

# FOUR YEAR UNDERGRADUATE PROGRAM (NEP-2020)

## Program: Bachelor in Science (2024 -28)

### DISCIPLINE – COMPUTER SCIENCE

#### SESSION – 2024 -25

DSC -01 to 08		DSE -01 to 12	
Code	Title	Code	Title
CSSC -01T	Computer Fundamental and Operating System	CSSE -01	Data Communication and Networking
CSSC -01P	Lab 1: Operating Systems (DOS, Windows, Linux)	CSSE -02	Computer System Architecture
CSSC -02T	Programming in C++	CSSE -03	Cyber Security and Cyber Law
CSSC -02P	Lab 2: Programming in C++	CSSE -04	Introduction to Artificial Intelligence
CSSC -03T	Data Structure	CSSE -05	Computer Graphics
CSSC -03P	Lab 3: Data Structure Using C++	CSSE -06T	Machine Learning
CSSC -04T	Relational Database Management System	CSSE -06P	Lab 8: Machine Learning
CSSC -04P	Lab 4: Relational Database Management System (Oracle/MySQL)	CSSE -07	Software Engineering
CSSC -05T	Programming in Java	CSSE -08	Theory of Computation
CSSC -05P	Lab 5: Programming in Java	CSSE -09	Soft Computing
CSSC -06T	Web Technology	CSSE -10	Advanced Operating Systems
CSSC -06P	Lab 6: Web Technology	CSSE -11	Cloud Computing
CSSC -07T	Programming in Python	CSSE -12	Major Project
CSSC -07P	Lab 7: Programming in Python		
CSSC -08T	Fundamental of IoT and Applications		
CSSC -08P	Lab 9: Fundamental of IoT and Applications		
<b>DGE -01 &amp; 02</b>		<b>VAC</b>	
CSGE -01T	Computer Fundamental and Operating System	CSVAC-01	Artificial Intelligence
CSGE -01P	Lab 1: Operating System (DOS, Windows, Linux)	<b>SEC</b>	
CSGE -02T	Programming in C++	CSSEC-01	Multimedia and Animation
CSGE -02P	Lab 2: Programming in C++		

Officer in Charge (Academic)  
Shaheed Nandkumar Patel  
Vishwavidyalaya, Raigarh (C.G.)

Chairman  
Studies  
Shaheed Nandkumar Patel  
Vishwavidyalaya, Raigarh (C.G.)

#### Program Outcomes (PO):

- Gain a complete exposure to the theories and practices of Computer science.
- Get transformed into a skilled learner and active programmer, enabling the students to focus on their

higher studies.

- Value computer professionals and programmers.
- Explore how the concepts and applications of Computer science lead to innovative thinking with a problem-solving attitude.

### Program Specific Outcomes (PSO):

- Understand the basic Computer knowledge and practical application in operating system.
- Understanding the concept of programming and develop program in C++.
- Understanding the concept of data structure and implementation with C++.
- Understanding the concept of DBMS and implementation in MySQL /Oracle.
- Understanding the concept of OOPs and Java programming and develop program in Java.
- Understanding the concept of web technology and its implementation with HTML/CSS/DHTML/PHP.
- Understand the basic concept of internet of things (IOT).
- Understanding the basic concept of cyber security and cyber law.
- Understanding the basic concept of Artificial Intelligence.

Dr. H.S. Hota  
Chairman

*[Signature]*  
(Dr. K.B. Dubey)

*[Signature]*  
(Dr. S.K. Saha)

*[Signature]*  
(Dr. Anil Sharma)

*[Signature]*  
(Dr. Swati Jain)

*[Signature]*  
(R. Khadley)

*[Signature]*  
(Sushil Kumar Saha)

*[Signature]*  
(Arzmita Shukla Sharma)

*[Signature]*  
(Suresh Thakur)

*[Signature]*  
(Sheelendra Arya)

*[Signature]*  
(Anurag Kumar)

*[Signature]*  
(Anjeeta Kujur)

Officer-In-Charge (Academic)  
Shaheed Nandkumar Patel  
Vishwavidyalaya, Raigarh (C.G.)

Chairman  
of Studies  
Shaheed Nandkumar Patel  
Vishwavidyalaya, Raigarh (C.G.)

# CURRICULUM STRUCTURE

## SCHEME

PROGRAM: B.SC.

DISCIPLINE: COMPUTER SCIENCE

Semester	Course Type	Course Code	Course Title	Total Credit	Total Marks	
					Max	Min
1 <sup>st</sup> Semester	DSC (Major/Core)	CSSC-01T	Computer Fundamental and Operating System	3	100	40
		CSSC-01P	Lab 1: Operating Systems (DOS, Windows and Linux)	1	50	20
2 <sup>nd</sup> Semester	DSC (Major/Core)	CSSC-02T	Programming in C++	3	100	40
		CSSC-02P	Lab 2: Programming in C++	1	50	20
3 <sup>rd</sup> Semester	DSC (Major/Core)	CSSC-03T	Data Structure	3	100	40
		CSSC-03P	Lab 3: Data Structure Using C++	1	50	20
	DSE	CSSE-01	Data Communication and Networking	4	100	40
4 <sup>th</sup> Semester	DSC (Major/Core)	CSSC-04T	Relational Database Management System	3	100	40
		CSSC-04P	Lab 4: Relational Database Management System (Oracle/MySQL)	1	50	20
	DSE	CSSE-02	Computer System Architecture	4	100	40
5 <sup>th</sup> Semester	DSC (Major/Core)	CSSC-05T	Programming in Java	3	100	40
		CSSC-05P	Lab 5: Programming in Java	1	50	20
	DSE	CSSE-03	Cyber Security and Cyber Law	4	100	40
6 <sup>th</sup> Semester	DSC (Major/Core)	CSSC-06T	Web Technology	3	100	40
		CSSC-06P	Lab 6: Web Technology	1	50	20
	DSE	CSSE-04	Introduction to Artificial Intelligence	4	100	40
7 <sup>th</sup> Semester	DSC (Major/Core)	CSSC-07T	Programming in Python	3	100	40
		CSSC-07P	Lab 7: Programming in Python	1	50	20

Officer-in-Charge  
Shaheed Nandkumar Patel  
Vishwavidyalaya, Raigarh (C.G.)

Chairman  
Studies  
Patel  
Vaidya, Raigarh (C.G.)

Dr. A.S. Hota  
Chairman  
Dr. K.B. Dubey  
Sushil  
Suresh Kumar Sahu  
ANNEETA KUMAR  
Kotnigale  
Dinesh  
Suresh Thakur  
R.K. Khuntia  
Arun Kumar Shukla  
Shukla  
Shukla

	DSE	CSSE-05	Computer Graphics	4	100	40
		CSSE-06T	Machine Learning	3	100	40
		CSSE-06P	Lab 8: Machine Learning	1	50	20
		CSSE-07	Software Engineering	4	100	40
		CSSE-08	Theory of Computation	4	100	40
8 <sup>th</sup> Semester	DSC (Major/Core)	CSSC-08T	Fundamental of IoT and Applications	3	100	40
		CSSC-08P	Lab 9: Fundamental of IoT and Applications	1	50	20
	DSE	CSSE-09	Soft Computing	4	100	40
		CSSE-10	Advanced Operating Systems	4	100	40
		CSSE-11	Cloud Computing	4	100	40
		CSSE-12	Major Project	4	100	40

Dr. H.S. Hota  
chairman

Kiran

(Dr. K.B. Dubey)

(Dr. S.K. Sahu)

(Dr. S. Jain)

(Dr. S. Jain)

(Dr. Aronika Shukla)

(Sushil Kumar Sahu)

(Suresh Kumar)

(Suresh Kumar)

(Suresh Kumar)

(Suresh Kumar)

(Suresh Kumar)

(Suresh Kumar)

(Suresh Kumar)

Chairman  
Sudhakar Patil  
Vishwavidyalaya, Raigarh (C.G.)

Officer-in-Charge (Academic)  
Shaheed Nandkumar Patil  
Vishwavidyalaya, Raigarh (C.G.)



## **PART-C: Learning Resources**

### **Text Books, Reference Books and Others**

#### **Text Books Recommended:**

- P.K. Sinha, Computer Fundamentals, BPB Publication, Sixth Edition.
- V. Rajaraman, Fundamentals of Computers, PHI Sixth Edition.
- B. Ram, Computer Fundamentals Architecture and Organization, New Age International Publishers, Fifth Edition.
- Raja Raman V. Fundamental of Computers, Prentice Hall of India, New Delhi.
- Peter Baer Galvin, Greg Gagne, Operating System Concepts – Abraham Silberschatz, 8th edition, Wiley-India, 2009.

#### **Reference Books Recommended:**

- Chetan Shrivastava, Fundamentals of Information Technology, Kalyan Publishers.
- Dr. Santosh Kumar Miri, Computer Fundamentals and Office Automation, Iterative International Publisher IIP.
- Alexis Leon and Mathews Leon, Fundamentals of Information Technology, Vikash Publication.
- Leon and Leon, Fundamental of IT, Leon Tec world.
- Aksoy and Denardis, Introduction to Information Technology, Cengage learning.
- Suresh K. Basandra, Computers Today, Galgotia Publications.
- Dennis P. Curtin, Kim Foley, Kunai Sen and Cathleen Morin, Information Technology – The breaking wave, TMH.
- Kogent Solution Inc., OFFICE 2013 in Simple Steps, DremTech Press.
- Kogent Learning Solutions Inc., Access 2010 in Simple Steps
- Andrew S. Tanenbaum, Modern Operating Systems, 3rd Edition, PHI
- Elmasri, Carrick, Levine, Operating Systems: A Spiral Approach – TMH Edition
- Akshay Singh, Operating System, RGCSM Publications

#### **Online Resources:**

- Indian Knowledge System and computer Science from Swayam portal  
[https://onlinecourses.swayam2.ac.in/imb23\\_mg53/preview](https://onlinecourses.swayam2.ac.in/imb23_mg53/preview)
- Fundamentals of Computer :  
<https://www.w3schools.blog/computer-fundamentals-tutorial>
- Fundamentals of Computer, Memory:  
[https://www.tutorialspoint.com/computer\\_fundamentals/index.htm](https://www.tutorialspoint.com/computer_fundamentals/index.htm)
- Fundamentals of Computer , Windows Operating System :  
<https://vikaspedia.in/education/digital-literacy/it-literacy-courses-in-associating-with-msup/computer-fundamentals>
- Fundamentals of Computer:  
<https://nptel.ac.in/courses/106/103/106103068/>
- Introduction to Operating System:  
<https://www.w3schools.in/operating-system/tutorials/>
- Introduction to Operating System:  
<https://www.javatpoint.com/windows>.
- Peripheral Devices  
<https://www.tutorialspoint.com/what-are-peripheral-devices>
- Windows :  
<https://www.javatpoint.com/windows>
- Linux:  
<https://www.javatpoint.com/what-is-linux>

Officer In-Charge (Academic)  
Shahood Nandkumar Patel  
Vishwavidyalaya, Raigarh (C.G.)

Shahood Nandkumar Patel  
Vishwavidyalaya, Raigarh (C.G.)

## PART -D: Assessment and Evaluation

Suggested Continuous Evaluation Methods:

Maximum Marks: 100 Marks

Continuous Internal Assessment (CIA): 30 Marks

End Semester Exam (ESE): 70 Marks

Continuous Internal Assessment (CIA): (By Course Teacher)	Internal Test / Quiz-(2): 20 & 20	Better marks out of the two Test / Quiz obtained marks in Assignment shall be considered against 30 Marks
	Assignment / Seminar - 10	
	Total Marks - 30	

End Semester Exam (ESE):	Two section - A & B
	Section A: Q1. Objective -- 10 x1= 10 Mark; Q2. Short answer type- 5x4 =20 Marks
	Section B: Descriptive answer type qts., 1 out of 2 from each unit-4x10=40 Marks

Name and Signature of Convener & Members of CBoS:

Dr. H.S. Hota  
Chairman

*[Signature]*

*[Signature]*

*[Signature]*  
(Suresh Thakur)

*[Signature]*  
Shelinda Arora

*[Signature]*  
Jyoti Kaur

*[Signature]*

*[Signature]*  
11/06/20  
Anvika

*[Signature]*  
JMP  
Kaur

*[Signature]*

*[Signature]*  
ANJEETA KURUR

*[Signature]*

Chairman

Shahood Nandkumar Patel  
Vishwavidyalaya, Raigarh (C.G)

Officer In-Charge (Academic)  
Shahood Nandkumar Patel  
Vishwavidyalaya, Raigarh (C.G)

**FOUR YEAR UNDERGRADUATE PROGRAM (2024 – 28)**  
**DEPARTMENT OF COMPUTER SCIENCE**  
**COURSE CURRICULUM**

<b>PART- A: Introduction</b>		
Program: Bachelor in Science (CS) (Certificate / Diploma / Degree)		Semester - I
		Session: 2024-2025
1	Course Code	CSSC-01P
2	Course Title	Lab 1: Operating Systems (DOS, Windows, Linux)
3	Course Type	Practical
4	Prerequisite	As per program
5	Course Learning Outcomes (CLO)	At the end of this course, the students will be able to: <ul style="list-style-type: none"> <li>• Understand the fundamental concepts of DOS, Windows and Linux Operating System.</li> <li>• Understand basics of DOS commands and its types.</li> <li>• Understand features of Windows Operating system.</li> <li>• Understand comparative features of DOS and Windows Operating systems.</li> <li>• Explore functionality of Linux.</li> </ul>
6	Credit Value	1 Credits Credit =30 Hours Laboratory or Field Learning/Training
7	Total Marks	Max. Marks: 50 Min Passing Marks: 20

**PART -B: Content of the Course**

Total No. of learning-Training/performance Periods: 30 Periods (30 Hours)

Module	Topics (Course contents)	No. of Period
List of Practical Experiment	<ol style="list-style-type: none"> <li>1. Demonstrate different Directory naming listing structure with all options.</li> <li>2. Create one file and rename file using DOS command</li> <li>3. Demonstrate all Internal DOS Commands with Output.</li> <li>4. Demonstrate all external DOS Commands with output.</li> <li>5. Introduction to Windows and Familiarity with its controls.</li> <li>6. Study and use of Desktop, my computer, recycle bin, Task bar.</li> <li>7. Working with Files and Folder.</li> <li>8. Use of various window applications: Calculator, notepad and MS-Paint.</li> <li>9. Explaining control panel options.</li> <li>10. Working with printers.</li> <li>11. Create a file using Linux command.</li> <li>12. Write a Linux command which lists all files and directories.</li> <li>13. Demonstrate use of grep command.</li> <li>14. Create Directory using Linux command and create 3 different files in this directory.</li> <li>15. Delete above created files and directory using Linux command.</li> <li>16. Explaining various flavors of Linux.</li> </ol>	30
Note: Concerned teacher can add additional practical exercises as per requirement.		

