1ST SEMESTER BSC. CS			
	SUB CODE		SUB NAME
MAJOR	CORE-I	PAPER-1	Introduction To Computer Science & Python Programming
	CORE-I	PAPER-2	Problem Solving Using C Programming
MINOR	CORE-II		Calculus & Analytic Geometry
	MULTI DISCIPLINARY		Computer Fundamentals
	AEC		Odia/Hindi
	VAC		Environmental Studies And Disaster Management

SEMESTER-I

Core I (PAPER-1)
Introduction to Computer Science and Python Programming

Course Outcomes:

- To learn the fundamentals of computer and its working mechanism.
- To learn programming paradigms and design.
- To learn the basics of Python Programming for problem solving.

Learning Outcomes:

Upon completion of this course, students will be able to:

1. gain knowledge about the components of a computer with their functions
2. have an exposure to various computer networks
3. learn the steps for program development
4. learn the use of control structures, built-in functions, lists, recursions in Python programming

Unit-I:

Introduction to Computers: Generation of computers, types of computers. Computer System hardware: Block diagram, CPU, Memory unit, and Storage devices with their functions. Computer memory: Memory hierarchy, CPU Registers, Cache Memory, Primary Memory, Secondary memory, access methods.
Input & Output Units: Various types of Input and Output devices with their functions.
Computer Software: Introduction, Types of software: System software, Application software, Utility software, firmware and their usage. Computer Network: Importance of Networking, Network types: LAN, MAN, WAN, Internet and its applications, network devices: Repeater, bridge, hub, switch, router, and Gateway.

Unit-II:

Program Development: Problem Analysis, program design, development. Algorithm: Introduction, Pseudo code, Control Structures. Flowchart: Introduction, Symbols, preparing a flowchart. Programming Paradigms & Design: Structured programming, Object-oriented programming, Top-down and Bottom-up design approaches. Characteristics of a good program.
Programming Languages: Concept of Low-level & high-level languages, Different generations of Programming Languages. Translators: Assembler, Compiler, Interpreter. Linker, Loader, Editors, Integrated Development Environment. Programming Errors: Syntax, Semantic, Logical, Compile-time, run-time, link-time, environmental, Input/output errors. testing and debugging.

Unit-III:

Introduction to Python, getting started with Python, Python Basics: Identifiers, Keywords, Python types, basic types, mutable and immutable types, Integer & float ranges, Variable type & assignment, Arithmetic Operators, Precedence & Associativity, Conversions, built-in functions, modules, container types, comments & indention, multi-lining, classes & Objects, Multiple Objects. Strings: Introduction, Accessing String elements, Properties, built-in functions, Methods, Conversions, Comparisons.
Console I/O: I/O operations, formatted printing. Decision Control Instruction: Logical operators, Conditional Expressions, all () & any (), receiving input, pass statement. Repetition Control Instruction: types, usage of loops, break & continue, else block of a loop.

Unit-IV:

Lists, Sets, Tuples, Dictionaries: creating, accessing, and looping-in each type. Applying basic operations, using built-in functions and methods on each type, possible data structure / mathematical operations on each type.
Comprehensions on List, Set, and dictionary. Functions: built-in and user-defined functions, invoking functions, unpacking arguments. recursive function, iteration vs recursion.

Text Books:

- *Computer Fundamentals by Anita Goel, Pearson Pub.*
- *Let us Python by Yashavant Kanetkar & Aditya Kanetkar, BPB Pub*.

