आधार पाठ्यक्रम: प्रथम प्रश्नपत्र- हिन्दीभाषा

UHINDCA-201

Total Marks-40+60 Passing Marks-16+24 Sub. Type- AECC (Credit-4)

व्याख्यान:- ९० घंटा

आधार-: आधार पाठ्यक्रम कोर्स अपेक्षित कक्षा १२वीं उर्त्तीण किसी भी समुह से |

(भाग-ए) परिचय कोर्स अधिगम उपलब्धि (लर्निंग आउटकम) (CLO)

- 1.उत्क्रष्ट साहित्यिक पाठों के अध्ययन से रूचि का विकास करना |
- 2.सांस्कृतिक चेतना और रास्ट्रीय भावना का विकासकरना
- 3.भाषा-ज्ञान
- 4.सामान्य शब्दावली और विशेष शब्दाबली के अध्ययन द्वारा भाषा एवं संस्कृति बोध का विकास करना |
- 5.विशिष्ट शब्दाबली (बीजशब्द / कीवर्ड) से परिचित करवाते हुएबोध के स्तर को विकसित करना |

(भाग-बी) कोर्स सामग्री क्रेडिट-4

इकाई – एक

1.मैथिलीशरणगुप्त परिचय

पाठ: मातृभूमि (कविता)

2. प्रेमचन्द्र: परिचय

पाठ: शतरंज के खिलाड़ी (कहानी)

3. व्यंग्य: शरद जोशी-जीप पर सवार इल्लियाँ

इकाई – दो

- 1.वैचारिक-भारतीय भाषाओं में राम
- 2. आचार्य रामचन्द्र शुक्ल: परिचय

पाठ: उत्साह (भावमूलकनिबंध)

3. रामधारी सिंह दिनकर: परिचय

पाठ: भारत एक है (संस्कृति)

4. आदि शंकराचार्य-जीवन व दर्शन

इकाई – तीन

- 1.पर्यायवाची शब्द; विलोमशब्द; अनेक शब्द के लिए एक शब्द (हिन्दी व्याकरण)
- 2. संधि और उसके प्रकार (हिन्दी व्याकरण)
- 3. बीजशब्द- धर्म, अव्दैत, भाषा , अवधारणा, उदारीकरण |

इकाई- चार

- 1. भगवान बुद्ध (निबांध) स्वामीविवेकानंद
- 2. लोकतंत्र एक धर्म (निबंध) डॉ. सर्वपल्लीराधाकृष्णन
- 3. नहीं रूकती है नदी हीरालाल बाछोतिया
- 4. पलवन

सारबिन्दु

मैथिलीशरणगुप्त: मैथिलीशरणगुप्त कि कविता मातृभूमि

प्रेमचंद्र: प्रेमचंद्र शतरंज के खिलाड़ी

रामधारीसिंहदिनकर: भारत एक है रामधारी सिंह दिनकर आचार्य रामचन्द्र शुक्ल: उत्साहनिबंधरामचन्द्रशुक्ल

स्वामी विवेकानंद : धर्म क्या है (शिकागोव्याख्यान) अव्दैत भाषा विकास भाषा परिभाषा उदारीकरण की विशेषता पर्यायवाची शब्द विलोम शब्द अनेक शब्द के लिए एक शब्द संधि

भाग- सी, सन्दर्भपुस्तकें

पाठ्यपुस्तकें , सन्दर्भपुस्तकें, अन्यसंसाधन

- 1.प्रेमचंद्र मानसरोवर , खंड: 3
- 2. आचार्यराम चन्द्रशुक्ल- चिन्तामणि, भाग 1
- 3. डॉ. वासुदेवनन्दनप्रसाद: आधुनिक हिन्दी व्याकरण और रचना , भारती भवन, ठाकुर बाड़ी रोड, पटना, बिहार
- 4. डॉ. राजेश्वर चतुर्वेदी, हिन्दी व्याकरण- उपकरण प्रकाशन, आगरा, उ.प्र.
- 5. हिन्दी ज्ञानकोश
- 6. इंटरनेट सामग्री- टैग में उल्लेखित