Keywords DOS, Windows, Linux.

Name and Signature of Convener & Members of CBoS:

Dr. H.S. Hota  
Chairman

*[Signature]*  
Chairman

*[Signature]*

*[Signature]*  
(Shresh Thakur)

*[Signature]*  
Secretary

*[Signature]*  
Member

*[Signature]*

ANJEETA KUMAR

Officer in-Charge (Academic)  
Shahood Nandkumar Patel  
Vishwavidyalaya, Raigarh (C.G.)

Chairman  
Studies  
Shahood Nandkumar Patel  
Vishwavidyalaya, Raigarh (C.G.)



## PART-C: Learning Resources

Text Books, Reference Books and Others

**Text Books Recommended:**

- Rusell A Stultz, MS DOS 6.22 BPB Publications
- Brain Underdahl, Teach yourself Windows 2000, Wiley Publications.

**Reference Books Recommended:**

- Peter Norton, Maximizing Windows, Teachmedia.
- Ray Duncan, Advances MS-DOS Programming, BPB
- Akshay Singh, Operating System, RGCSM Publications
- Ray Yao, Shell Scripting in 8 Hours

**Online Resources:**

- DOS: <https://www.javatpoint.com/ms-dos-operating-system>
- Windows: <https://www.javatpoint.com/windows>
- Linux: <https://www.javatpoint.com/what-is-linux>
- Fundamentals of Computer, Windows Operating System: <https://vikaspedia.in/education/digital-literacy/it-literacy-courses-in-associating-with-msup/computer-fundamentals>
- DOS: <https://www.geeksforgeeks.org/ms-dos-operating-system/>

## PART -D: Assessment and Evaluation

**Suggested Continuous Evaluation Methods:**

Maximum Marks: 50 Marks  
 Continuous Internal Assessment (CIA): 15 Marks  
 End Semester Exam (ESE): 35 Marks

Continuous Internal Assessment (CIA): (By Course Teacher)	Internal Test / Quiz-(2): 10 & 10	Better marks out of the two Test / Quiz + obtained marks in Assignment shall be considered against 15 Marks
	Assignment/Seminar + Attendance - 05 Total Marks - 15	
End Semester Exam (ESE):	<b>Laboratory / Field Skill Performance: On spot Assessment</b> A. Performed the Task based on lab. work - 20 Marks B. Spotting based on tools & technology (written) - 10 Marks C. Viva-voce (based on principle/technology) - 05 Marks Managed by Course teacher as per lab. status	

**Name and Signature of Convener & Members of CBoS:**

Dr. H.S. Hote  
Chairman

*[Signature]*

*[Signature]*

*[Signature]*

*[Signature]*

*[Signature]*

*[Signature]*  
(Dharmendra)

*[Signature]*  
Snehalata  
A.N.

*[Signature]*  
Jeevan  
Kumar

*[Signature]*  
Y.M.  
Kumar

*[Signature]*  
ANJETA KATUR

Officer-in-Charge (Academic)  
Shahood Nandkumar Patel  
Vishwavidyalaya, Raigarh (C.G.)

Officer-in-Charge (Academic)  
Shahood Nandkumar Patel  
Vishwavidyalaya, Raigarh (C.G.)

**FOUR YEAR UNDERGRADUATE PROGRAM (2024 – 28)**  
**DEPARTMENT OF INFORMATION SCIENCE**  
**COURSE CURRICULUM**

**PART- A: Introduction**

Program: Bachelor in Science (CS) (Certificate / Diploma / Degree/Honors)		Semester - II	Session: 2024-2025
1	Course Code	CSSC-02T	
2	Course Title	Programming in C++	
3	Course Type	DSC (Discipline Specific Course)	
4	Prerequisite	As per program	
5	Course Learning Outcomes (CLO)	At the end of this course, the students will be able to: <ul style="list-style-type: none"> <li>• Understand the fundamentals of object oriented programming.</li> <li>• Write programs related to concept of object oriented program</li> <li>• Define functions, class and to create own Libraries.</li> <li>• Write programs for file handling.</li> <li>• Develop small programs to solve real world problems.</li> </ul>	
6	Credit Value	3 Credits	Credit = 15 Hours - Learning & Observation
7	Total Marks	Max. Marks: 100	Min Passing Marks: 40

**PART -B: Content of the Course**

Total No. of Teaching-Learning Periods (01 Hr. per period) - 45 Periods (45 Hours)

Unit	Topics (Course contents)	No. of Period
I	<b>Introduction and Programming Concepts :</b> Definition of Program, Source file, Object file, Executable file, Header file, Language Translator- Assembler, Interpreter, Compiler, Testing, Debugging, Linker and Loader, Algorithms, Flow Charts, History of C language, Structure of C program , C Tokens : Identifiers, Keywords, Constants, Variables, Operators, Data Types, Control structure: Conditional and looping statements, Operator Precedence and Associativity, Array and its types, Pointer, Functions : Standard Library and User defined functions, function prototype, Call by value and Call by reference, recursive functions, String functions.	12
II	<b>Introduction to Object Oriented Programming:</b> Concept of object oriented programming, Features of C++, Structure of C++ program, Data types, structure, class and objects, Access Specifiers: Private, Public, Protected, inline functions, static data and static functions. <b>Constructor:</b> Default constructor, Copy constructor, Parameterized constructor, Destructor.	11
III	<b>Inheritance and Polymorphism:</b> Definition, Concept of base and derived class, Types of Inheritance: Single, Multilevel, Multiple, Hierarchical and Hybrid Inheritance. Polymorphism: Definition, Compile time polymorphism: Function overloading, Operator overloading, constructor overloading. Runtime polymorphism: Virtual Function, pure virtual function. Inline function, friend function, friend class.	11
IV	<b>Input-Output and File Handling :</b> I/O classes, File and Stream classes, Char I/O, String I/O, Object I/O, File Pointer, Opening and Closing file. <b>Exception Handling and Standard Template Library:</b> Definition, Exception basics, try, catch and throws keywords, Template.	11
Keywords	Token, Identifier, Keyword, Array, Function, Class, Object, Polymorphism, Inheritance, Constructor, Template.	

Name and Signature of Convener & Members of CBoS:

Dr. H.S. Hota  
Chairman

*[Signature]*  
(Secretary)

*[Signature]*  
Anvita

*[Signature]*  
Chairman

*[Signature]*  
Anvita

*[Signature]*  
ANJEEVA KUMAR

Officer in Charge (Academic)  
Shahad Nandkumar Patel  
Vishwavidyalaya, Raigarh (C.G.)

*[Signature]*  
Chairman  
Vishwavidyalaya, Raigarh (C.G.)

## **PART-C: Learning Resources**

### **Text Books, Reference Books and Others**

#### **Text Books Recommended:**

- Peter Juliff, Program Design, PHI Publications.
- Yashwant Kanetkar, Let us C: BPB Publications.
- E. Balaguruswamy, Programming in ANSI C, Tata McGraw Hill

#### **Reference Books Recommended:**

- Y. Kanetkar. Let us C++, B.P.B Publication .
- E. Balaguruswamy, Programming in C++, Tata McGraw Hill.
- R. Kumar, Object Oriented Programming with C++, Prakhar Publication(Hindi)
- Dhupiya, Lakhyani , C++ Programming Alka Publications, Ajmer (Paperback, Dhupiya, Lakhyani)(Hindi)

#### **Online Resources:**

- Introduction to C and C++ from SWAYAM/NPTEL  
[https://onlinecourses.nptel.ac.in/noc22\\_cs103/previaw](https://onlinecourses.nptel.ac.in/noc22_cs103/previaw)  
<https://www.youtube.com/watch?v=KG4hjVDw-p8&list=PLmp4ylk-B4KrM9uOEEdvPIVFUkU3jNc6D2&index=2>
- Constant and Inline Function through NPTEL:  
<https://www.youtube.com/watch?v=pX6LufLso2M&list=PLmp4ylk-B4KrM9uOEEdvPIVFUkU3jNc6D2&index=10>
- Pointer and Reference NPTEL  
<https://www.youtube.com/watch?v=GtsBZ5e1-cE&list=PLmp4ylk-B4KrM9uOEEdvPIVFUkU3jNc6D2&index=12>
- Function Overloading NPTEL  
<https://www.youtube.com/watch?v=uJGmGAShHeU&list=PLmp4ylk-B4KrM9uOEEdvPIVFUkU3jNc6D2&index=13>
- Operator Overloading NPTEL  
<https://www.youtube.com/watch?v=0jpOwc4d-FE&list=PLmp4ylk-B4KrM9uOEEdvPIVFUkU3jNc6D2&index=17>
- Dynamic Memory Management NPTEL  
<https://www.youtube.com/watch?v=lkFK2X6qlc0&list=PLmp4ylk-B4KrM9uOEEdvPIVFUkU3jNc6D2&index=18>
- Class and Object NPTEL  
[https://www.youtube.com/watch?v=wtuks\\_f3vP4&list=PLmp4ylk-B4KrM9uOEEdvPIVFUkU3jNc6D2&index=24](https://www.youtube.com/watch?v=wtuks_f3vP4&list=PLmp4ylk-B4KrM9uOEEdvPIVFUkU3jNc6D2&index=24)
- Access Specifiers NPTEL  
[https://www.youtube.com/watch?v=6ki\\_W7cXdM0&list=PLmp4ylk-B4KrM9uOEEdvPIVFUkU3jNc6D2&index=22](https://www.youtube.com/watch?v=6ki_W7cXdM0&list=PLmp4ylk-B4KrM9uOEEdvPIVFUkU3jNc6D2&index=22)
- Constructor and Destructor NPTEL  
[https://www.youtube.com/watch?v=wtuks\\_f3vP4&list=PLmp4ylk-B4KrM9uOEEdvPIVFUkU3jNc6D2&index=24](https://www.youtube.com/watch?v=wtuks_f3vP4&list=PLmp4ylk-B4KrM9uOEEdvPIVFUkU3jNc6D2&index=24)
- C++ different topics from W3School  
<https://www.w3schools.com/Cpp/default.asp>
- C++ different topics from Javatpoint  
<https://www.javatpoint.com/cpp-tutorial>

## PART -D: Assessment and Evaluation

Suggested Continuous Evaluation Methods:  
Maximum Marks: 100 Marks

Continuous Internal Assessment (CIA): 30 Marks

End Semester Exam (ESE): 70 Marks

Continuous Internal Assessment (CIA): (By Course Teacher)	Internal Test / Quiz-(2): 20 +20	Better marks out of the two Test / Quiz + obtained marks in Assignment shall be considered against 30 Marks
	Assignment / Seminar - 10	
	Total Marks - 30	

End Semester Exam (ESE):	Two section - A & B
	Section A: Q1. Objective - 10 x1= 10 Mark; Q2. Short answer type- 5x4 =20 Marks
	Section B: Descriptive answer type qts..1 out of 2 from each unit-4x10=40 Marks

Name and Signature of Convener & Members of CBOS:

Dr. W.S. Hota  
Chairman

*[Signature]*

*[Signature]*

*[Signature]*

*[Signature]*

*[Signature]*

*[Signature]*

*[Signature]*

*[Signature]*

*[Signature]*

*[Signature]*

*[Signature]*

*[Signature]*  
ANJEETA KUSUR

Officer-in-Charge (Academic)  
Shaheed Nandkumar Patil  
Vishwavidyalaya, Raigarh (C.G.)

*[Signature]*  
Shaheed Nandkumar Patil  
Vishwavidyalaya, Raigarh (C.G.)