Reference Books & e-Resources:

- *Fundamentals of Computers by Reema Thareja, Oxford University Press*
- *Python Programming: Using Problem Solving Approach by Reema Thareja, Oxford University Press*
- *Computer Fundamentals by D. P. Nagpal, S. Chand Pub.*
- *https://docs.python.org/3/*

Core-I- Lab: Programming using Python

1. Write a program to demonstrate the usage of various arithmetic operators.
2. Write a program that makes use of trigonometric functions available in math module.
3. Write a program that will convert various temperatures.
    a. Fahrenheit to Centigrade
    b. Centigrade to Fahrenheit
4. Write a program that will find the roots of a quadratic equation: $ax^2 + bx + c = 0$
5. Write a program that demonstrate the usage of various String functions.
6. Write a program that will ask you to enter your name, through keyboard, and perform following operations
    a. Find the middle name
    b. Find the last name (using string slicing)
    c. Re-write the name with surname first.
7. Write a program to find out whether the integer entered by the user, through the keyboard, is even or odd number.
8. Find out the youngest among Shyam, Dugu and Ishan whose ages are entered by the user through keyboard.
9. Given three points (x1, y1), (x2, y2), (x3, y3), write a program to check all the three points fall on one straight line.
10. Write a program that will print the odd numbers from n1 to n2 where the values of n1 and n2 are entered by the user.
11. Write a program to find the factorial value of a number entered by the user.
12. Write a program to print all prime numbers between n1 to n2 where the values of n1 and n2 are entered by the user.
13. Write a program to demonstrate basic operations on the list.
14. Write a program to demonstrate stack and queue operations using a list of numbers.
15. Write a program to ask the data of five students that contain name, roll number, age. Sort the list based on roll number of the Student. [Note: Use list of lists].
16. Write a program that will add two square matrices. The dimension and elements of the matrices will be entered by the user.
17. Write a program to demonstrate basic operations on the tuple.
18. Store the data about the shares held by the user as tuples containing the following information about shares: share name, cost price, number of shares, selling price. Write a program to determine:
    a. total cost of the portfolio
    b. total amount gained or lost
19. Write a program to demonstrate basic operations on the set.
20. Create an empty set. Write a program that adds five student names to this set, modifies one existing name, and deletes two names existing in it. [ask the user which name to modify/delete].
21. Write a program to demonstrate basic operations on the dictionary.
22. Create a dictionary to store data (name, roll number) of N students. The key will be the roll number of the student and the value contains the data of the student (in a list). Write a program that asks the user to enter a name of a Student, search it in the dictionary and print the data of the Student if it is available otherwise display an appropriate message.
23. Write a program to demonstrate basic comprehensions on list, set and dictionary.

24. Write a program that will find x^n (x to the power of n) using a function. The function receives the value of x, n and should return the value of x^n. [don't use any mathematical function].

Core I (PAPER-2)

Problem Solving with C Programming

Course Objectives:

- To learn the C programming language to solve different scientific and business problems
- To learn how to design and write effectively codes using various programming constructs available in the C programming language

Learning Outcomes:

Upon completion of this course, students will be able to:

1. Gain knowledge about different data types and operators in C language
2. Learn the use of various control structures and array
3. Learn the use of pointers, functions, and storage classes
4. Write programs using structures, union, and files

Unit-I:

Introduction: Introduction to Programming Language, Introduction to C Programming, Keywords & Identifiers, Constants, Variables, Input and Output Operations, Compilation and pre-processing, Data types: Different data types, Data types qualifier, modifiers, Memory representation, size and range, Operators: Operators (Arithmetic, Relational, Logical, Bitwise, Assignment & compound assignment, Increment & Decrement, Conditional), Operator types (unary, binary, ternary). Expressions, Order of expression (Precedence and associativity)

Unit-II:

Decision Control structures & Loops: Decision Making and Branching statements (Simple IF, IF…ELSE, Nested IF… ELSE, ELSE … IF ladder), Selection control structure (Switch Statement). Looping statements (FOR, WHILE, DO…WHILE), break, continue and GOTO statements

Array: Concept of Array, Array Declaration, types of array (one and multiple dimension), Character Arrays and Strings, limitation of array.

Unit-III:

Pointers: Concept of Pointer (NULL pointer, wild pointer, dangling pointer, generic pointer), Pointer Expressions, Accessing the Address of a Variable, Declaring Pointer Variables, Initializations of Pointer Variable, Accessing a Variable through its Pointer, Pointer arithmetic, Pointer representation of array, Array of Pointers, Accessing Sting using Pointer.
Function: Types of Function, Function Declaration, Function Definition, Function Call, Recursive Function, Dynamic Memory Management functions, String handling function (strlen, strcmp, strcpy, strncpy, strcat, strstr).
Storage class: Types (auto, register, static, extern), scope rules, declaration and definition.