PART D: Assessment and Evaluation			
Internal Assessment : Continuous		External Assessment: University Exam (UE): 60	
Comprehensive Evaluation (C	CCE): 40 Marks	Marks	
Shall be based on allotted assignments and Class Tests. The marks shall be as follows:		Time: 03.00 Hours	
Assessment and presentation	10 Marks	Section (A): Five Very	$05 \times 02 = 10 \text{ Marks}$
of assignment		Short Questions (50 Words Each)	OR
Class Test I (Objective Questions)	10 Marks	OR MCQ Questions	10 x 01 = 10 Marks
Class Test II (Descriptive Questions)	10 Marks	Section (B): Five Short Questions (200 Words Each)	05 x 06 = 30 Marks

Class Test III (Based on OS commands)	10 Marks	Section (C): Two Long Questions (500 Words Each)	02 x 10 = 20 Marks
Total	40 Marks	Total	60 Marks
Any remarks/suggestions:			

PART A: introduction

Program Cerificale Class	B.C.A. Year: 1 Year Session:		
Program: Certificate Class:	D.C.T. Teal Session.		
1. Course Code	UPROGCA202		
2. Course Title	Programming Methodology & Data Structures		
3. Course Elective	Major — Paper II		
Pre-Pre Requisite (if any)			
Course Learning Outcomes(CLO)	 After the completion of this course, a successful student will be able to do the following: Develop -simple algorithms and flow charts to solve a problem with programming using top down design principles. Writing efficient and well structured computer algorithms/programs. Learn to 'formulate iterative solutions and array processin algorithms for problems. Use recursive techniques, pointers and searching methods in programming. Will be familiar with fundamental data structures, the implementation; become accustomed to the description of algorithms in both functional and procedural styles. Have knowledge of complexity of basic operations like insert, delete, search on these data structures. Possess ability to choose a data structure to suitably model any data used in computer applications. 		
	 9. Assess efficiency tradeoff's among different data structure implementations. 10. Implement and know the applications of algorithms for searching, and sorting. 11. Know the contributions of Indians in the field of programming and data structures. 		
Credit Value	Theory4 Credits Practical — 2 Credits		
Total Marks	Max. Marks: 40+60 Min. Passing Marks: 16+24		
No off seture	PART B: Content of the Course		
No. of Lectures	(in hours per week): 2 :Hrs. per week Total No. of Lectures: 60 Hrs.		
	Topics No. of Lectures		

	Introduction to Programming Pogramming, Stages Design, - Program Concept, Characteristics of in Program Development, Algorithms, Notations,	8



-	Basics of C++: A Brief History of C++, Application of C++, Compiling & Linking, Tokens, Keywords, Identifiers & Constants, Basic Data Types, User-Defined Data Types, Symbolic Constant, Type Compatibility, Reference Variables, Operator in C++, Scope Resolution Operator, Member Dereferencing Operators, Memory Management Operators, Manipulators, Type Cast Operator. Functions In C++: The Main Function, Function Prototyping, Call by Reference Call by Address, Call by Value, Return by Reference, Inline Function, Default Arguments, Constant Arguments, Function Overloadine!, Function with Array.	
II	Classes & Objects: A Sample C++ Program with class, Defining Member Functions, Making an Outside Function Inline, Nesting of Member Function's, Private Member Functions, Arrays within a Class, Memory Allocation for Objects, Static Data Members, Static Member, Functions, Array of Objects, Object as Function Arguments, Friend Functions, Virtual functions, Returning Objects, Constant member functions. Pointer to Members, Local Classes. Constructor & Destructor: Constructor, Parameterized Constructor, Multiple Constructors in a Class, Constructors with Default Arguments, Dynamic Initialization of Objects, Copy Constructor, Dynamic Constructor and Destructor.	10
III	Inheritance: Defining Derived Classes, Single Inheritance, Making a Private Member inheritable, Multilevel Inheritance, Hierarchical Inheritance, Multiple Inheritance, Hybrid Inheritance, Virtual Base Classes, Abstract Classes, Constructor in Derived Classes, Nesting of Classes. Operator Overloading & Type Conversion, Polymorphism, Pointers, Pointers with Arrays C++, Streams, C++ Stream Classes, Unformatted I/O Operation, Formatted I/O Operation, Managing Output with Manipulators, Exception Handling.	8
IV	Data Structure: Basic concepts, Linear and Non-Linear data structures Algorithm Specification: Introduction, Recursive algorithms, Data Abstraction, Performance analysis. Arrays: Representation of single, two-dimensional arrays, triangular arrays, sparse matrices-array and linked representations. Stacks: Operations, Array and Linked Implementations, Applications-Infix to Postfix Conversion, Infix to Prefix Conversion, Postfix Expression Evaluation, Recursion Implementation. Queues: Definition, Operations, Array and Linked Implementations. Circular Queue-Insertion and Deletion Operations, Dequeue (Double Ended Queue), Priority Queue-Implementation.	
V	Linked Lists: Singly Linked Lists, Operations, Concatenating, circularly linked lists-Operations for Circularly linked lists, Doubly Linked Lists-Operations, Doubly Circular Linked List, Header Linked List Trees: Representation of Trees, Binary tree, Properties of Binary Trees, Binary Tree Representations- Array and Linked Representations,	