**FOUR YEAR UNDERGRADUATE PROGRAM (2024 – 28)**  
**DEPARTMENT OF INFORMATION SCIENCE**  
**COURSE CURRICULUM**

**PART- A: Introduction**

Program: Bachelor in Science (CS) (Certificate / Diploma / Degree)		Semester - II	Session: 2024-2025
1	Course Code	CSSC-02P	
2	Course Title	Lab 2: Programming in C++	
3	Course Type	DSC	
4	Prerequisite	As per program	
5	Course Learning Outcomes (CLO)	<p>At the end of this course, the students will be able to:</p> <ul style="list-style-type: none"> <li>• Understand the fundamental programming concepts and methodologies which are essential to create good C++ programs.</li> <li>• Code, test, and implement a well-structured, robust computer program using the C++ programming language.</li> <li>• Write reusable modules (collections of functions).</li> <li>• Understand design/implementation issues involved with variable allocation and binding, control flow, types, subroutines, parameter passing.</li> <li>• Develop an in-depth understanding of functional, logic, and object-oriented programming paradigms.</li> </ul>	
6	Credit Value	1 Credits	Credit =30 Hours Laboratory or Field Learning/Training
7	Total Marks	Max. Marks: 50	Min Passing Marks: 20

**PART -B: Content of the Course**

Total No. of learning-Training/performance Periods: 30 Periods (30 Hours)

Module	Topics (Course contents)	No. of Period
List of Practical Experiments	<ol style="list-style-type: none"> <li>1. Write a program in C++ for addition of two numbers using float data type.</li> <li>2. Write a program in C++ to find the biggest number between two numbers.</li> <li>3. Write a program in C++ to find the factorial value of any entered number using do – while loop.</li> <li>4. Write a program in C++ for various arithmetic operations using switch case statements.</li> <li>5. Write a program in C++ for Multiplication of two 3X3 matrices.</li> <li>6. Write a program in C++ to store five books of information using structure.</li> <li>7. Write a program in C++ to store six employee information using union.</li> <li>8. Write a program in C++ to calculate simple interest using call by value and call by reference method.</li> <li>9. Write a program in C++ to find the sum and average of five numbers using class and objects.</li> <li>10. Write a program in C++ to multiply two numbers using private and public member functions.</li> <li>11. Write a program in C++ to print structure like this using scope resolution operator  1  1 2  1 2 3  1 2 3 4  1 2 3 4 5</li> <li>12. Write a program in C++ for constructor and Destructor.</li> </ol>	30

**Officer-in-Charge (Academic)**  
 Shaheed Nandkumar Patel  
 Vishwavidyalaya, Raigarh (C.G.)

**Chairman**  
 Shaheed Nandkumar Patel  
 Vishwavidyalaya, Raigarh (C.G.)

13. Write a program in C++ for multiple inheritance.
14. Write a program in C++ for operator overloading.
15. Write a program in C++ for friend class and friend function.
16. Write a program in C++ for virtual function and virtual class.
17. Write a program in C++ for Exception Handling.
18. Write a program in C++ to open and close a file using file Handling.
19. Given two ordered arrays of integers, write a program to merge the two-arrays to get an ordered array.
20. WAP to display Fibonacci series (i) using recursion, (ii) using iteration
21. WAP to calculate Factorial of a number (i) using recursion, (ii) using iteration
22. WAP to calculate GCD of two numbers (i) with recursion (ii) without recursion.
23. Create a Matrix class using templates. Write a menu-driven program to perform following Matrix Operations (2-D array implementation): a) Sum b) Difference c) Product d) Transpose
22. Create the Person class. Create some objects of this class (by taking information from the user). Inherit the class Person to create two classes Teacher and Student class. Maintain the respective information in the classes and create, display and delete objects of these two classes (Use Runtime Polymorphism).
24. Create a class Triangle. Include overloaded functions for calculating area. Overload assignment operator and equality operator.
25. Create a class Box containing length, breadth and height. Include following methods in it: a) Calculate surface Area b) Calculate Volume c) Increment, Overload ++ operator (both prefix & postfix) d) Decrement, Overload -- operator (both prefix & postfix) e) Overload operator == (to check equality of two boxes), as a friend function f) Overload Assignment operator g) Check if it is a Cube or cuboid
26. Create a structure Student containing fields for Roll No., Name, Class, Year and Total Marks. Create 10 students and store them in a file.
27. Write a program to retrieve the student information from the file created in the previous question and print it in the following format: Roll No. Name Marks
28. Copy the contents of one text file to another file, after removing all whitespaces.
29. Write a program for exception handling.
30. Write a program to insert data into file and to display it.

**Note:** Concerned teacher can add additional practical exercises as per requirement.

**Keywords** Array, Function, Structure, union, matrix, constructor, destructor, inheritance.

**Name and Signature of Convener & Members of CBoS:**

Dr. H.S. Hota  
Chairman

*[Handwritten signatures of other members]*

*[Handwritten signatures of other members]*

*[Handwritten signature: ANJETA KUMAR]*

in-charge (Academic)  
Shahood Nandkumar Patel  
Vishwavidyalaya, Raigarh (C.G.)

Chairman  
Shahood Nandkumar Patel  
Vishwavidyalaya, Raigarh (C.G.)

## PART-C: Learning Resources

Text Books, Reference Books and Others

### Text Books Recommended:

- Peter Juliff, Program Design, PHI Publications.
- Yashwant Kanetkar, Let us C: BPB Publications.
- E. Balaguruswamy, Programming in ANSI C, Tata McGraw Hill

### Reference Books Recommended:

- Y. Kanetkar, Let us C++, B.P.B Publication .
- E. Balaguruswamy, Programming in C++, Tata McGraw Hill.
- R. Kumar, Object Oriented Programming with C++, Prakhar Publication(Hindi)
- Dhupiya, Lakhyani , C++ Programming Alka Publications, Ajmer (Paperback, Dhupiya, Lakhyani)(Hindi)

### Online Resources:

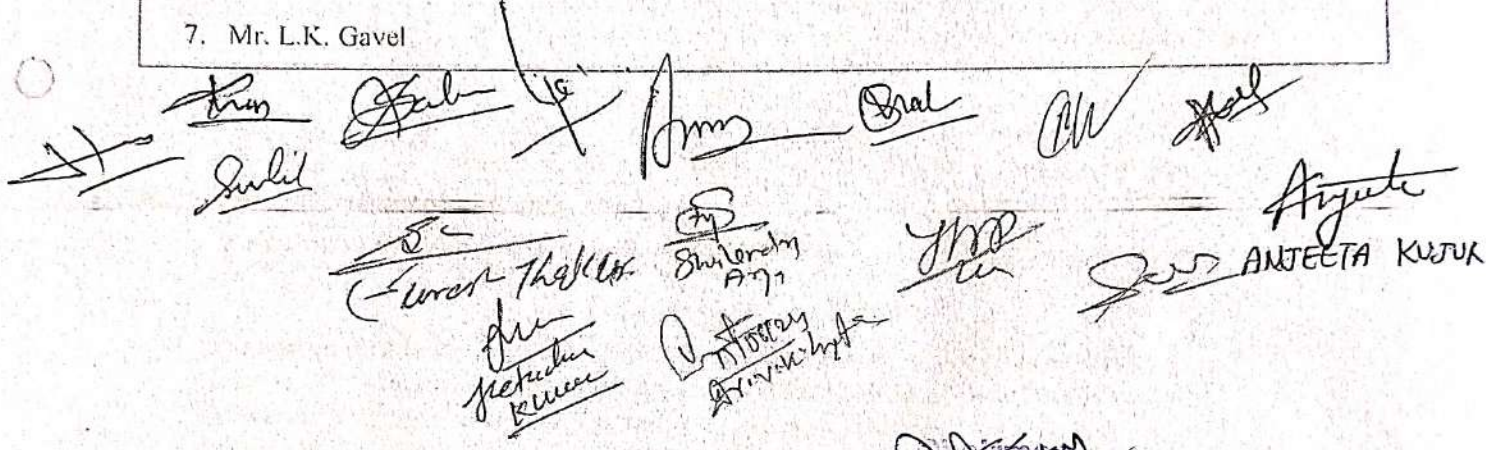
- Introduction to C and C++ from SWAYAM/NPTEL  
[https://onlinecourses.nptel.ac.in/noc22\\_cs103/preview](https://onlinecourses.nptel.ac.in/noc22_cs103/preview)  
<https://www.youtube.com/watch?v=KG4hjVDw-p8&list=PLmp4yIk-B4KrM9uOEEdvPIVFUkU3jNc6D2&index=2>
- Constant and Inline Function through NPTEL:  
<https://www.youtube.com/watch?v=pX6LufLso2M&list=PLmp4yIk-B4KrM9uOEEdvPIVFUkU3jNc6D2&index=10>
- Pointer and Reference NPTEL  
<https://www.youtube.com/watch?v=GtsBZ5c1-cE&list=PLmp4yIk-B4KrM9uOEEdvPIVFUkU3jNc6D2&index=12>
- Function Overloading NPTEL  
<https://www.youtube.com/watch?v=uJGmGAShHeU&list=PLmp4yIk-B4KrM9uOEEdvPIVFUkU3jNc6D2&index=13>
- Operator Overloading NPTEL  
<https://www.youtube.com/watch?v=0jpOwe4d-FE&list=PLmp4yIk-B4KrM9uOEEdvPIVFUkU3jNc6D2&index=17>
- Dynamic Memory Management NPTEL  
<https://www.youtube.com/watch?v=lkFK2X6qIc0&list=PLmp4yIk-B4KrM9uOEEdvPIVFUkU3jNc6D2&index=18>
- Class and Object NPTEL  
[https://www.youtube.com/watch?v=wtuks\\_f3vP4&list=PLmp4yIk-B4KrM9uOEEdvPIVFUkU3jNc6D2&index=24](https://www.youtube.com/watch?v=wtuks_f3vP4&list=PLmp4yIk-B4KrM9uOEEdvPIVFUkU3jNc6D2&index=24)
- Access Specifiers NPTEL  
[https://www.youtube.com/watch?v=6ki\\_W7cXdM0&list=PLmp4yIk-B4KrM9uOEEdvPIVFUkU3jNc6D2&index=22](https://www.youtube.com/watch?v=6ki_W7cXdM0&list=PLmp4yIk-B4KrM9uOEEdvPIVFUkU3jNc6D2&index=22)
- Constructor and Destructor NPTEL  
[https://www.youtube.com/watch?v=wtuks\\_f3vP4&list=PLmp4yIk-B4KrM9uOEEdvPIVFUkU3jNc6D2&index=24](https://www.youtube.com/watch?v=wtuks_f3vP4&list=PLmp4yIk-B4KrM9uOEEdvPIVFUkU3jNc6D2&index=24)
- C++ different topics from W3School  
<https://www.w3schools.com/Cpp/default.asp>
- C++ different topics from Javatpoint  
<https://www.javatpoint.com/cpp-tutorial>

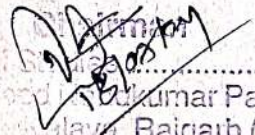
## PART -D: Assessment and Evaluation

Officer-in-Charge (Academic)  
Shaheed Nandkumar Fule  
Vishwavidyalaya, Raigarh (C.G.)

Chairman  
Dr. Anand Kumar Patel  
Raigarh (C.G.)

<b>Suggested Continuous Evaluation Methods:</b>		
Maximum Marks:		50 Marks
Continuous Internal Assessment (CIA):		15 Marks
End Semester Exam (ESE):		35 Marks
Continuous Internal Assessment (CIA): (By Course Teacher)	Internal Test / Quiz-(2): 10 & 10 Assignment/Seminar +Attendance - 05 Total Marks - 15	Better marks out of the two Test / Quiz + obtained marks in Assignment shall be considered against 15 Marks
End Semester Exam (ESE):	Laboratory / Field Skill Performance: On spot Assessment A. Performed the Task based on lab. work - 20 Marks B. Spotting based on tools & technology (written) - 10 Marks C. Viva-voce (based on principle/technology) - 05 Marks	Managed by Course teacher as per lab. status
<b>Name and Signature of Convener &amp; Members:</b>		
1. Dr. H.S. Hota		2. Dr. Swati Jain
3. Dr. Surendra Patel		4. Dr. S. K. Sahu
5. Mr. Prakash Kumar Tripathi		6. Dr. Anil Kumar Sahu
7. Mr. L.K. Gavel		


  
 A collection of handwritten signatures corresponding to the list of names above. Some signatures are clearly legible, such as 'Anjanta Kujur' and 'Surendra Patel', while others are more stylized or partially obscured.

  
 Surendra Patel  
 W. V. J. College, Raigarh (C.G.)

On behalf of the Convener  
 Surendra Patel  
 W. V. J. College, Raigarh (C.G.)