Unit-IV:

Structure and Union: Defining, Declaring, Accessing, Initialization Structure, nested structure, self-referential structure, bit-field, Arrays of Structures, Structures and Functions, structures and pointers, Unions, difference between structure and union, structure within union. File: File Management in C, Defining and Opening a File, File opening modes (read, write, append), Closing a File, File operations, Error handling during I/O Operations, sequential and random access files. Command line arguments.

Text Book:

Programming in ANSI C by E. Balagurusamy, TMH

Reference Books:

- *The C Programming Language by B. Kernighan & Dennis Ritchie, PHI.*
- *C: How to Program by Paul Deitel, Harvey Deitel, Prentice Hall.*
- *Programming using C by P.C. Sethi & P.K. Behera, Kalyani Publisher*.

Core II- Lab: Problem Solving with C Programming

1. Write a Program to find greatest among three numbers.
2. Write a Program to all arithmetic operation using switch case.
3. Write a Program to print the sum and product of digits of an integer.
4. Write a Program to reverse a number.
5. Write a Program to compute the sum of the first n terms of the following series

$$S = 1+1/2+1/3+1/4+\ldots\ldots$$

6. Write a Program to compute the sum of the first n terms of the following series

$$S = 1-2+3-4+5\ldots\ldots\ldots\ldots$$

7. Write a function that checks whether a given string is Palindrome or not. Use this function to find whether the string entered by user is Palindrome or not.
8. Write a function to find whether a given number is prime or not. Use the same to generate the prime numbers less than 100.
9. Write a Program to compute the factors of a given number.

