3 \ln x} dx =$  \_\_\_\_.

- c. For the function  $f(x) = \frac{3x+5}{7-x}$ , the equation of vertical asymptote is \_\_\_\_.

- d.  $\int_{-1}^2 |x| dx =$  \_\_\_\_.

- e.  $\int e^{\log(1+\tan^2 x)} dx =$  \_\_\_\_

- f. The formula for the length of the curve  $x = f(t)$ ,  $y = \phi(t)$  from  $t = \alpha$  to  $t = \beta$ , is \_\_\_\_.

- g. The volume of the solid generated by revolving the part of the curve  $x=f(y)$  between  $y=a$  and  $y=b$  around  $y$ -axis is given by \_\_\_\_.

(Turn Over)

- h.  $\nabla \cdot \nabla \times F = \underline{\hspace{2cm}}$ .
- i. The volume of the solid generated when the region is enclosed by the curve  $y=x^3$ ,  $x=1$ ,  $y=0$  is revolved about y-axis is  $\underline{\hspace{2cm}}$ .
- j. The Unit tangent vector of  $\vec{r}(t) = t^2\hat{i} + t^3\hat{j}$  at  $t=2$  is  $\underline{\hspace{2cm}}$ .

### PART-II

2. Answer the following questions. 2x9
- a. Find the  $n^{\text{th}}$  derivative of  $\cos^2 x$ .
- b. Find the whole length of the curve  $x=\sin t$ ,  $y=\cos t$ .
- c. Write the formula to obtain the volume of the solid generated by revolving  $r = (1+\cos \theta)$  about the initial line.
- d. Differentiate  $r \times \dot{r}$
- e. The acceleration of the particle is given by  $a=12 \cos 2t \hat{i} - 8 \sin 2t \hat{j} + 16 t \hat{k}$ . Find the velocity  $v$  when  $v$  vanishes at  $t=0$ .
- f. Evaluate  $\lim_{x \rightarrow 0} \frac{x^2 + \sin x^2}{x^2 + x^3}$ .
- g. Differentiate  $\sin^{-1}(\tanh x)$  w.r.t.  $x$ .
- h. Find the asymptotes parallel to the co-ordinate axes for the curve  $x^2y^2 - a^2(x^2+y^2)=0$
- i. Evaluate  $\int_0^1 (t^2\hat{i} + e^t\hat{j} - 2\cos \pi t\hat{k}) dt$ .

(2)

(Contd.)

MAT-222(4)

### PART-III

3. Answer any eight questions of the followings. 5x8

- a. Prove that  $\cosh^{-1} x = \ln(x + \sqrt{x^2 - 1})$ ,  $x \geq 1$ .
- b. Find the asymptotes of the Curve

$$x^3 - x^2y - xy^2 + y^3 + 2x^2 - 4y^2 + 2xy + x + y + 1 = 0$$

- c. Use reduction formula to evaluate  $\int \tan^6 x dx$
- d. Describe the graph of the equation

$$x^2 - y^2 - 4x + 8y - 21 = 0.$$

- e. Suppose that a particle moves through 3 dimensional space so that its position vector at time  $t$  is

$$\vec{r}(t) = t\hat{i} + t^2\hat{j} + t^3\hat{k} \text{ find the scalar tangential and Normal components of acceleration at time } t.$$

- f. Find the exact arc length of the curve  $24xy - y^4 + 48$  from  $y=2$  to  $y=4$ .
- g. Find the area of the surface generated by revolving the portion of the curve  $y=x^2$  between  $x=1$  and  $x=2$  about y-axis.
- h. Identify and sketch the curve  $xy=1$ .
- i. If  $\vec{r}(t)$  is a differentiable vector-valued function in 2-space or 3-space and  $\|\vec{r}(t)\|$  is constant for all 't' prove that  $\vec{r}(t)$  and  $\vec{r}'(t)$  are orthogonal vectors.
- j. Find  $\vec{r}(t)$  given that  $\vec{r}'(t) = \langle 3, 2t \rangle$  and  $\vec{r}(1) = \langle 2, 5 \rangle$ .

(3)

(Turn Over)

MAT-222(4)

**2024**

Time :As in Programme

Full Marks : 100

*The figures in the right-hand margin indicate marks.*

*Answer all the questions*

**‘କ’ ବିଭାଗ**

୧. ଗୋଟିଏ ବାକ୍ୟରେ ଉତ୍ତର ଦିଅ ।

୧୫୧୦

(କ) ଶବ୍ଦର ଏକ ସାଂଖ୍ୟିକ ସଂଜ୍ଞା ପ୍ରଦାନ କର ।

(ଖ) ତତ୍ତ୍ୱ ଶବ୍ଦ କାହାକୁ କୁହାଯାଏ ?