**FOUR YEAR UNDERGRADUATE PROGRAM (2024 – 28)**  
**DEPARTMENT OF COMPUTER SCIENCE**  
**COURSE CURRICULUM**

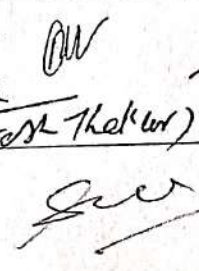
<b>PART- A: Introduction</b>			
Program: Bachelor in Science (CS)		Semester - I	Session: 2024-2025
<i>(Certificate / Diploma / Degree/Honors)</i>			
1	Course Code	CSGE-01T	
2	Course Title	Computer Fundamental and Operating System	
3	Course Type	DGE (Discipline Generic Elective)	
4	Prerequisite	As per program	
5	Course Learning Outcomes (CLO)	After Completing this course, students will be able to: <ul style="list-style-type: none"> <li>• Study and use of basic concepts and terminology of information technology.</li> <li>• Organize files and documents on storage devices.</li> <li>• Acquire knowledge of ICT and Internet applications.</li> <li>• Develop information technology solutions by evaluating user requirements in advance trends of IT.</li> <li>• Acquire knowledge of MS-Excel, MS-PowerPoint and MS-Access.</li> </ul>	
6	Credit Value	3 Credits	Credit = 15 Hours - Learning & Observation
7	Total Marks	Max. Marks: 100	Min Passing Marks: 40

**PART -B: Content of the Course**

Total No. of Teaching-Learning Periods (01 Hr. per period) - 45 Periods (45 Hours)		
Unit	Topics (Course contents)	No. of Period
I	<b>Indian knowledge System and Computer Science :</b> Number System in India-Historical evidence, Salient aspect of Indian Mathematics, Bhuta-Samkhya system, Katapayadi system, pingala and the binary system, Sulbha Sutra as modern arithmetic and numerical mathematics. <b>Fundamental of Computer:</b> History of computer, Generation of computer, Types of Computers, Block diagram of CPU, Digital and Analogue computers and its evolution. Major components of digital computers, Types of digital computers, Memory addressing capability of CPU, Microprocessors, Single chip Microcomputer, Users interface, hardware, software and firmware, Number system & Computer Codes.	13
II	<b>Peripheral devices:</b> I/O Devices-KeyBoard, Mouse, Monitor, Impact and Non-Impact Printers, Plotters, Scanner, other Input/output devices I/O Port, Programmable and Non-Programmable I/O port, Inbuilt I/O ports, Parallel and Serial ports, USB, IEEE 1394, AGP, Serial data transfer scheme, Microcontroller, Signal Processor, I/O processor, Arithmetic Processor.	11
III	<b>Memory:</b> Memory hierarchy, Primary and Secondary Memory, Cache memory, Virtual Memory, Direct Access storage devices (DASD) Destructive and Non-destructive Readout, Program and data memory, Memory Management Unit (MMU).	10
IV	<b>Operating System Concepts:</b> Evolution of Operating Systems: Types of operating systems. Introduction to DOS, History Booting process of DOS, Internal and External commands of DOS, File Structure of DOS. Windows Operating System: History, Version of Windows, Basics of Windows, Windows Explorer, Windows Accessories, Control Panel. Introduction to Linux Operating System, Structure of Linux, Linux command cd, md, rm, mv, cp, ls, cat, find, grep, head, tail.	11
<b>Keywords</b> Computer, Input /Output Devices, Memory, Operating System, DOS, Linux.		
<b>Name and Signature of Convener &amp; Members of CBOs:</b>		
Dr. H.S. Moha e chairman		

**Officer-in-Charge (Academic)**  
 Shaheed Nandkumar Patil  
 Vishwavidyalaya, Raigadh (C.G.)

  
 18/02/2024

  
 ANJEETA KIJUR

## **PART-C: Learning Resources**

### **Text Books, Reference Books and Others**

#### **Text Books Recommended:**

- P.K. Sinha, Computer Fundamentals, BPB Publication, Sixth Edition.
- V. Rajaraman, Fundamentals of Computers, PHI Sixth Edition.
- B. Ram, Computer Fundamentals Architecture and Organization, New Age International Publishers, Fifth Edition.
- Raja Raman V. Fundamental of Computers, Prentice Hall of India, New Delhi.
- Peter Baer Galvin, Greg Gagne, Operating System Concepts – Abraham Silberschatz, 8th edition, Wiley-India, 2009.

#### **Reference Books Recommended:**

- Chetan Shrivastava, Fundamentals of Information Technology, Kalyan Publishers.
- Dr. Santosh Kumar Miri, Computer Fundamentals and Office Automation, Iterative International Publisher IIP.
- Alexis Leon and Mathews Leon, Fundamentals of Information Technology, Vikash Publication.
- Leon and Leon, Fundamental of IT, Leon Tec world.
- Aksoy and Denardis, Introduction to Information Technology, Cengage learning.
- Suresh K. Basandra, Computers Today, Galgotia Publications.
- Dennis P. Curtin, Kim Foley, Kunai Sen and Cathleen Morin, Information Technology – The breaking wave, TMH.
- Kogent Solution Inc., OFFICE 2013 in Simple Steps, DremTech Press.
- Kogent Learning Solutions Inc., Access 2010 in Simple Steps
- Andrew S. Tanenbaum, Modern Operating Systems, 3rd Edition, PHI
- Elmasri, Carrick, Levine, Operating Systems: A Spiral Approach – TMH Edition
- Akshay Singh, Operating System, RGCSM Publications

#### **Online Resources:**

- Indian Knowledge System and computer Science from Swayam portal  
[https://onlinecourses.swayam2.ac.in/imb23\\_img53/preview](https://onlinecourses.swayam2.ac.in/imb23_img53/preview)
- Fundamentals of Computer :  
<https://www.w3schools.blog/computer-fundamentals-tutorial>
- Fundamentals of Computer, Memory:  
[https://www.tutorialspoint.com/computer\\_fundamentals/index.htm](https://www.tutorialspoint.com/computer_fundamentals/index.htm)
- Fundamentals of Computer , Windows Operating System :  
<https://vikaspedia.in/education/digital-literacy/it-literacy-courses-in-associating-with-msup/computer-fundamentals>
- Fundamentals of Computer:  
<https://nptel.ac.in/courses/106/103/106103068/>
- Introduction to Operating System:  
<https://www.w3schools.in/operating-system/tutorials/>
- Introduction to Operating System:  
<https://www.javatpoint.com/windows>
- Peripheral Devices  
<https://www.tutorialspoint.com/what-are-peripheral-devices>
- Windows :  
<https://www.javatpoint.com/windows>
- Linux:  
<https://www.javatpoint.com/what-is-linux>

**Chairman**

Shree ... ..  
Shree Nandkumar Patel  
Vishwavidyalaya, Raigarh (C.G.)

Officer-In-Charge (Academic)  
Shaheed Nandkumar Patel  
Vishwavidyalaya, Raigarh (C.G.)

## PART -D: Assessment and Evaluation

Suggested Continuous Evaluation Methods:

Maximum Marks: 100 Marks

Continuous Internal Assessment (CIA): 30 Marks

End Semester Exam (ESE): 70 Marks

Continuous Internal Assessment (CIA):  
(By Course Teacher)

Internal Test / Quiz-(2):	20 & 20
Assignment / Seminar -	10
Total Marks -	30

Better marks out of the two Test / Quiz obtained marks in Assignment shall be considered against 30 Marks

End Semester Exam (ESE):

Two section - A & B

Section A: Q1. Objective - 10 x1= 10 Mark; Q2. Short answer type- 5x4 =20 Marks  
Section B: Descriptive answer type qts., 1 out of 2 from each unit-4x10 =40 Marks

Name and Signature of Convener & Members of CBoS:

Dr. H.S. Hoka  
- Chairman

*[Signature]*

*[Signature]*

*[Signature]*

*[Signature]*

*[Signature]*

*[Signature]*

*[Signature]*

*[Signature]*  
Chairman

*[Signature]*  
Shantilal  
A.M.

*[Signature]*  
15/08/20  
Dr. H.S. Hoka

*[Signature]*  
ANJEETA KUMAR

*[Signature]*  
18/08/20  
Chairman Patel  
Raigarh (C.G.)

Officer-in-Charge (Academic)  
Shaheed Nandkumar Patel  
Vishwavidyalaya, Raigarh (C.G.)



## PART-C: Learning Resources

Text Books, Reference Books and Others

Text Books Recommended:

- Rusell A Stultz, MS DOS 6.22 BPB Publications
- Brain Underdahl, Teach yourself Windows 2000, Wiley Publications.

Reference Books Recommended:

- Peter Norton, Maximizing Windows, Teachmedia.
- Ray Duncan, Advances MS-DOS Programming, BPB
- Akshay Singh, Operating System, RGCSM Publications
- Ray Yao, Shell Scripting in 8 Hours

Online Resources:

- DOS: <https://www.javatpoint.com/ms-dos-operating-system>
- Windows: <https://www.javatpoint.com/windows>
- Linux: <https://www.javatpoint.com/what-is-linux>
- Fundamentals of Computer, Windows Operating System:  
<https://vikaspedia.in/education/digital-literacy/it-literacy-courses-in-associating-with-msup/computer-fundamentals>
- DOS: <https://www.geeksforgeeks.org/ms-dos-operating-system/>

## PART -D: Assessment and Evaluation

Suggested Continuous Evaluation Methods:

Maximum Marks: 50 Marks  
 Continuous Internal Assessment (CIA): 15 Marks  
 End Semester Exam (ESE): 35 Marks

Continuous Internal Assessment (CIA): (By Course Teacher)	Internal Test / Quiz-(2): 10 & 10 Assignment/Seminar + Attendance - 05 Total Marks - 15	Better marks out of the two Test / Quiz + obtained marks in Assignment shall be considered against 15 Marks
End Semester Exam (ESE):	Laboratory / Field Skill Performance: On spot Assessment A. Performed the Task based on lab. work - 20 Marks B. Spotting based on tools & technology (written) - 10 Marks C. Viva-voce (based on principle/technology) - 05 Marks	Managed by Course teacher as per lab. status

Name and Signature of Convener & Members of CBoS:

Dr. H.S. Hota  
Chairman

*Sanjit*, *(Dinesh Thakur)*

*Shrikrishna*

*Sanjay Kumar*

*Dr. Vikas Chandra*

*Sun*

*ANJETA KUMAR*

Chairman

Studies

*Shrikrishna Kumar Patel*  
Raigarh (C.G.)

Officer-In-Charge (Academic)  
Shahood Nandkumar Patel  
Vishwavidyalaya, Raigarh (C.G.)

*Shrikrishna*

**FOUR YEAR UNDERGRADUATE PROGRAM (2024 – 28)**  
**DEPARTMENT OF INFORMATION SCIENCE**  
**COURSE CURRICULUM**

<b>PART- A: Introduction</b>			
Program: Bachelor in Science (CS) (Certificate / Diploma / Degree/Honors)		Semester - II	Session: 2021-2025
1	Course Code	CSGE-02T	
2	Course Title	Programming in C++	
3	Course Type	DGE (Discipline Generic Elective)	
4	Prerequisite	As per program	
5	Course Learning Outcomes (CLO)	At the end of this course, the students will be able to: <ul style="list-style-type: none"> <li>• Understand the fundamentals of object oriented programming.</li> <li>• Write programs related to concept of object oriented program</li> <li>• Define functions, class and to create own Libraries.</li> <li>• Write programs for file handling.</li> <li>• Develop small programs to solve real world problems.</li> </ul>	
6	Credit Value	3 Credits	Credit = 15 Hours - Learning & Observation
7	Total Marks	Max. Marks: 100	Min Passing Marks: 40

**PART -B: Content of the Course**

Total No. of Teaching-Learning Periods (01 Hr. per period) - 45 Periods (45 Hours)

Unit	Topics (Course contents)	No. of Period
I	<b>Introduction and Programming Concepts :</b> Definition of Program, Source file, Object file, Executable file, Header file, Language Translator- Assembler, Interpreter, Compiler, Testing, Debugging, Linker and Loader, Algorithms, Flow Charts, History of C language, Structure of C program , C Tokens : Identifiers, Keywords, Constants, Variables, Operators, Data Types, Control structure: Conditional and looping statements, Operator Precedence and Associativity, Array and its types, Pointer, Functions : Standard Library and User defined functions, function prototype, Call by value and Call by reference. recursive functions, String functions.	12
II	<b>Introduction to Object Oriented Programming:</b> Concept of object oriented programming, Features of C++, Structure of C++ program, Data types, structure, class and objects, Access Specifiers: Private, Public, Protected, inline functions, static data and static functions. <b>Constructor:</b> Default constructor, Copy constructor, Parameterized constructor, Destructor.	11
III	<b>Inheritance and Polymorphism:</b> Definition, Concept of base and derived class, Types of Inheritance: Single, Multilevel, Multiple, Hierarchical and Hybrid Inheritance. Polymorphism: Definition, Compile time polymorphism: Function overloading, Operator overloading, constructor overloading, Runtime polymorphism: Virtual Function, pure virtual function. Inline function, friend function, friend class.	11
IV	<b>Input-Output and File Handling :</b> I/O classes, File and Stream classes, Char I/O, String I/O, Object I/O, File Pointer, Opening and Closing file. <b>Exception Handling and Standard Template Library:</b> Definition. Exception basics. try, catch and throws keywords, Template.	11
Keywords	Token, Identifier, Keyword, Array, Function, Class, Object, Polymorphism, Inheritance, Constructor, Template.	