10. Write a program to swap two numbers.

11. Write a Program to print a triangle of stars as follows (take number of lines from user):

```
*
***
*****
*******
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12. Write a Program to perform following actions on an array entered by the user:

a. Print the even-valued elements
b. Print the odd-valued elements
c. Calculate and print the sum and average of the elements of array
d. Print the maximum and minimum element of array
e. Remove the duplicates from the array
f. Print the array in reverse order

The program should present a menu to the user and ask for one of the options. The menu should also include options to re-enter array and to quit the program.

13. Write a Program that prints a table indicating the number of occurrences of each alphabet in the text entered as command line arguments.
14. Write a program that swaps two numbers using pointers.
15. Write a program in which a function is passed address of two variables and then alter its contents.
16. Write a program which takes the radius of a circle as input from the user, passes it to another function that computes the area and the circumference of the circle and displays the value of area and circumference from the main( ) function.
17. Write a program to find sum and average of n elements entered by the user. To write this program, allocate memory dynamically using malloc( ) / calloc( ) functions.
18. Write a menu driven program to perform following operations on strings:

a. Show address of each character in string
b. Concatenate two strings without using strcat function.
c. Concatenate two strings using strcat function.
d. Compare two strings
e. Calculate length of the string (use pointers)
f. Convert all lowercase characters to uppercase
g. Convert all uppercase characters to lowercase
h. Calculate number of vowels
i. Reverse the string

19. Given two ordered arrays of integers, write a program to merge the two-arrays to get an ordered array.
20. Write a program to copy the content of one file to other.

MINOR Core II

Calculus & Analytic Geometry

Course Objective:

The main emphasis of this course is to equip the student with necessary analytic and technical skills to handle problems of mathematical nature as well as practical problems. More precisely, main target of this course is to explore the different tools for higher order derivatives to plot the various curves and to solve the problems associated with differentiation and integration of vector functions.

Learning Outcomes:

After completing the course the student will be able to

- Trace a curve and find asymptotes.
- Talculate integrals of typical type using reduction formulae, etc.
- Calculate arc length, surface of revolution and know about conics
- Calculate triple products, gradient divergence, curl, etc.

Unit I