(ଗ) ‘ପୁଅ’ ଶବ୍ଦର ତତ୍ ସମ ରୂପ କ’ଣ ?

(ଘ) ‘ବିଷୟ’ ଶବ୍ଦର ଶୁଦ୍ଧ ରୂପ କ’ଣ ?

(ଙ) ‘ନିରୋଗୀ’ର ଶୁଦ୍ଧରୂପ କ’ଣ ?

(ଚ) ‘ଗୋଟିଏ ଚାଉଳରେ ଗଡ଼ା’ ରୁଚ୍ଛିର ଅର୍ଥ କ’ଣ ?

(ଛ) ରୂପ ଦୃଷ୍ଟିରୁ ବାକ୍ୟ କେତେ ପ୍ରକାରର ?

(ଜ) ଯୌଗିକ ବାକ୍ୟ କିପରି ଗଠିତ ହୁଏ ?

(ଝ) ଭାବ ଦୃଷ୍ଟିରୁ ବାକ୍ୟକୁ କେତେ ପ୍ରକାରରେ ବିଭକ୍ତ କରାଯାଏ ?

(ଞ) ‘ସାହା ହେବା’ ଅର୍ଥ ସୂଚାଉଥିବା ରୁଚ୍ଛି କ’ଣ ?

### ‘ଖ’ ବିଭାଗ

୨. ପ୍ରତ୍ୟେକ ପ୍ରଶ୍ନର ଉତ୍ତର ଦୁଇଟି ବାକ୍ୟରେ ୫୦ ଶବ୍ଦ ମଧ୍ୟରେ ଦିଅ । ୨x୯

- (କ) ଓଡ଼ିଆ ଶବ୍ଦ ଉଚ୍ଚାରଣରେ କେତେ ପ୍ରକାରର ଶବ୍ଦ ଦେଖାଯାଏ ? ସେଗୁଡ଼ିକର ପରିଚୟ ପ୍ରଦାନ କର ।
- (ଖ) ଗୋଟିଏ ସମ୍ପୂର୍ଣ୍ଣ ବାକ୍ୟର କେତୋଟି ବୈଶିଷ୍ଟ୍ୟ ରହିଛି ? ସେଗୁଡ଼ିକ କ’ଣ ?
- (ଗ) କ୍ରିୟାହୀନ ରୂପ କାହାକୁ କୁହନ୍ତି ? ଏହାର ଗୋଟିଏ ଉଦାହରଣ ଦିଅ ।
- (ଘ) ‘ନିଜ ଲୋକ ଶତ୍ରୁ’ ଅର୍ଥ ପ୍ରକାଶ କରୁଥିବା ରୂପକୁ ବାକ୍ୟରେ ପ୍ରୟୋଗ କର ।
- (ଙ) ‘ଯେ ଦେଶ ସେବା କରେ, ସେ ପ୍ରଶଂସା ପାଏ’ - ଏଥିରେ ମୁଖ୍ୟ ବାକ୍ୟ ଓ ଆଶ୍ରିତ ବାକ୍ୟ କିଏ ?
- (ଚ) ଆଶ୍ଚର୍ଯ୍ୟ ଭାବ ପ୍ରକାଶ କରୁଥିବା ବାକ୍ୟ କି ପ୍ରକାର ବାକ୍ୟ ? ଏହାର ଗୋଟିଏ ଉଦାହରଣ ଦିଅ ।
- (ଛ) ‘ଅତି ଗର୍ବ ପ୍ରଦର୍ଶନ କରିବା’ - ଏହି ଅର୍ଥ ପ୍ରକାଶ କରୁଥିବା ରୂପ କି ପ୍ରକାରର ? ରୂପକୁ ବାକ୍ୟରେ ବ୍ୟବହାର କର ।
- (ଜ) ‘ଏବେ ଗ୍ରାମମାନଙ୍କର ଦୁରାବସ୍ଥା ଆଉ ନାହିଁ’ - ବାକ୍ୟଟିକୁ ଶୁଦ୍ଧ ରୂପେ ଲେଖ ।
- (ଝ) ପୋଲିସ୍ ସହଯୋଗର ରହସ୍ୟ ଉନ୍ମୋଚନ କଲା - ରେଖାଙ୍କିତ ଶବ୍ଦ ସମୂହ ବଦଳରେ ରୂପକୁ ଶବ୍ଦ ବ୍ୟବହାର କରି ବାକ୍ୟଟିକୁ ଲେଖ ।