Name and Signature of Convener & Members of CBoS:

Dr. H.S. Hota  
Chairman

*[Signature]*

*[Signature]*

*[Signature]*

*[Signature]*

*[Signature]*

*[Signature]*

*[Signature]*

Officer in-Charge (Academic)  
Shahed Nandkumar Patel  
Vishwavidyalaya, Raigarh (C.G.)

Chairman  
Studies

*[Signature]*  
Shahed Nandkumar Patel  
Raigarh (C.G.)

ANJEETA KUMAR

## **PART-C: Learning Resources**

Text Books, Reference Books and Others

### **Text Books Recommended:**

- Peter Juliff, Program Design, PHI Publications.
- Yashwant Kanetkar, Let us C: BPB Publications.
- E. Balaguruswamy, Programming in ANSI C, Tata McGraw Hill

### **Reference Books Recommended:**

- Y. Kanetkar, Let us C++, B.P.B Publication .
- E. Balaguruswamy, Programming in C++, Tata McGraw Hill.
- R. Kumar, Object Oriented Programming with C++, Prakhar Publication(Hindi)
- Dhupiya, Lakhyani , C++ Programming Alka Publications, Ajmer (Paperback, Dhupiya, Lakhyani)(Hindi)

### **Online Resources:**

- Introduction to C and C++ from SWAYAM/NPTEL  
[https://onlinccourses.nptel.ac.in/noc22\\_cs103/preview](https://onlinccourses.nptel.ac.in/noc22_cs103/preview)  
<https://www.youtube.com/watch?v=KG4hjVDw-p8&list=PLmp4yIk-B4KrM9uOEEdvPIVFUkU3jNc6D2&index=2>
- Constant and Inline Function through NPTEL:  
<https://www.youtube.com/watch?v=pX6LufLso2M&list=PLmp4yIk-B4KrM9uOEEdvPIVFUkU3jNc6D2&index=10>
- Pointer and Reference NPTEL  
<https://www.youtube.com/watch?v=GtsBZ5e1-cE&list=PLmp4yIk-B4KrM9uOEEdvPIVFUkU3jNc6D2&index=12>
- Function Overloading NPTEL  
<https://www.youtube.com/watch?v=uJGmGAShHeU&list=PLmp4yIk-B4KrM9uOEEdvPIVFUkU3jNc6D2&index=13>
- Operator Overloading NPTEL  
<https://www.youtube.com/watch?v=0jpOwe4d-FE&list=PLmp4yIk-B4KrM9uOEEdvPIVFUkU3jNc6D2&index=17>
- Dynamic Memory Management NPTEL  
<https://www.youtube.com/watch?v=1kFK2X6qIc0&list=PLmp4yIk-B4KrM9uOEEdvPIVFUkU3jNc6D2&index=18>
- Class and Object NPTEL  
[https://www.youtube.com/watch?v=wtuks\\_f3vP4&list=PLmp4yIk-B4KrM9uOEEdvPIVFUkU3jNc6D2&index=24](https://www.youtube.com/watch?v=wtuks_f3vP4&list=PLmp4yIk-B4KrM9uOEEdvPIVFUkU3jNc6D2&index=24)
- Access Specifiers NPTEL  
[https://www.youtube.com/watch?v=6ki\\_W7cXdM0&list=PLmp4yIk-B4KrM9uOEEdvPIVFUkU3jNc6D2&index=22](https://www.youtube.com/watch?v=6ki_W7cXdM0&list=PLmp4yIk-B4KrM9uOEEdvPIVFUkU3jNc6D2&index=22)
- Constructor and Destructor NPTEL  
[https://www.youtube.com/watch?v=wtuks\\_f3vP4&list=PLmp4yIk-B4KrM9uOEEdvPIVFUkU3jNc6D2&index=24](https://www.youtube.com/watch?v=wtuks_f3vP4&list=PLmp4yIk-B4KrM9uOEEdvPIVFUkU3jNc6D2&index=24)
- C++ different topics from W3School  
<https://www.w3schools.com/CPP/default.asp>
- C++ different topics from Javatpoint  
<https://www.javatpoint.com/cpp-tutorial>

Officer in Charge  
Shaheed Nandkumar Patel  
Vishwavidyalaya, Raigarh (C.C.)

  
Studies .....  
Shaheed Nandkumar Patel  
Vishwavidyalaya, Raigarh (C.C.)

### PART -D: Assessment and Evaluation

Suggested Continuous Evaluation Methods:

Maximum Marks: 100 Marks

Continuous Internal Assessment (CIA): 30 Marks

End Semester Exam (ESE): 70 Marks

Continuous Internal Assessment (CIA): (By Course Teacher)	Internal Test / Quiz-(2): 20 +20	Better marks out of the two Test / Quiz + obtained marks in Assignment shall be considered against 30 Marks
	Assignment / Seminar - 10	
	Total Marks - 30	

End Semester Exam (ESE):	Two section - A & B
	Section A: Q1. Objective - 10 x1= 10 Mark; Q2. Short answer type- 5x4 =20 Marks
	Section B: Descriptive answer type qts., 1 out of 2 from each unit-4x10=40 Marks

Name and Signature of Convener & Members of CBoS:

Dr H.S. Hota  
Chairman

*[Signature]*

*[Signature]*

*[Signature]*

*[Signature]*

*[Signature]*

*[Signature]*  
(Suresh Thakur)

*[Signature]*  
Sunderdas  
Prasad

*[Signature]*  
Dr. Anil Kumar  
Singh

*[Signature]*

*[Signature]*  
ANJEETA KUMAR

Officer-in-Charge (Vaidya) (G.O.)  
Shahood Nandkumar Patil  
Vishwavidyalaya, Raigarh (C.G.)

*[Signature]*  
Shahood Nandkumar Patil  
Vishwavidyalaya, Raigarh (C.G.)



**FOUR YEAR UNDERGRADUATE PROGRAM (2024 – 28)**  
**DEPARTMENT OF INFORMATION SCIENCE**  
**COURSE CURRICULUM**

<b>PART- A: Introduction</b>			
Program: Bachelor in Science (CS) (Certificate / Diploma / Degree)		Semester - II	Session: 2024-2025
1	Course Code	CSGE-02P	
2	Course Title	Lab 2: Programming in C++	
3	Course Type	Practical	
4	Prerequisite	As per program	
5	Course Learning Outcomes (CLO)	At the end of this course, the students will be able to: <ul style="list-style-type: none"> <li>• Understand the fundamental programming concepts and methodologies which are essential to create good C++ programs.</li> <li>• Code, test, and implement a well-structured, robust computer program using the C++ programming language.</li> <li>• Write reusable modules (collections of functions).</li> <li>• Understand design/implementation issues involved with variable allocation and binding, control flow, types, subroutines, parameter passing.</li> <li>• Develop an in-depth understanding of functional, logic, and object-oriented programming paradigms.</li> </ul>	
6	Credit Value	1 Credits	Credit =30 Hours Laboratory or Field Learning/Training
7	Total Marks	Max. Marks: 50	Min Passing Marks: 20

**PART -B: Content of the Course**

Total No. of learning-Training/performance Periods: 30 Periods (30 Hours)

Module	Topics (Course contents)	No. of Period
List of Practical Experiments.	<ol style="list-style-type: none"> <li>1. Write a program in C++ for addition of two numbers using float data type.</li> <li>2. Write a program in C++ to find the biggest number between two numbers.</li> <li>3. Write a program in C++ to find the factorial value of any entered number using do - while loop.</li> <li>4. Write a program in C++ for various arithmetic operations using switch case statements.</li> <li>5. Write a program in C++ for Multiplication of two 3X3 matrices.</li> <li>6. Write a program in C++ to store five books of information using structure.</li> <li>7. Write a program in C++ to store six employee information using union.</li> <li>8. Write a program in C++ to calculate simple interest using call by value and call by reference method.</li> <li>9. Write a program in C++ to find the sum and average of five numbers using class and objects.</li> <li>10. Write a program in C++ to multiply two numbers using private and public member functions.</li> <li>11. Write a program in C++ to print structure like this using scope resolution operator                             <ul style="list-style-type: none"> <li>1</li> <li>1 2</li> <li>1 2 3</li> <li>1 2 3 4</li> <li>1 2 3 4 5</li> </ul> </li> <li>12. Write a program in C++ for constructor and Destructor.</li> </ol>	30

Officer-In-Charge (Academic)  
 Bhaheed Nandkumar Patel  
 Vishwavidyalaya, Rajgarh (G.G.)

(Signature)  
 Bhaheed Nandkumar Patel  
 (Stamp)

13. Write a program in C++ for multiple inheritance.
14. Write a program in C++ for operator overloading.
15. Write a program in C++ for friend class and friend function.
16. Write a program in C++ for virtual function and virtual class.
17. Write a program in C++ for Exception Handling.
18. Write a program in C++ to open and close a file using file Handling.
19. Given two ordered arrays of integers, write a program to merge the two-arrays to get an ordered array.
20. WAP to display Fibonacci series (i) using recursion, (ii) using iteration
21. WAP to calculate Factorial of a number (i) using recursion, (ii) using iteration
22. WAP to calculate GCD of two numbers (i) with recursion (ii) without recursion.
23. Create a Matrix class using templates. Write a menu-driven program to perform following Matrix Operations (2-D array implementation): a) Sum b) Difference c) Product d) Transpose 22. Create the Person class. Create some objects of this class (by taking information from the user). Inherit the class Person to create two classes Teacher and Student class. Maintain the respective information in the classes and create, display and delete objects of these two classes (Use Runtime Polymorphism).
24. Create a class Triangle. Include overloaded functions for calculating area. Overload assignment operator and equality operator.
25. Create a class Box containing length, breadth and height. Include following methods in it: a) Calculate surface Area b) Calculate Volume c) Increment, Overload ++ operator (both prefix & postfix) d) Decrement, Overload -- operator (both prefix & postfix) e) Overload operator == (to check equality of two boxes), as a friend function f) Overload Assignment operator g) Check if it is a Cube or cuboid
26. Create a structure Student containing fields for Roll No., Name, Class, Year and Total Marks. Create 10 students and store them in a file.
27. Write a program to retrieve the student information from the file created in the previous question and print it in the following format: Roll No. Name Marks
28. Copy the contents of one text file to another file, after removing all whitespaces.
29. Write a program for exception handling.
30. Write a program to insert data into file and to display it.

Note: Concerned teacher can add additional practical exercises as per requirement.

Keywords Array, Function, Structure, union, matrix, constructor, destructor, inheritance.

Name and Signature of Convener & Members of CBoS:

Dr. H.S. Hota  
Chairman

*[Signature]*

*[Signature]*  
*[Signature]*  
(Suresh Thakur)

*[Signature]*  
Shreerendra  
Arya

*[Signature]*  
*[Signature]*  
*[Signature]*

*[Signature]*  
ANJETA KUTUR

Officer-in-Charge (Academic)  
Shahood Nandkumar Patel  
Vishwavidyalaya, Raigarh (C.G.)

*[Signature]*  
Shahood Nandkumar Patel  
Officer-in-Charge (C.G.)  
Vishwavidyalaya, Raigarh (C.G.)  
Chairman

## PART-C: Learning Resources

### Text Books, Reference Books and Others

#### Text Books Recommended:

- Peter Juliff, Program Design, PHI Publications.
- Yashwant Kanetkar, Let us C: BPB Publications.
- E. Balaguruswamy, Programming in ANSI C, Tata McGraw Hill

#### Reference Books Recommended:

- Y. Kanetkar, Let us C++, B.P.B Publication .
- E. Balaguruswamy, Programming in C++, Tata McGraw Hill.
- R. Kumar, Object Oriented Programming with C++, Prakhar Publication(Hindi)
- Dhupiya, Lakhyani , C++ Programming Alka Publications, Ajmer (Paperback, Dhupiya, Lakhyani)(Hindi)

#### Online Resources:

- Introduction to C and C++ from SWAYAM/NPTEL  
[https://onlinecourses.nptel.ac.in/noc22\\_cs103/preview](https://onlinecourses.nptel.ac.in/noc22_cs103/preview)  
<https://www.youtube.com/watch?v=KG4hjVDw-p8&list=PLmp4ylk-B4KrM9uOEdvPIVFUkU3jNc6D2&index=2>
- Constant and Inline Function through NPTEL:  
<https://www.youtube.com/watch?v=pX6LuHso2M&list=PLmp4ylk-B4KrM9uOEdvPIVFUkU3jNc6D2&index=10>
- Pointer and Reference NPTEL  
<https://www.youtube.com/watch?v=GtsBZ5c1-cE&list=PLmp4ylk-B4KrM9uOEdvPIVFUkU3jNc6D2&index=12>
- Function Overloading NPTEL  
<https://www.youtube.com/watch?v=uJGmGAShHeU&list=PLmp4ylk-B4KrM9uOEdvPIVFUkU3jNc6D2&index=13>
- Operator Overloading NPTEL  
<https://www.youtube.com/watch?v=0jpOwe4d-FE&list=PLmp4ylk-B4KrM9uOEdvPIVFUkU3jNc6D2&index=17>
- Dynamic Memory Management NPTEL  
<https://www.youtube.com/watch?v=1kFK2X6qIc0&list=PLmp4ylk-B4KrM9uOEdvPIVFUkU3jNc6D2&index=18>
- Class and Object NPTEL  
[https://www.youtube.com/watch?v=wtuks\\_f3vP4&list=PLmp4ylk-B4KrM9uOEdvPIVFUkU3jNc6D2&index=24](https://www.youtube.com/watch?v=wtuks_f3vP4&list=PLmp4ylk-B4KrM9uOEdvPIVFUkU3jNc6D2&index=24)
- Access Specifiers NPTEL  
[https://www.youtube.com/watch?v=6ki\\_W7cXdM0&list=PLmp4ylk-B4KrM9uOEdvPIVFUkU3jNc6D2&index=22](https://www.youtube.com/watch?v=6ki_W7cXdM0&list=PLmp4ylk-B4KrM9uOEdvPIVFUkU3jNc6D2&index=22)
- Constructor and Destructor NPTEL  
[https://www.youtube.com/watch?v=wtuks\\_f3vP4&list=PLmp4ylk-B4KrM9uOEdvPIVFUkU3jNc6D2&index=24](https://www.youtube.com/watch?v=wtuks_f3vP4&list=PLmp4ylk-B4KrM9uOEdvPIVFUkU3jNc6D2&index=24)
- C++ different topics from W3School  
<https://www.w3schools.com/CPP/default.asp>
- C++ different topics from Javatpoint  
<https://www.javatpoint.com/cpp-tutorial>

Officer-In-Charge (Academic)  
Shaheed Nandkumar Patel  
Vishwavidyalaya, Raigarh (C.G.)