	Binary Tree Traversals, Threaded Binary Trees.	
	Heap: Definition, Insertion, Deletion.	
VI	Graphs: Graph ADT, Graph Representations, Graph Traversals,	10
	Searching. Hashing: Introduction, Hash tables, Hash functions,	
	Overflow Handling.	
	Sorting: Bubble Sort, Selection Sort, Insertion Sort, Quick Sort,	
	Merge Sort, Comparison of Sorting Methods,	
	Search Trees: Binary Search Trees, AVL Trees- Definition and	
-	Examples.	
VII	Indian Contribution to the field: Innovations in India, origin of Julia	
	Programming Language, Indian Engineers who designed new	
	programming languages, open source languages, Dr. Sartaj Sahni -	
	computer scientist - pioneer of data structures, Other relevant	
	contributors and contributions.	
	PART C: Learning Resources	

Textbooks, Reference Books, Other Resources

Suggested Readings

Textbooks:

- J. R. Hanly and E. 13. Koffman, "Problem. Solving and Program Design in C", Pearson, 2015
- E. Balguruswamy, "C++", TMH Publication ISBN 0-07-462038-X

Herbert Shildt, 'C++ The Complete Reference "TINAH Publication ISBN 0-07-463880-7

Reference Books:

- R. Lafore, 'Object Oriented Programming C4-1-"
- N. Dale and C. Weems, 'Programming and problem solving with C+-4 brief edition', Jones & Bartlett Learning.
- Adam Drozdek, "Data Structures and algorithm in C++", Third Edition, Cengage Learning.

Sartaj Sahani, "Data Structures, Algorithms and Applications with C++", McGraw Hill.

Robert L. Kruse, "Data Structures and Program Design in C++", Pearson.

Data Structure using C++", Second edition, Cengage Learning. D.S. Malik,

- M. A. Weiss, "Data structures and Algorithm Analysis in C", 2nd edition, Pearson.
- Li Ischutz, "Schatun's outline series Data structures", Tata McGraw-Hill

Suggestive digital platform web links

youtube

Suggested equivalent online courses

-				
S.No.		Online Course	Duration	Plat form
1	Programming in C++		8 weeks	NPTEL
	Beginning C++	- From Beginner to Beyond	Sell paced	Udemy

PART D: Assessment and Evaluation				
Internal Assessment : Continuous		External Assessment: Univ	External Assessment: University Exam (UE): 60	
Comprehensive Evaluation (CCE): 40 Marks	Marks		
Shall be based on allotted assig Tests. The marks shall be as for		Time: 03.00 Hours	Time: 03.00 Hours	
Assessment and presentation	10 Marks	Section (A): Five Very	$05 \times 02 = 10 \text{ Marks}$	
of assignment		Short Questions (50 Words Each)	OR	
Class Test I (Objective Questions)	10 Marks	OR MCQ Questions	10 x 01 = 10 Marks	
Class Test II (Descriptive Questions)	10 Marks	Section (B): Five Short Questions (200 Words Each)	05 x 06 = 30 Marks	
Class Test III (Based on OS commands)	10 Marks	Section (C): Two Long Questions (500 Words Each)	02 x 10 = 20 Marks	
Total	40 Marks	Total	60 Marks	
Any remarks/suggestions:				