Hyperbolic functions, higher order derivatives, Leibnitz rule and its applications to problems of the type $e^{ax+b}sinx$, $e^{ax+b}cosx$, $(ax+b)^n sinx$, $(ax+b)^n cosx$, concavity and inflection points, asymptotes, curve tracing in Cartesian coordinates, tracing in polar coordinates of standard curves, L'Hospital rule, application in business, economics and life sciences.

Unit II

Riemann integration as a limit of sum, integration by parts, reduction formulae, derivations and illustrations of reduction formulae of the type $\int sin^n x dx$,$\int cos^n x dx$,$\int tan^n x dx$,$\int sec^n x dx$, $\int (logx)^n dx$,$\int sin^n x cos^n x dx$, definite integral, integration by substitution.

Unit III

Volumes by slicing, disks and washers methods, volumes by cylindrical shells, parametric equations, parameterizing a curve, arc length, arc length of parametric curves, area of surface of revolution, techniques of sketching conics, reflection properties of conics,

rotation of axes and second degree equations, classification into conics using the discriminant, polar equations of conics.

Unit IV

Triple product, introduction to vector functions, operations with vector-valued functions, limits and continuity of vector functions, differentiation, partial differentiation, div, curl and integration of vector functions, tangent and normal components of acceleration.

Books Recommended:

- ✓ *H. Anton, I. Bivens and S. Davis: Calculus,10th Ed., John Wiley and Sons (Asia) Pvt. Ltd., Singapore, 2002.*
- ✓ *Shanti Narayan, P. K. Mittal: Differential Calculus, S. Chand, 2014.*
- ✓ *R. J. T Bell: An elementary Treatise on coordinate geometry, MacMillan and Company Limited, 2005.*

Books for Reference:

- ✓ *James Stewart: Single Variable Calculus, Early Transcendental, 8th edition, Cengage Learning, 2016.*
- ✓ *G.B. Thomas and R. L. Finney: Calculus, 9th Ed., Pearson Education, Delhi, 2005.*
- ✓ *M. J. Strauss, G. L. Bradley and K. J. Smith: Calculus, 3rd edition, Dorling Kindersley (India) Pvt. Ltd. (Pearson Education), Delhi, 2007.*
- ✓ *Suggested digital platform: NPTEL/SWAYAM/MOOCs.*
- ✓ *e-Learning Source http://ndl.iitkgp.ac.in ; http://ocw.mit.edu ; http://mathforum.org*

MULTIDISCIPLINARY

Computer Fundamentals

Course Objectives:

- Introduce number systems and data representation
- Understand functional units and components of computer
- Introduce the emerging technologies

Learning Outcomes:

Upon completion of this course, students will be able to:

- Understand the basic organization of a computer and the number system
- Learn about the working of commonly used input-output and memory devices
- Understand the role of Operating system and Computer Networks
- Know about some of the emerging computing technologies and web services

UNIT-1:

Computer Basics: Simple Model of a Computer, Characteristics of Computers, Hardware and Software, working of a Computer, Stored Program Concept, Problem Solving with computer: Flowchart, Algorithms, Programming,