Chairman  
of Studies .....  
Shaheed Nandkumar Patel  
Vishwavidyalaya, Raigarh (C.G.)

### PART -D: Assessment and Evaluation

Suggested Continuous Evaluation Methods:

Maximum Marks: 50 Marks

Continuous Internal Assessment (CIA): 15 Marks

End Semester Exam (ESE): 35 Marks

Continuous Internal Assessment (CIA): (By Course Teacher)	Internal Test / Quiz-(2): 10 & 10	Better marks out of the two Test / Quiz + obtained marks in Assignment shall be considered against 15 Marks
	Assignment/Seminar + Attendance - 05 Total Marks - 15	
End Semester Exam (ESE):	Laboratory / Field Skill Performance: On spot Assessment	
	A. Performed the Task based on lab. work - 20 Marks	Managed by Course teacher as per lab. status
	B. Spotting based on tools & technology (written) - 10 Marks	
C. Viva-voce (based on principle/technology) - 05 Marks		

Name and Signature of Convener & Members of CBoS:

Dr. H. H. Hota  
Chairman

*[Signature]*

*[Signature]*

*[Signature]*

*[Signature]*

*[Signature]*

*[Signature]*

*[Signature]*

*[Signature]*  
(Suresh Thakur)

*[Signature]*  
Snehalata  
Arora

*[Signature]*  
Dr. J. J. Joshi  
15/05/2024  
Principal

*[Signature]*  
ANJEETA KUTUR

Officer-in-Charge (Academics)  
Shaheed Nandkumar Patel  
Vishwavidyalaya, Rajgarh (C.G.)

Chairman  
Studies  
Shaheed Nandkumar Patel  
Vishwavidyalaya, Rajgarh (C.G.)

**FOUR YEAR UNDERGRADUATE PROGRAM (2024 – 28)**  
**DEPARTMENT OF COMPUTER SCIENCE**  
**COURSE CURRICULUM**

**PART-A: Introduction**

Program: Bachelor in Science (CS) (Certificate / Diploma / Degree/Honors)		Semester – I/III/V	Session: 2024-2025
1	Course Code	CSVAC-01	
2	Course Title	Artificial Intelligence	
3	Course Type	Value Addition Course (VAC)	
4	Prerequisite	As per program	
5	Course Learning Outcomes(CLO)	At the end of this course, students will be able to: <ul style="list-style-type: none"> <li>• Understand basics of AI.</li> <li>• Understand problem solving techniques of AI.</li> <li>• Aware about AI tools.</li> <li>• Explore application of AI in various domains.</li> <li>• Understand the current scenario of AI in India.</li> </ul>	
6	Credit Value	2 Credits	Credit = 15 Hours -Learning & Observation
7	Total Marks	Max. Marks: 50	Min Passing Marks: 20

**PART – B: Content of the Course**

Total No. of Teaching- Learning Periods (01 Hr. per period) - 30 Periods (30 Hours)

Unit	Topics (Course contents)	No. of Period
I	<b>Introduction:</b> Overview of Artificial Intelligence (AI), Foundations of AI, Areas and Applications of AI in various domains, AI in India, Impact and examples of AI, Future of AI.	8
II	<b>Advanced AI:</b> Basic Concept of Machine Learning, Deep Learning, Computer vision, Natural Language Processing (NLP), Speech recognition, Generative AI Applications.	8
III	<b>AI Tools:</b> Conversational AI: ALEXA, CORTANA, SIRI etc., AI tools for content generation, Image creation, Presentation, Video editing etc.	8
IV	<b>Application of AI:</b> Agriculture, Healthcare, Environment, Teaching-Learning, E-Commerce, Industry, Research etc.	6

**Keywords:** Artificial Intelligence (AI), Machine Learning (ML), Deep Learning, Computer Vision, Natural Language Processing (NLP), Conversational AI, Generative AI.

**Name and Signature of Convener & Members of CBoS:**

Dr. H.S. Hota  
Chairman

*[Signature]*  
Dr. Anshu Kumar

*[Signature]*  
Dr. Anshu Kumar

*[Signature]*  
Dr. Anshu Kumar

*[Signature]*  
Dr. Anshu Kumar

*[Signature]*  
Dr. Anshu Kumar

*[Signature]*  
Dr. Anshu Kumar

*[Signature]*  
Dr. Anshu Kumar

*[Signature]*  
Dr. Anshu Kumar

*[Signature]*  
Dr. Anshu Kumar

*[Signature]*  
Dr. Anshu Kumar

*[Signature]*  
ANJEETA KUMAR

**PART-C: Learning Resources**

Text Books, Reference Books and Others

**Text Books Recommended:**

- Introduction to Artificial Intelligence and Expert Systems, Dan W. Patterson, PHI Publication.
- Artificial Intelligence, Elaine Rich and Kevin Knight TMH publication.

**Chairman**

**Officer-In-Charge (Academic)**  
 Shaheed Nandkumar Patel  
 Vishwavidyalaya, Raigarh (C.G.)

*[Signature]*  
 Shaheed Nandkumar Patel  
 Vishwavidyalaya, Raigarh (C.G.)





## PART-C: Learning Resources

Text Books, Reference Books and Others

### Text Books Recommended:

- Brian Underdahl, Macromedia Flash MX: The Complete Reference, McGraw-Hill
- Ibis Fernandez, Flash Animation and Cartooning: a creative guide
- Tony white, The animators to Adobe Flash.
- Ian failles, Masters of FX.

### Reference Books Recommended:

- Jan Marrelli , A Guide to Web Development Using Adobe Dreamweaver CS3 with Fireworks and Flash, Lawrenceville Press
- Codex Jeffrey A. Okun and Susan Zwerman, The VES handbook of Visual Effects: Indutry Standard VFX Practices and Procedures.

### Online Resources:

- Introduction to Multimedia:  
<https://www.javatpoint.com/multimedia-definition#:~:text=Multimedia%20combines%20several%20media%20formats,users%20engage%20with%20the%20information.>
- Introduction to Multimedia:-  
[https://www.w3schools.com/html/html\\_media.asp](https://www.w3schools.com/html/html_media.asp)
- Introduction to Flash:  
<https://www.javatpoint.com/what-is-flash#:~:text=Adobe%20Flash%20is%20usually%20installed,of%20disabling%20the%20browser%20extension.>
- Introduction-To-Macromedia-Flash-8:  
<https://www.geeksforgoeks.org/introduction-to-macromedia-flash-8/>

## PART -D: Assessment and Evaluation

Suggested Continuous Evaluation Methods:

Maximum Marks: 50 Marks

Continuous Internal Assessment (CIA): 15 Marks

End Semester Exam (ESE): 35 Marks

Continuous Internal Assessment (CIA): (By Course Teacher)	Internal Test / Quiz-(2): 10 & 10 Assignment/Seminar +Attendance - 05 Total Marks - 15	Better marks out of the two Test / Quiz + obtained marks in Assignment shall be considered against 15 Marks
End Semester Exam (ESE):	Laboratory / Field Skill Performance: On spot Assessment A. Performed the Task based on lab. work - 20 Marks B. Spotting based on tools & technology (written) - 10 Marks C. Viva-voce (based on principle/technology) - 05 Marks	Managed by Course teacher as per lab. status

Name and Signature of Convener & Members of CBoS:

Dr. H.S. Hota  
Chairman

Dr. G. Bal

Dr. P. Singh

Dr. Anjali

Dr. S. K. Singh

Dr. S. K. Singh

Dr. S. K. Singh

Dr. S. K. Singh

Dr. S. K. Singh

Dr. S. K. Singh

Dr. S. K. Singh

Officer-In-Charge (Academic)  
Shaheed Nandkumar Patel  
Vishwavidyalaya, Raigarh (C.G.)

Chairman  
of Studies  
and  
Research  
Council  
(C.G.)







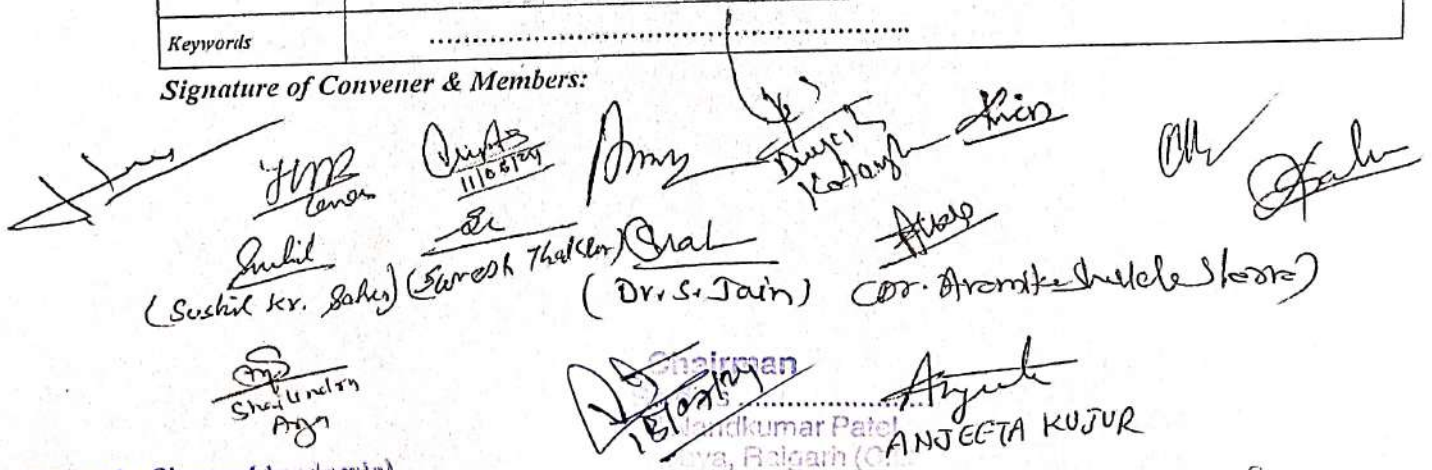
**FOUR YEAR UNDERGRADUATE PROGRAM (2024-28)**  
**Department of Library and Information Science**  
**Course Curriculum for SEC**

<b>PART-A: Introduction</b>			
<b>Program: Undergraduate</b> <i>(Certificate / Diploma / Degree/Honors)</i>		<b>Semester - II/IV/V/V</b>	<b>Session: 2024-2025</b>
1	<b>Course Code</b>	LISEC-02	
2	<b>Course Title</b>	Literature Review and Reference Management	
3	<b>Course Type</b>	SEC (Skill Enhancement Courses)	
4	<b>Pre-requisite (if, any)</b>	As per Program	
5	<b>Course Learning Outcomes (CLO)</b>	Students will be able > To understand the Concept of Literature review > To understand the Conduct the Literature review > To understand the Understand the various reference style. > To use the reference management tools > To understand the various search strategies.	
6	<b>Credit Value</b>	2 Credits (1C+ 1C)	<i>Credit=15 Hours – Theoretical learning and = 30 Hours Laboratory or Field learning/Training</i>
7	<b>Total Marks</b>	Max. Marks: 50	Min Passing Marks: 20


**PART-B: Content of the Course**

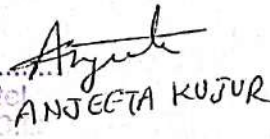
Module	Total No. of Teaching-learning Periods: Theory-15 Periods (15Hrs) and Lab. Or Field learning/Training 30 Periods (30 Hours)	No. of Period
<b>Theory Contents</b>	<b>Literature Review and Reference Management (Theory)</b> <ul style="list-style-type: none"> <li>Literature Review: Concept, Types, Need and their Importance, Sources for review of Literature.</li> <li>Search Strategies in Literature review.</li> <li>Writing effective literature review, Bibliographic elements</li> <li>Basics of Citations and References, Measure to avoid plagiarism in research, Overview of Citation Analysis.</li> </ul>	15(15Hr)
<b>Lab./Field Training Contents</b>	<b>Literature Review and Reference Management (Practice)</b> <ul style="list-style-type: none"> <li>Hands on practice on Citation and Reference management tool (Mendely, Zotero etc).</li> <li>Practice of Referencing Style (APA and MLA, CHICAGO).</li> <li>Hands on Practice on various Databases and Literature Review.</li> <li>Practice of various search strategies in Literature Review.</li> </ul>	30(30Hr)
<b>Keywords</b>	.....	