	Part A Introduction				
Pr	Program: Certificate Course Class: BCA I Year Year: Session:				
1	Course Code	UNU	MECA203		
2	Course Title	Nu	merical Methods		
3	Course Type		Elective		
4	Pre-requisite (if any)	Open for All			
5	Course Learning	The course will enable the	e students to:		
	Outcomes (CLO)	1. Understand numerical methods to find the solution of a system			
		of linear equations.			
		2. Compute interpolation	n value for real da	ita.	
	\ \	3. Find quadrature by using	ing various numer	rical methods.	
		4. Solve system of linear	equations by using	y various numerical	
		techniques.			
		5. Obtain solutions of ord	linary differential	equations by using	
		numerical methods.			
6	Credit Value	Theory:6 Credit	/ 0.7/		
7	Total Marks	Max. Marks: 40 + 60	Min. Passi	ng Marks: 16+24	

	Part B - Content of the Course				
	Total No. of Lectures (in hours per week):3 hours per week Total Lectures:90 hours				
Unit	Topics	No. of Lectures			
1	Methods for Solving Algebraic and Transcendental Equations: Bisection Method, Regula Falsi Method, Secant Method, Newton-Raphson Method, Ramanujan Method.	18			
II	Interpolation: Lagrange interpolation, Finite difference operators, Interpolation formula using Differences, Gregory-Newton Forward Difference Interpolation, Gregory-Newton Backward Difference Interpolation.	18			
III	Numerical Integration: Newton- Cote's formulae, Trapezoidal rule, Simpson's 1/3 rule, Simpson's 3/8 rule, Gauss Integration.	12			
IV	Methods to Solve System of Linear Equations: Direct method for solving system of linear equations: Gauss elimination, LU decomposition, Cholesky decomposition. Iterative method:Jacobi, Gauss-Seidel.	21			
V	Numerical Solution of Ordinary Differential Equations: Single step methods: Picard, Taylor's series, Euler, Runge-Kutta. Multistep methods: Predictor-corrector, Modified Euler, Milne-Simpson.	21			

Keywords/Tags:

Algebraic and transcendental equations, Interpolation, Numerical Integration, Gauss elimination method, LU decomposition, Jacobi method, Gauss-Seidel method, Picard method, Runge-Kutta method, Predictor-corrector method, Milne-Simpson method.

Remark: Scientific calculator will be allowed during examination.

Part C - Learning Resources Text Books, Reference Books, Other Resources

Suggested Readings:

Text Books:

- 1. S. S. Sastry: Introductory Methods of Numerical Analysis, Prentice Hall India Learning Private Limited, Fifth edition, 2012.
- 2. E. Balagurusamy: Numerical Methods, Tata McGraw Hill Publication, 2017. Reference Books:
 - 1. M. K. Jain, S. R. K. Iyengar, R. K. Jain, Numerical Method for Scientific and Engineering Computation, New Age International (P) Ltd., 1999.
 - 2. Saxena H. C.: Finite Differences & Numerical Analysis, S Chand, 2010.

Suggested Digital Platforms Web links:

https://epgp.inflibnet.ac.in

https://www.highereducation.mp.gov.in

Suggested Equivalent online courses:

https://nptel.ac.in/courses/111106101/

https://nptel.ac.in/courses/111107105/

https://nptel.ac.in/courses/111107107/

https://ugcmoocs.inflibnet.ac.in/index.php/courses/view_pg/1476

PART D: Assessment and Evaluation				
Internal Assessment : Continuous Comprehensive Evaluation (CCE) : 40 Marks Shall be based on allotted assignments and Class Tests. The marks shall be as follows:		External Assessment: University Exam (UE): 60 Marks Time: 03.00 Hours		
Assessment and presentation of assignment	10 Marks	Section (A): Five Very Short Questions (50 Words Each)	$05 \times 02 = 10 \text{ Marks}$ OR	
Class Test I (Objective Questions)	10 Marks	OR MCQ Questions	$10 \times 01 = 10 \text{ Marks}$	
Class Test II (Descriptive Questions)	10 Marks	Section (B): Five Short Questions (200 Words Each)	05 x 06 = 30 Marks	
Class Test III (Based on OS commands)	10 Marks	Section (C): Two Long Questions (500 Words Each)	02 x 10 = 20 Marks	
Total	40 Marks	Total	60 Marks	
Any remarks/suggestions:				