Computer Software: Introduction to computer software, classification of computer software, system software, application software, firmware, middleware

UNIT-2:

Input/output Units: Input devices, Output devices, Computer Memory: Introduction, Read Only Memory, Serial Access Memory, Cache memory, primary memory, secondary storage devices, magnetic tapes, hard disks, SSD, optical drives, USB flash drivers, Memory cards, Mass storage devices, Memory Hierarchy.

UNIT-3:

Operating Systems: Definition, Batch Operating System, Multiprogramming Operating System, Time Sharing Operating System, Multiprocessing Operating System. Services of OS.
Computer Networks: Concepts of Networking-LAN, WAN, MAN, Network topologies. Internet and the World Wide Web.

UNIT-4:

Emerging Computing Environments: Peer to Peer Computing, Grid computing, distributed computing, Cloud Computing: Introduction, cloud services, cloud deployment models.
Email, video conferencing, e-Learning, e-Banking, UPI, e-commerce, e-Governance, social networking, emerging computer applications.

Text Book:

ପ୍ରଥମ ପର୍ଯ୍ୟାୟ(SEMESTER-I)

ସାମର୍ଥ୍ୟବର୍ଦ୍ଧକ ପାଠ୍ୟକ୍ରମ

Ability Enhancement Course (AEC)

ପରିଶୁଦ୍ଧ ଭାଷା ଓ ଲିଖନ ଧାରା

Course Outcome (ପାଠ୍ୟପତ୍ର ଫଳଶ୍ରୁତି):

ସାହିତ୍ୟର ଲିଖନ ଓ ଅଧ୍ୟୟନ କ୍ଷେତ୍ରରେ ଭାଷାର ପରିଶୁଦ୍ଧତା ନିତାନ୍ତ ଆବଶ୍ୟକ । ସାହିତ୍ୟକର୍ମ ବ୍ୟତିରେକ ବିଭିନ୍ନକ୍ଷେତ୍ରରେ ନିର୍ଭୁଲଭାଷା ବ୍ୟବହାର ହେବା ବାଞ୍ଛନୀୟ । ଭାରତର ସମ୍ବିଧାନସ୍ୱୀକୃତ ଭାଷାମାନଙ୍କ ମଧ୍ୟରେ ଓଡ଼ିଆଭାଷାର ସ୍ଥାନ ଗୁରୁତ୍ୱପୂର୍ଣ୍ଣ । ଶିକ୍ଷାର୍ଥୀମାନେ ନିର୍ଭୁଲ ଭାଷା ପ୍ରୟୋଗକ୍ଷେତ୍ରରେ ଭିପରି ସମର୍ଥ ହେବେ, ସେଥିନିମିତ୍ତ ଏହି ପାଠ୍ୟପତ୍ରଟି ପରିକଳ୍ପିତ । ବିଭିନ୍ନ ପ୍ରତିଯୋଗିତାମୂଳକ ତଥା ପ୍ରାଣାସଡିକ ସେବାମୂଳକ ନିଯୁକ୍ତ ହେବାପାଇଁ ସମ୍ମୁଖୀନ ହେଉଥିବା ପରୀକ୍ଷାନିମିତ୍ତ ମଧ୍ୟ ଏହା ଶିକ୍ଷାର୍ଥୀଙ୍କୁ ସାହାଯ୍ୟ କରିବ ।

Unit wise Learning Outcome (ପ୍ରତି ଏକକର ଅଧ୍ୟୟନ ଫଳଶ୍ରୁତି):

୧ମ ଏକକ: କ) ଶବ୍ଦ ଗଠନରେ ଶୁଦ୍ଧତା
ଖ) ଚୂଡ଼ିର ଅର୍ଥ ଅବଗତି
ଗ) ଚୂଡ଼ିର ପ୍ରୟୋଗବିଧି ଶିକ୍ଷା

୨ୟ ଏକକ: କ) ବାକ୍ୟର ଗଠନରୀତି ଶିକ୍ଷା
ଖ) ବିବିଧ ପ୍ରକାର ବାକ୍ୟ ସମ୍ପର୍କରେ ଧାରଣା
ଗ) ନିର୍ଭୁଲ ବାକ୍ୟଲିଖନ ବିଦ୍ୟା

୩ୟ ଏକକ: କ) ବୃହତ୍ ଅନୁଚ୍ଛେଦକୁ ସଂକ୍ଷିପ୍ତ କରିବାର କୌଶଳ
ଖ) ବିଷୟଗତ ଶୀର୍ଷକ ନିର୍ଦ୍ଧାରଣ କଳା
ଗ) ଅନୁଚ୍ଛେଦରୁ ବିଭିନ୍ନ ପ୍ରଶ୍ନର ଉତ୍ତର ପ୍ରଦାନ

୪ର୍ଥ ଏକକ: କ) ପତ୍ରଲିଖନ ଜ୍ଞାନ
ଖ) ଫିଚର୍ ପ୍ରସ୍ତୁତି
ଗ) ନିର୍ଭୁଲ ପତ୍ରଲିଖନ ଓ ବିଜ୍ଞାପନ ପ୍ରସ୍ତୁତି କଳା

ପାଠ୍ୟ ବିଷୟ

ପ୍ରଥମ ଏକକ: (କ) ଶବ୍ଦର ସଂଜ୍ଞା, ଶୁଦ୍ଧ ଶବ୍ଦ ଓ ବର୍ତ୍ତାଶୁଦ୍ଧି
(ଖ) ଚୂଡ଼ିର ଅର୍ଥ ଓ ପ୍ରୟୋଗ ବିଧି

ଦ୍ୱିତୀୟ ଏକକ: ବାକ୍ୟ ଗଠନରୀତି ଓ ପ୍ରକାର ଭେଦ

ତୃତୀୟ ଏକକ: ଅନୁଚ୍ଛେଦ ସଂକ୍ଷେପଣ, ଶୀର୍ଷକ ନିର୍ଦ୍ଧାରଣ ଓ ପ୍ରଶ୍ନୋତ୍ତର

ଚତୁର୍ଥ ଏକକ: ନିର୍ଭୁଲ ଲିଖନ ପଦ୍ଧତି, ପତ୍ର ଲିଖନ, ଫିଚର୍, ପତ୍ର ଲିଖନ, ବିଜ୍ଞାପନ ପ୍ରସ୍ତୁତି

ସହାୟକ ଗ୍ରନ୍ଥସୂଚୀ (Book of reference) :

୧. ସର୍ବସାର ବ୍ୟାକରଣ - ଶ୍ରୀଧର ଦାସ, ଗ୍ରନ୍ଥ ମନ୍ଦିର, କଟକ ।
୨. ସାରସ୍ୱତ ବ୍ୟାବହାରିକ ବ୍ୟାକରଣ - କୃଷ୍ଣଚନ୍ଦ୍ର ପ୍ରଧାନ, ସତ୍ୟ ନାରାୟଣ ବୁକ୍ ଷ୍ଟୋର ।
୩. ବୃହତ୍ ଓଡ଼ିଆ ବ୍ୟାକରଣ- ତ୍ରିଲୋଚନ ଦେହେରା, ଗୋବିନ୍ଦ ଚନ୍ଦ୍ର ଲେଙ୍କା, ପ୍ରେଣ୍ଡସ୍ ପବ୍ଲିଶର୍ସ, କଟକ ।
୪. ଆଧୁନିକ ଓଡ଼ିଆ ବ୍ୟାକରଣ- ଧନେଶ୍ୱର ମହାପାତ୍ର, ଜିତାତ୍ ମହଲ, କଟକ ।
୫. ସାଧାରଣ ଓଡ଼ିଆ ବନାନ ଶୁଦ୍ଧି- ଓଡ଼ିଆ ଭାଷା ପ୍ରତିଷ୍ଠାନ, ଭୁବନେଶ୍ୱର ।
୬. ଗଣମାଧ୍ୟମ ଓ ଗଣଯୋଗାଯୋଗ – ଶିଶିର ଦେହେରା, ପ୍ରେଣ୍ଡସ୍ ପବ୍ଲିଶର୍ସ, କଟକ ।
୭. ଯୋଗାଯୋଗ ମୂଳକ ମାତୃଭାଷା – ବିରଞ୍ଚି ନାରାୟଣ ସାମଲ, ସତ୍ୟନାରାୟଣ ବୁକ୍ ଷ୍ଟୋର, କଟକ ।
୮. ଯୋଗାଯୋଗର ଭାଷା – ସୁଧୀର ଚନ୍ଦ୍ର ମହାନ୍ତି, ପ୍ରାଚୀ ପ୍ରକାଶନ, କଟକ ।