Signature of Convener & Members:


  
 (Sushil Kr. Sahas) (Suresh Thakur) (Dr. S. Jain) (Ananta Kumar Patel) (Ananta Kumar Patel) (Ananta Kumar Patel)

**Officer-In-Charge (Academic)**  
 Shaheed Nandkumar Patel  
 Vishwavidyalaya, Raigarh (C.G.)


  
 Chairman  
 Ananta Kumar Patel  
 Raigarh (C.G.)


  
 ANJETA Kujur

## PART-C

### Learning Resources: Text Books, Reference Books and Others

#### Text Books Recommended-

1. Weyers, J., & McMillan, K. (Pearson Education). How to Cite, Reference & Avoid Plagiarism at University EBook. United Kingdom: Pearson Education.
2. Booth, A., Sutton, A., Papaioannou, D. (2016). Systematic Approaches to a Successful Literature Review. United Kingdom: SAGE Publications.
3. Galvan, J. L., Galvan, M. C. (2017). Writing Literature Reviews: A Guide for Students of the Social and Behavioral Sciences. United Kingdom: Taylor & Francis.
4. Hart, C. (2001). Doing a Literature Search: A Comprehensive Guide for the Social Sciences. United Kingdom: SAGE Publications.
5. McEvoy, B. T., Machi, L. A. (2012). The Literature Review: Six Steps to Success. United States: SAGE Publications.
6. Ridley, D. (2012). The Literature Review: A Step-by-Step Guide for Students. United Kingdom: SAGE Publications.
7. Muhammad, Rafiq. (2023). Literature Reviews Simplified: A Practical Guide for Beginners. ISBN-978-9198900750.
8. Gretham, Bryan. (2021). How to Write Your Literature Review. Bloomsbury Academic. ISBN-978-1352011043.
9. Young, Don J. (2023). APA Essentials: Style, Formatting and Grammar. 7th Edition.
10. Cognella Inc. ISBN 978-1793581556.
11. MLA Handbook-9th edition (2021). Modern Language Association. ISBN-978-1603293518
12. Raibenhaime, Jacques. (2019) Mendeley: Crowdsourced Reference and Citation Management in the Information Era. True Insight Publishing. ISBN-978-0620594424.
13. Carter, S., & Laurs, D. (2017). Developing Research Writing: A Handbook for Supervisors and Advisors. New York: Routledge.
14. Parija, S. C., & Kate, (2017). Writing and Publishing a Scientific Research Paper. Singapore: Springer.

#### Online Resources-

- <https://egyankosh.ac.in/bitstream/123456789/40653/1/Unit-3.pdf>
- [e-PGPathshala \(in flibnet.ac.in\)](http://e-PGPathshala.in/flibnet.ac.in)
- <https://egyankosh.ac.in/bitstream/123456789/35677/1/Unit-3.pdf>
- <https://www.egyankosh.ac.in/bitstream/123456789/63508/2/Unit-15.pdf>

#### Online Resources-

- e-Resources/e-books and e-learning portals

## Part-D: Assessment and Evaluation

#### Suggested Continuous Evaluation Methods:

Maximum Marks:	50 Marks
Continuous Internal Assessment (CIA):	15 Marks
End Semester Exam (ESE):	35 Marks

Continuous Internal Assessment (CIA): (By Course Coordinator)	Internal Test/Quiz- (2): 10 & 10 Assignment/Seminar + Attendance - 05 Total Marks - 15	Better marks out of the two Test/ Quiz + obtained marks in Assignment shall be considered against 15 Marks
End Semester Exam (ESE):	Laboratory/Field Skill Performance: On spot Assessment A. Performed the Task based on learned skill- 20 Marks B. Spotting based on tools (written) - 10 Marks C. Viva-voce (based on principle/technology)- 05 Marks	Managed by Coordinator as per skilling

Signature of Convener & Members:


  
 Convener: 
  
 Members: 
  
 Dr. S. Jain

Officer-in-Charge (Academic)  
 Shaheed Nandkumar Patil  
 Vishwavidyalaya, Raigarh (C.G.)

Chairman  
 Shaheed Nandkumar Patil  
 Vishwavidyalaya, Raigarh (C.G.)  
 ANJEETA KUMAR

**FOUR YEAR UNDERGRADUATE PROGRAM (2024-2028)**  
**DEPT. OF SPORTS: VALUE ADDITION COURSE**  
**COURSE CURRICULUM (2024-25)**

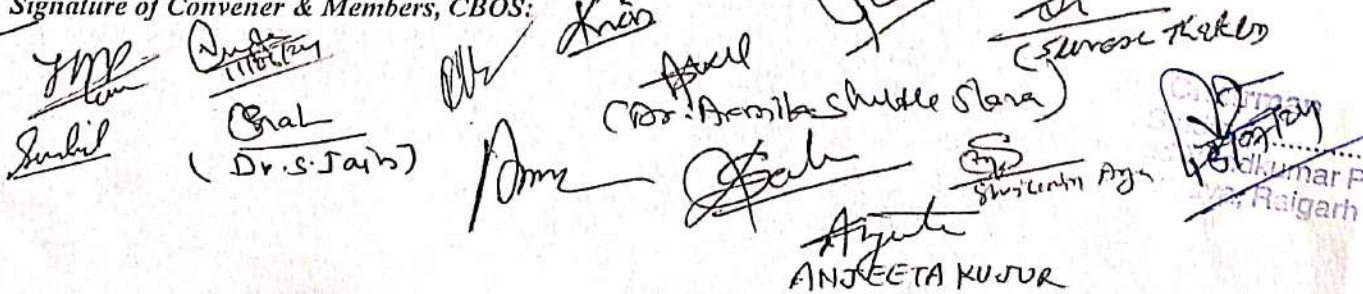
<b>PART-A: Introduction</b>			
<b>Program: Undergraduate</b> <i>(Certificate / Diploma / Degree/Honors)</i>		<b>Semester - I/III/V</b>	<b>Session: 2024-2025</b>
1	Course Code	LIVAC-01	
2	Course Title	Library & Information Resources	
3	Course Type	VAC(Value Added Courses)	
4	Pre-requisite (if, any)	<i>As per Program</i>	
5	Course Learning Outcomes (CLO)	<input type="checkbox"/> Acquainted with library resources and their various types. <input type="checkbox"/> Understood general and reference sources. <input type="checkbox"/> Familiar with electronics and open resources. <input type="checkbox"/> Able to evaluate library resources and locate answer to reference queries. <input type="checkbox"/> Able to evaluate of Web-Based Resources.	
6	Credit Value	2 Credits	<i>Credit = 15 Hours - learning &amp; Observation</i>
7	Total Marks	Max. Marks: 50	Min Passing Marks: 20

**PART -B: Content of the Course**

Total No. of Teaching-learning Periods (01 Hr. per period) - 30 Periods (30 Hours)

Module	Topics (Course contents): Learning and Practices	No. of Periods
I	<b>Understanding Library Resources</b> <ul style="list-style-type: none"> <li>• Concept, Definition, Scope</li> <li>• Types of Library and Information Sources</li> <li>• Documentary and Non-Documentary Sources</li> <li>• Primary, Secondary and Tertiary Sources</li> </ul>	08 (08Hr)
II	<b>General and Reference Sources</b> <ul style="list-style-type: none"> <li>• Meaning, Definition, Scope</li> <li>• General Resource Materials</li> <li>• Reference Sources-Nature and types</li> <li>• General Sources vs. Reference sources</li> </ul>	07 (07Hr)
III	<b>Electronic and Open Access Resources</b> <ul style="list-style-type: none"> <li>• E-resources-meaning, concept and definition</li> <li>• Types, nature and scope</li> <li>• Open access resources-nature and accessibility</li> <li>• Web based resources-nature and accessibility</li> </ul>	08 (08Hr)
IV	<b>Evaluation of Library Resources</b> <ul style="list-style-type: none"> <li>• Need and Purpose of Evaluation</li> <li>• Criteria for Evaluation</li> <li>• Evaluation of Documentary Resources</li> <li>• Evaluation of Web-Based Resources</li> </ul>	07 (07Hr)
<b>Keywords</b> .....		

Signature of Convener & Members, CBOS:


  
 (Dr. S. Jain)
   
 ANJEEETA KUMAR

## PART-C

### Learning Resources: Text Books, Reference Books and Others

#### Text Books Recommended-

1. Bopp, R. C. & Smith, L.C. Reference & Information Services, 2<sup>nd</sup> Ed. US Libraries Unlimited, 2011.
2. Cassell, K. A. & Hiremath, U. Reference & Information Services in the 21st Century: An Introduction, 2<sup>nd</sup> Ed. US, American Library Association, 2011.
3. Kaushal, C. & Mahapatra, R.K. Open Access E-Resources in Library & Information Science. New Delhi, Ess Ess Publication, 2013.
4. Kumar, K. Library Manual, 4<sup>th</sup> Ed. New Delhi, S. Chand, 2018.
5. Kumar, PSG. Information Sources and Services - Theory and Practice. Vol.6. New Delhi: BR Publishing Corporation, 2004.
6. Ranganathan, SR. Library Book Selection. New Delhi. Ess Ess Publications, 2006
7. Ranganathan, SR. Library Manual. New Delhi. Ess Ess Publications, 2008
8. Sharma, (J.S.) and Grover (DR). Reference Services and Sources of Information. New Delhi. Ess Ess Publications, 1987.
9. Singh, G. Information Sources, Services & Systems. New Delhi, Prentice Hall India Learning, 2013.

#### Online Resources-

- [LCh-009.pdf\(nios.ac.in\)](http://nios.ac.in/LCh-009.pdf)
- [LCh-001.pdf\(nios.ac.in\)](http://nios.ac.in/LCh-001.pdf)
- [https://ebooks.lpu.de.in/library\\_and\\_info\\_sciences/DLIS/Year\\_1/DLIS001\\_FOUNDATION\\_OF\\_LIBRARY\\_AND\\_INFORMATION\\_SCIENCE.pdf](https://ebooks.lpu.de.in/library_and_info_sciences/DLIS/Year_1/DLIS001_FOUNDATION_OF_LIBRARY_AND_INFORMATION_SCIENCE.pdf)
- [eGyanKosh:BLI-221Library,InformationandSociety](http://eGyanKosh:BLI-221Library,InformationandSociety)
- [MicrosoftWord-LG-Lesson1Lib\(nios.ac.in\)](http://MicrosoftWord-LG-Lesson1Lib(nios.ac.in))
- [MicrosoftWord-BLIS-101.1\(uou.ac.in\)](http://MicrosoftWord-BLIS-101.1(uou.ac.in))
- [http://14.139.237.190/other\\_pdf/BLIS\\_01\\_N.pdf\(UPRTOU\)](http://14.139.237.190/other_pdf/BLIS_01_N.pdf(UPRTOU))
- [http://14.139.237.190/other\\_pdf/BLIS-01.pdf\(UPRTOU\)](http://14.139.237.190/other_pdf/BLIS-01.pdf(UPRTOU))
- [eGyanKosh:बीएलआई221पुस्तकालसूचनाएवंमाज](http://eGyanKosh:बीएलआई221पुस्तकालसूचनाएवंमाज)
- [LCh-001H.pdf\(nios.ac.in\)](http://LCh-001H.pdf(nios.ac.in))
- [LCh-002H.pdf\(nios.ac.in\)](http://LCh-002H.pdf(nios.ac.in))
- [e-PGPathshala\(inflibnet.ac.in\)](http://e-PGPathshala(inflibnet.ac.in))
- [refl-1\(lpu.de.in\)](http://refl-1(lpu.de.in))
- [eGyanKosh:BLIS-05ReferenceandInformationSources](http://eGyanKosh:BLIS-05ReferenceandInformationSources)
- [pssou.ac.in/read\\_e\\_book?id=424c49425f3036](http://pssou.ac.in/read_e_book?id=424c49425f3036)
- [http://14.139.237.190/other\\_pdf/BLIS\\_06.pdf\(UPRTOU\)](http://14.139.237.190/other_pdf/BLIS_06.pdf(UPRTOU))

- [LCh-008H.pdf\(nios.ac.in\)](http://LCh-008H.pdf(nios.ac.in))
- [LCh-007H.pdf\(nios.ac.in\)](http://LCh-007H.pdf(nios.ac.in))
- [LCh-006H.pdf\(nios.ac.in\)](http://LCh-006H.pdf(nios.ac.in))
- [LCh-005H.pdf\(nios.ac.in\)](http://LCh-005H.pdf(nios.ac.in))
- [e-PGPathshala\(inflibnet.ac.in\)](http://e-PGPathshala(inflibnet.ac.in))
- [unit7\(egyankosh.ac.in\)Unit-3.pdf\(egyankosh.ac.in\)](http://unit7(egyankosh.ac.in)Unit-3.pdf(egyankosh.ac.in))
- [BLIS-106.pdf\(uou.ac.in\)](http://BLIS-106.pdf(uou.ac.in))
- [BLIS6.pdf\(vmou.ac.in\)](http://BLIS6.pdf(vmou.ac.in))