### ‘ଗ’ ବିଭାଗ

୩. ଯେକୌଣସି ଆଠଟିର ଉତ୍ତର ୨୫୦ ଶବ୍ଦ ମଧ୍ୟରେ ଦିଅ । ୫x୮

- (କ) ଉଦାହରଣ ସହ ବାକ୍ୟର ସଂଜ୍ଞା ଓ ଲକ୍ଷଣ ନିରୂପଣ କର ।
- (ଖ) ରୂପ କାହାକୁ କୁହନ୍ତି ? ଉଦାହରଣ ସହ ରୂପର ପ୍ରକାରଭେଦ ଦର୍ଶାଅ ।
- (ଗ) ସ୍ତମ୍ଭ ଲିଖନ କଲାର ସାମାଜିକ ଉପଯୋଗିତା କିପରି ରହିଛି, ବୁଝାଇ ଲେଖ ।

(ଘ) ସମ୍ବାଦପତ୍ରରେ ପ୍ରକାଶ ପାଉଥିବା ଫିଚର କେତେଦୂର ସମାଜ ଉପଯୋଗୀ, ମତାମତ ଦିଅ ।

- (ଙ) ପତ୍ରଲିଖନର ସଂଜ୍ଞା ଓ ସ୍ୱରୂପ ସମ୍ପର୍କରେ ଆଲୋଚନା କର ।
- (ଚ) ଏକ ବୃହତ୍ ଅନୁଛେଦକୁ ସଂକ୍ଷିପ୍ତ କରିବା ନିମିତ୍ତ କି ପ୍ରକାର କୌଶଳ ଅବଲମ୍ବନ କରିବାକୁ ହୁଏ, ଦର୍ଶାଅ ।
- (ଛ) ଏକ ବୃହତ୍ ଅନୁଛେଦର ଶୀର୍ଷକ ନିର୍ଦ୍ଧାରଣ କିପରି କରାଯାଇପାରିବ ?
- (ଜ) ଏକ ପ୍ରଦତ୍ତ ଅନୁଛେଦରୁ ଦିଆଯାଇଥିବା ପ୍ରଶ୍ନଗୁଡ଼ିକର ଉତ୍ତର କିଭଳି ପ୍ରଦାନ କରାଯାଇପାରିବ, ଉଲ୍ଲେଖ କର ।
- (ଝ) ସ୍ତମ୍ଭ ରଚନା କଲାବେଳେ କେଉଁ ନିୟମଗୁଡ଼ିକ ପ୍ରତି ଦୃଷ୍ଟିଦେବାକୁ ପଡ଼ିଥାଏ ?
- (ଞ) ଫିଚରର ଉପାଦାନଗୁଡ଼ିକ ସମ୍ପର୍କରେ ଆଲୋଚନା କର ।

### ‘ଘ’ ବିଭାଗ

ଯେକୌଣସି ଚାରିଟିର ଉତ୍ତର ୮୦୦ ଶବ୍ଦ ମଧ୍ୟରେ ଦିଅ । ୮x୪

୪. ସ୍ତମ୍ଭ ଲିଖନର ସଂଜ୍ଞା, ସ୍ୱରୂପ ଓ ବୈଶିଷ୍ଟ୍ୟ ନିରୂପଣ କର ।
୫. ବାକ୍ୟର ସଂଜ୍ଞା, ସ୍ୱରୂପ ଓ ପ୍ରକାରଭେଦ ସମ୍ପର୍କରେ ସବିଶେଷ ଆଲୋଚନା କର ।
୬. ପରିବେଶ ପ୍ରଦୂଷଣର ସାମଗ୍ରିକ ପ୍ରଭାବ ଆକଳନ ପୂର୍ବକ ଏକ ଫିଚର ପ୍ରସ୍ତୁତ କର ।
୭. ବ୍ୟାବସାୟିକ ଦୃଷ୍ଟିକୋଣରୁ ବିଜ୍ଞାପନର ଉପଯୋଗିତା ନିରୂପଣ କର ।
୮. ଅତ୍ୟାବଶ୍ୟକ ସାମଗ୍ରୀର ଦରବୃଦ୍ଧି ସମସ୍ୟା ଜଣାଇ ସମ୍ବାଦପତ୍ରର ସମ୍ପାଦକଙ୍କୁ ପତ୍ର ଲେଖ ।