୯. ନିର୍ଭୁଲ ଲେଖାର ମୂଳସୂତ୍ର, ନୀଳାଦ୍ରି ଭୂଷଣ ହରିଚନ୍ଦନ, କିତାବ ମହଲ, କଟକ ।
୧୦.ଓଡ଼ିଆ ଭାଷା ବ୍ୟାକରଣ ସୌରଭ, ଚନ୍ଦ୍ରଶେଖର ପତି, ଓଡ଼ିଶା ବୁକ୍ ଏମ୍ପୋରିୟମ୍, କଟକ ।

ନମୁନା ପ୍ରଶ୍ନ (Sample Questions) :

୧. ଶବ୍ଦ କାହାକୁ କୁହାଯାଏ ? (୧ ମାର୍କ)

୨.ପର୍ବତର ଦୁଇଟି ପ୍ରତିଶବ୍ଦ ଲେଖ । (୨ ମାର୍କ)

୩.ବାକ୍ୟର ପ୍ରକାରଭେଦ ଦର୍ଶାଅ। (୫ ମାର୍କ)

୪.ତୁମ ମହାବିଦ୍ୟାଳୟରେ ଏକ ଶିକ୍ଷକ ନିଯୁକ୍ତିପାଇଁ କୌଣସି ସମ୍ବାଦପତ୍ରରେ ଓଡ଼ିଆ ଭାଷାରେ କିପରି ବିଜ୍ଞାପନ ଦିଆଯିବ, ତାହାର ଏକ ନମୁନା ଲେଖ । (୮ ମାର୍କ)

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SEMESTER-I

AEC

प्रयोजनमूलक हिंदी

UNIT - I

प्रयोजनमूलक हिंदी :

प्रयोजनमूलक हिंदी का स्वरूप और परिभाषा, प्रयोजनमूलक हिंदी के भेद, प्रयोजनमूलक हिंदी की विशेषताएँ, प्रयोजनमूलक हिंदी की समस्याएँ और संभावनाएँ

UNIT - II

राजभाषा हिंदी की संवैधानिक स्थिति:

राजभाषा समिति, 1957, राजभाषा के संबंध में राष्ट्रपति के आदेश, 952, 1955, 1960, राजभाषा अधिनियम 1963, राजभाषा अधिनियम 1967, राजभाषा अधिनियम 1976

UNIT - III

कार्यलयी हिंदी:

हिंदी के विविध रूप : राजभाषा, राष्ट्रभाषा, संपर्क भाषा, संचार भाषा, मातृभाषा, सर्जनात्मक भाषा राष्ट्रभाषा और राजभाषा में अंतर, मानक हिंदी

कार्यालयी हिंदी के प्रमुख प्रकार्य

आलेखन: परिभाषा, स्वरूप, विशेषता, प्रारूप

टिप्पण: परिभाषा, स्वरूप, विशेषता, प्रारूप

पत्रलेखन, पल्लवन, संक्षेपण

पारिभाषिक शब्दावली : पारिभाषिक शब्दावली का स्वरूप एवं महत्त्व पारिभाषिक शब्दावली निर्माण के सिद्धांत, पारिभाषिक शब्दावली के भेद, ज्ञान-विज्ञान के विभिन्न क्षेत्रों में प्रयुक्त कुछ निर्धारित पारिभाषिक शब्दाबली

UNIT – IV

हिंदी में कंप्यूटर का अनुप्रयोग:

कंप्यूटर का परिचय, कंप्यूटर की संरचना, कंप्यूटर के प्रकार, कंप्यूटर की उपयोगिता, हिंदी में शब्द संसाधन, हिंदी में डाटा संसाधन, वेब पब्लिशिंग, वेब पेज डिजाइनर

इंटरनेट :

इंटरनेट स्वरूप और विकास इंटरनेट : कार्यप्राणाली, इंटरनेट के संपर्क उपकरणों का परिचय, इंटरनेट एक्सप्लोटर, इंटरनेट की अनुप्रयुक्तता।

लिंक, ई-मेल, ब्राउजिंग, अपलोडिंग, डाउनलोडिंग, न्यू मीडिया, वेब पत्रकारिता, ब्लागिंग, इंटरनेट रिलै चैट, हिंदी के प्रमुख इंटरनेट पोर्टल।

पाठ्य पुस्तक:

1. प्रयोजनमूलक हिंदी- प्रो. राधाकांत मिश्र,
   डॉ. अमूल्य रत्न महांती,
   प्लैनेट वी, हिंदी बुक सेंटर, बादामबाड़ी, कटक

VAC
Environmental Studies
&
Disaster Management

SEMESTER-I
For Under Graduate Compulsory Courses for Arts, Science and Commerce

FULL MARK-100 (Credit-3)

Unit 1: Multidisciplinary nature of environmental studies (8Period)
Definition, scope and importance
Need for public awareness
Environmental Pollution
Definition
• Cause, effects and control measures of:-
a. Air pollution
b. Water pollution
c. Soil pollution
d. Marine pollution
e. Noise pollution
f. Radiation pollution

Unit 2: Natural Resources: (8Period)

Renewable and non-renewable resources:
Natural resources and associated problems.
a. Forest resources: Use and over-exploitation, deforestation, case studies. Timber extraction, mining, dams and their effects on forest and tribal people.
b. Water resources : Use and over-utilization of surface and ground water, floods, drought, conflicts over water, dams-benefits and problems.