#### Online Resources-

□ e-Resources/e-books and e-learning portals

## PART -D: Assessment and Evaluation

### Suggested Continuous Evaluation Methods:

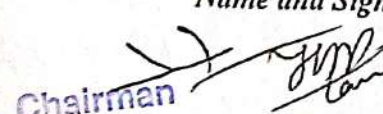
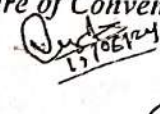
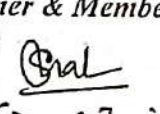
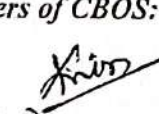


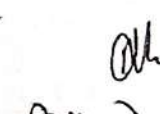

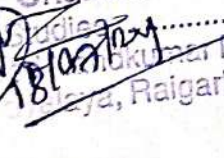
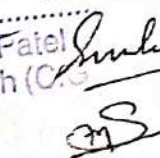
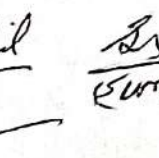
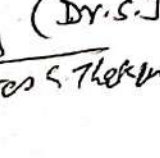
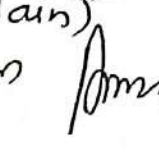
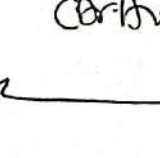
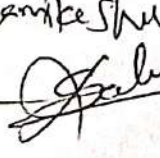
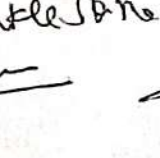
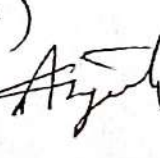
Maximum Marks: 50 Marks

Continuous Internal Assessment (CIA): 15 Marks

End Semester Exam (ESE): 35 Marks

Continuous Internal Assessment (CIA): (By Course Teacher)	Internal Test / Quiz-(2): 10 & 10	Better marks out of the two Test / Quiz + obtained marks in Assignment shall be considered against 15 Marks
	Assignment/Seminar + Attendance - 05 Total Marks - 15	
End Semester Exam (ESE):	Two section - A & B Section A: Q1. Objective - 05 x1 = 05 Mark; Q2. Short answer type- 5x2 = 10 Marks Section B: Descriptive answer type qts., 1 out of 2 from each unit- 4x05 = 20 Marks	

Name and Signature of Convener & Members of CBOS:

Chairman:   
 Members:  (Dr. S. Jain),  (Dr. S. Jain), , , , ,   
 Members:  (Dr. S. Jain), , , , , , , , 

**FOUR YEAR UNDERGRADUATE PROGRAM (2024 -2028)**  
**DEPT. OF SPORTS: VALUE ADDITION COURSE**  
**COURSE CURRICULUM (2024-25)**

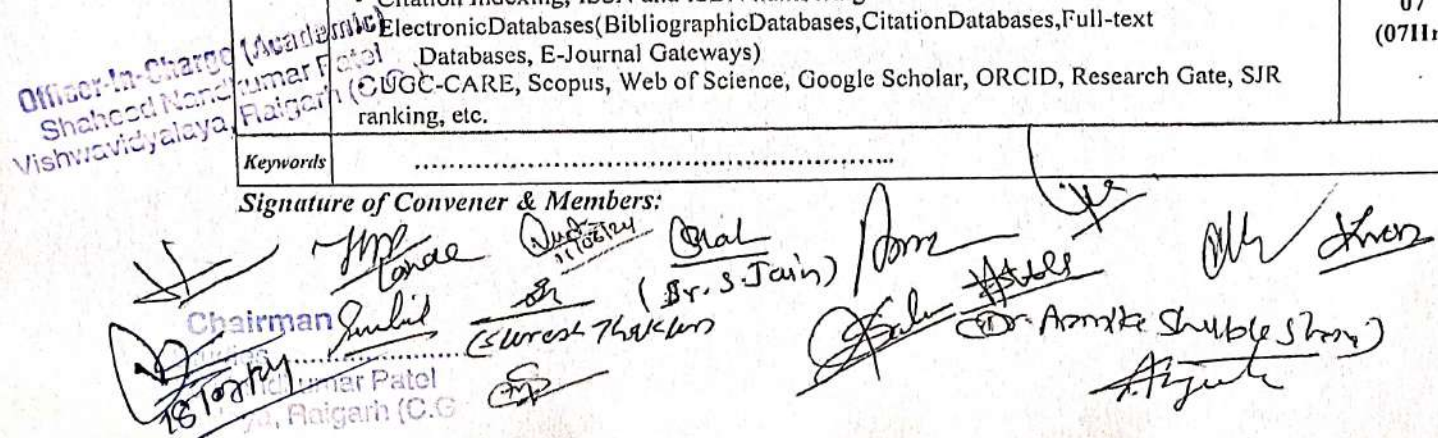
<b>PART-A: Introduction</b>			
<b>Program: Undergraduate</b> <i>(Certificate / Diploma / Degree/Honors)</i>		<b>Semester - I/III/V</b>	<b>Session: 2024-2025</b>
1	Course Code	LIVAC-02	
2	Course Title	Open Access and Scholarly Communication	
3	Course Type	VAC (Value Added Courses)	
4	Pre-requisite (if, any)	<i>As per Program</i>	
5	Course Learning Outcomes (CLO)	<ul style="list-style-type: none"> <li>□ To get acquainted with the scholarly communication process and channels of communication necessary in the higher education scenario.</li> <li>□ To understand with the Copyright and Open Access policies associated with the publishing industry.</li> <li>□ To know and avoid malpractices in academic publishing.</li> <li>□ To Know about various academic Performance Indicators.</li> </ul>	
6	Credit Value	<b>2 Credits</b>	<i>Credit = 15 Hours - learning &amp; Observation</i>
7	Total Marks	Max. Marks: 50	Min Passing Marks: 20

**PART -B: Content of the Course**

Total No. of Teaching-learning Periods (01 Hr. per period) - 30 Periods (30 Hours)

Module	Topics (Course contents): Learning and Practices	No. of Periods
<b>I</b>	<b>Introduction to Scholarly Communication</b> <ul style="list-style-type: none"> <li>• Genesis of Scholarly Communication</li> <li>• Academic Publishing: Process, Importance and Ethics</li> <li>• Channels of Academic Publishing</li> <li>• Academic Journals and Peer Review Process.</li> </ul>	<b>08</b> (08Hr)
<b>II</b>	<b>Academic Integrity</b> <ul style="list-style-type: none"> <li>• Scientific Misconduct: Falsification, Fabrication and Plagiarism</li> <li>• UGC mandate on Plagiarism</li> <li>• Various Facets of Authorship</li> <li>• Identification of Publication Misconducts and its consequences; Predatory Journals.</li> </ul>	<b>07</b> (07Hr)
<b>III</b>	<b>Open Access Research</b> <ul style="list-style-type: none"> <li>• Intellectual Property Rights</li> <li>• Open Access Policy</li> <li>• Open Access Publication Process</li> <li>• Open Knowledge Repositories on Various Subject; NDLI, SWAYAM-MOOCs, e-PG Pathshala, NPTEL, etc.</li> </ul>	<b>08</b> (08Hr)
<b>IV</b>	<b>Academic Performance Indicators</b> <ul style="list-style-type: none"> <li>• Journal Indexing and Performance Indicators</li> <li>• Citation Indexing; ISSN and ISBN numbering</li> <li>• Electronic Databases (Bibliographic Databases, Citation Databases, Full-text Databases, E-Journal Gateways)</li> <li>• UGC-CARE, Scopus, Web of Science, Google Scholar, ORCID, Research Gate, SJR ranking, etc.</li> </ul>	<b>07</b> (07Hr)
Keywords		.....

Signature of Convener & Members:


  
 Chairman: *[Signature]*
  
 Convener: *[Signature]*
  
 Members: *[Signatures]*

Officer-In-Charge (Academic)  
 Shaheed Nand Lal  
 Vishwavidyalaya,  
 Raigarh (C.G.)

## PART-C

### Learning Resources: Text Books, Reference Books and Others

#### Text Books Recommended-

1. Borgman, C.L.(2010),ScholarshipintheDigitalAge:Information,infrastructure,andtheInternet, Cambridge, Massachusetts: The MIT Press.
2. Das, Arup Kumar(2015),ScholarlyCommunication,Paris:UNESCO.Availableat: <https://unesdoc.unesco.org/ark:/48223/pf0000231938>
3. Bohannon, J.(2013).Who'sAfraidoPeerReview?Science,342(6154),60-65. DOI:10.1126/science.342.6154.60
4. Webster, P.J.(2008),Managing Electronic Resources: New and ChangingRolesforLibraries,Oxford: Chandos Publishing
5. Cargill, M., & O'Connor, P.(2013), Writing Scientific Research Articles: Strategy and Steps, Hoboken: Wiley-Blackwell.

#### Online Resources-

- <https://epgp.inflibnet.ac.in/Home/ViewSubject?catid=9JW4FTxyrU+Wsr8xI8vgiw==>
- <https://egyankosh.ac.in/bitstream/123456789/8720/1/Unit-2.pdf>
- <https://egyankosh.ac.in/handle/123456789/8720?mode=full>
- <https://guides.lib.unc.edu/open-access-and-scholarly-communications>
- <https://ebooks.inflibnet.ac.in/lisp20/chapter/scholarly-communication-and-open-access-creating-knowledge-without-borders/>
- eGyanKosh:Unit-21AdministrativeEthicsandIntegrityinCivilServices.
- eGyanKosh:BEGG-173AcademicWriting&Composition
- ResearchandPublicationEthics(RPE)-Course(swayam2.ac.in)
- eGyanKosh:MLIE-103AcademicLibrarySystem
- (PDF) Ethics inResearch Publications: Fabrication, Falsification and Plagiarism in Science Chapter 3inBooktitled"AcademicIntegrityandResearchQuality"publishedbyUGC,Dec.2021(researchgate.net).

#### Online Resources-

- e-Resources/e-books and e-learning portals

## PART -D: Assessment and Evaluation

#### Suggested Continuous Evaluation Methods:

Maximum Marks: 50 Marks

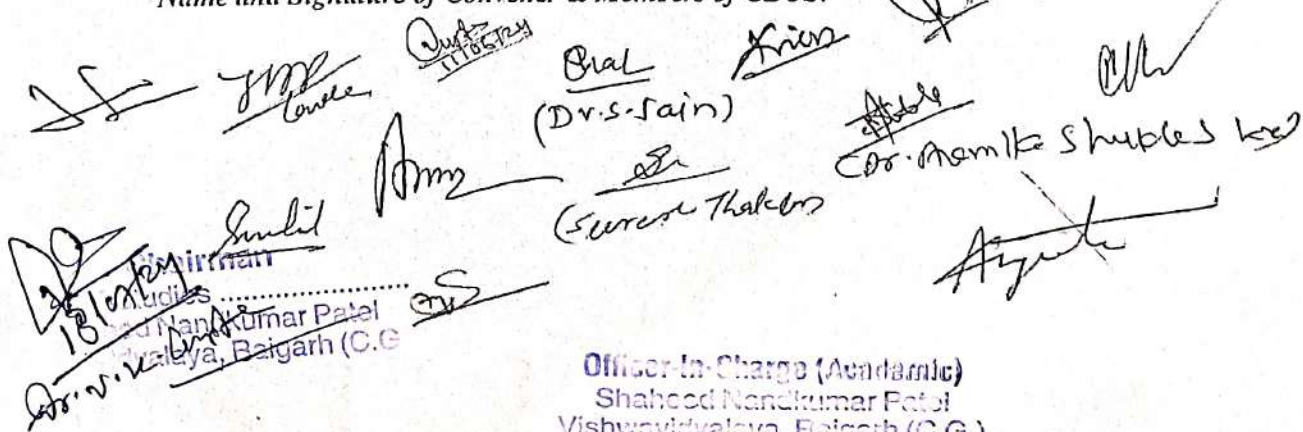
Continuous Internal Assessment (CIA): 15 Marks

End Semester Exam (ESE): 35 Marks

Continuous Internal Assessment (CIA): (By Course Teacher)	Internal Test / Quiz-(2): 10 & 10	Better marks out of the two Test / Quiz + obtained marks in Assignment shall be considered against 15 Marks
	Assignment/Seminar + Attendance - 05 Total Marks - 15	

End Semester Exam (ESE):	Two section - A & B
	Section A: Q1. Objective - 05 x1 = 05 Mark; Q2. Short answer type- 5x2 = 10 Marks Section B: Descriptive answer type (qts., 1 out of 2 from each unit- 4x05 = 20 Marks

#### Name and Signature of Convener & Members of CBOS:


  
 (Dr. S. Jain)
   
 (Suresh Thakur)
   
 Dr. Namita Shukla
   
 Officer-in-Charge (Academic)
   
 Shaheed Nandkumar Patil
   
 Vishwavidyalaya, Raigarh (C.G.)