c. Mineral resources : Use and exploitation, environmental effects of extracting and using mineral resources, case studies.
d. Food resources : World food problems, changes caused by agriculture and Overgrazing, effects of modern agriculture, fertilizer-pesticide problems, waterlogging, salinity, case studies.
e. Energy resources : Growing energy needs, renewable and non-renewable energy sources, use of alternate energy sources. Case studies.

Biodiversity:-
Introduction-Definition; Biogeographically classification of India
India as a mega diversity nation. Hot sports of biodiversity, Threats to biodiversity. Endangered and endemic species of India. Conservation of biodiversity. In Situ and Ex-so conservation of biodiversity

Unit-3: Disaster Management (8 Period)

1. **Disaster Management:** Types of disasters (natural and Man-made) and their causes and effect)
2. **Vulnerability Assessment and Risk analysis:** Vulnerability to various disasters (Flood, Cyclone, Earthquake, Heat waves, Desertification and Lighting)
3. **Institutional Framework:** Institutional arrangements for disaster management (National Disaster Management Authority (NDMA), State Disaster Management Authority (SDMA), Disaster Management Act, 2005, District Disaster Management Authority (DDMA), National Disaster Response Force(NDRF) and Odisha Disaster Rapid Action Force(ODRAF)
4. **Preparedness measures:** Disaster Management cycle, Early Warning System, Pre-Disaster and Post-Disaster Preparedness, strengthening of SDMA and DDMA, Community Preparedness for flood cyclone, heat waves, fire safety, lightening and snake biting. Stakeholders participation, Corporate Social Responsibility (CSR)
5. **Survival Skills:** Survival skills adopted during and after disaster (Flood, Fire, Earthquake, Cyclone and Lightening), Disaster Management Act-2005, Compensation and Insurance

Unit 4: Social Issues and the Environment (6 Period)

A.

a. Environmental Ethics: Issues and possible solutions.
b. Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust. Case studies
c. Environment Protection Act
d. Air(Preservation Control of Pollution) Act
e. Water(Preservation Control of Pollution) Act
f. Wildlife Protection Act
g. Forest Conservation Act
h. Solid waste management Cause, effect and Control Measure of Urban and Industrial waste

(Role of each individual in conservation of Natural resources and prevention of pollution)

B. Human Population and the Environment

Population Ecology: Individuals, species, population, community
Human population growth, population control method
Urbanisation and its effect on society

Unit 5: Field work (15 Periods of 30 hrs)

- Visit to an area to document environmental assets: river/forest/flora/fauna, etc.
- Visit to a local polluted site- Urban/Rural/Industrial/Agricultural
- Study of common plants, insects, birds and basic principles of identification.
- Study of simple ecosystems-pond, river, Delhi Ridge ,etc.