	Part A Introduction				
Pr	Program: Certificate Course Class: BCA I Year Year: Session:				
1	Course Code		UPUBLCA204		
2	Course Title	Public Administration – Pr	inciples		
3	Course Type	G	Generic Elective		
4	Pre-requisite (if any)	Open for All			
5	Course Learning Outcomes (CLO)	The course will enable the students to: 1. Acquire the knowledge of administrative practices and functioning of administration. 2. Learn about the key concept of academic discipline of Public Administration 3. Understanding the role of public administration as the main instrument to achieve development goals.			
6	Credit Value	Theory:6 Credit	-10		
7	Total Marks	Max. Marks: 40 + 60	Min. Passi	ng Marks: 16+24	

	Part B - Content of the Course			
Total No. of Lectures (in hours per week):3 hours per week Total Lectures:90 hours				
Unit	Topics	No. of Lectures		
1	1. Unit- Introduction of Public Administration: Meaning, Nature, Scope and Importance of Public Administration. New Public Administration. Public and Private Administration. New Public Management (NPM), Recent trends in Public Administration.	18		
II	2. Unit- Organizational Structure: Chief Executive- Meaning, Types of Executive, Functions and Powers. Line and Staff Agencies – Meaning, Types and Functions, Distinction between the line and staff. Principles of Organization: Meaning, Types of organization formal and in formal	18		
III	3. Unit- Personnel Administration: Meaning, Objectives, Importance, Main features and Problem of Personnel Administration. The concept of Bureaucracy – Meaning, Views of Max Weber on Bureaucracy, Types of Bureaucracy, Characteristics, Merits and Demerits. Recruitment, Training, Promotion, Union Public Service Commission in India – Organization, Powers and Role.	12		
IV	4. Unit- Financial Administration: Meaning and Definition, Principles of Budget, Budgeting process in India, Budgetary Control, Accounting and Auditing, Comptroller and Auditor General.	21		
V	5. Unit- Citizen and Administration: People's Participation in Administration – Need of People's Participation, Dimensions of Participation. Areas of participation of people, Forms and Methods of Participation. Civil Society – Concept and its Role. Public Relations – Meaning and Need of Public Relations, Means of Public Relations. The concept of Good Governance and its features E-Governance – Features, Advantages, Challenges.	21		

Keywords/Tags:
Public Administration, Organization, Bureaucracy, Budget, People's Participation

Remark:



Part C - Learning Resources Text Books, Reference Books, Other Resources

Suggested Readings:

- 1. Avasthi, A and Maheshwari, S.R. Public Administration. Lakshmi Narain Agarwal: Agra
- 2. Basu, Rumki; Public Administration: Concept and Theories, Sterling Publishers, New Delhi
- 3. Bhagwan, Vishnoo; Bhushan, Vidhya and Mohla, Vandana Public Administration. S Chand: Jalandhar.
- 4. Bhambri, C.P. Public Administration Theory and Practice (21 st Edition). Educational Publishers: Meerut
- 5. Bhattacharya, Mohit New Horizons of Public Administration. Jawahar Publishers and Distributer: New Delhi.
- 6. Bhattacharya, Mohit Public Administration. World Press: Calcutta.
- 7. Bhattacharya, Mohit Public Administration; Issues and Perspective. Jawahar Publishers and Distributer; New Delhi.
- 8. Chakrabarty, Bidyut and Chand, Prakash Public Administration in a Globalizing World: Theories and Practices. Sage: New Delhi.
- 9. M.Laxmikant Public Administration McGrawHill Publisher, India
- 10.Sharma M.P.Sadana B.L.Kaur H.-Public Administration in Theory and Practices of Kitab Mahal, New Delhi.
- 11. Tyagi A R Public Administration Principles & Delhi Practices Atma Ram & Delhi Practices Atma Ram
- 12. Kaur Indrajit- Public Administration SBPD Publishing House, Agra
- 13. Fadia B L and Fadia Kuladeep Public Administration, Sahitya Bhavan Publication, Agra.
- 14. Laxmikanth M- Public Administration McGraw Hill Publisher, India.
- 15. Awasthi and Maheshwari Public Administration, Laxmi Narayana Agrawal, Agra
- 16.Simh Hoshiyar, Sachdeva Pradeep Public Administration Siddanth and Vyavahar Pearson Delhi, Chandigarh
- 17. Sharma M.P .B.L. Sadhana Kaur. Harpreet Public Administration Siddhanth and Vyavahar Kithab Mahal New Delhi

Web Sources:

- 1. www.yourarticlelibrary.com
- 2. www.britannica.com
- 3. www.who.int
- 4. www.weforum.org
- 5. http://egyankosh.ac.in
- 6. www.publicadministrationtheone.blogspot.com
- 7. www.managementstudyguide.com

PART D: Assessment and Evaluation				
Internal Assessment : Continuous		External Assessment: University Exam (UE): 60		
Comprehensive Evaluation (CCE): 40 Marks Shall be based on allotted assignments and Class Tests. The marks shall be as follows:		Marks Time: 03.00 Hours		
Assessment and presentation of assignment	10 Marks	Section (A): Five Very Short Questions (50 Words Each)	$05 \times 02 = 10 \text{ Marks}$ OR	
Class Test I (Objective Questions)	10 Marks	OR MCQ Questions	10 x 01 = 10 Marks	
Class Test II (Descriptive Questions)	10 Marks	Section (B): Five Short Questions (200 Words Each)	05 x 06 = 30 Marks	
Class Test III (Based on OS commands)	10 Marks	Section (C): Two Long Questions (500 Words Each)	02 x 10 = 20 Marks	
Total	40 Marks	Total	60 Marks	
Any remarks/suggestions:				

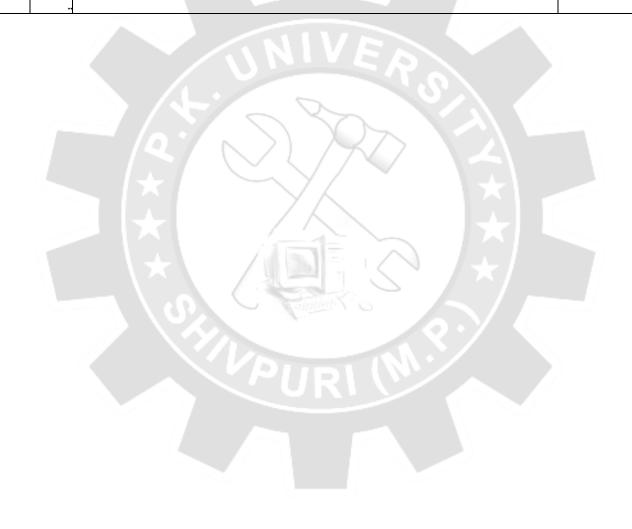


ss: B.C.A. Year:	I Year Session Program: Certifi			
Course Code	UPROGCA205			
Course Title	Programming Methodology & Data Structures	Programming Methodology & Data Structures Lab		
Course Type (Core Course/Elective/Generic Elective/ Vocational	Major – Paper II			
Pre-Requisite. (if any)	To study this course, a student must have basic knowledge of Computers.			
Course Learning Outcomes(CLO)	 After the completion of this course, a successfull be able to do the following: Develop simple algorithms and flow charts problem with programming using top down principles. Writing efficient and well-strucomputer algorithms/programs. Learn to formulate iterative solutions and a algorithms for problems, Use recursive techniques, pointers and sea methods in programming. Possess ability to choose a data structure to model any daily used in computer applicati Implement and know the applications of algorithm and sorting etc. 	to solve a n design actured array process arching suitably ions.		
Credit Value	Practical –2 Credit			
Total Marks	Max. Marks: 40+60 Min. Passing Marks: 16+24			
	PART B: Content of the Course cticalin hours per week): 1 hour per week			
	Total No. of Lab.: 30 Hrs. Practical	No. of Labs		

30

Given the problem statement, students are required to formulate problem, develop flowchart/algorithm, write code in C++, execute and test it Students should be given assignments on following:

- 1. Write a program to swap the contents of two variables.
- 2. Write a program for finding the roots of a Quadratic Equation,
- 3. Write a program to find area of a circle, rectangle, square using switch ease.
- 4. Write a program to print table of any number...
- Write a program to print Fibonacci series.
- 6. Write a program to find factorial of a given number using recursion.
- 7. Write a program **to** convert decimal (integer) number into binary



- equivalent binary number.
- 8. Write a program to check given string is palindrome or not
- 9. Write a program to print digits of entered number in reverse order.
- 10. Write a program to print sum of two matrices,
- 11, Write a program to print multiplication of two matrices.
- 12. Write a program to generate even/odd series from 1 to 100.
- 13. Write a program whether a given number is prime or not.
- 14. Write a program for call by value and call by reference.
- 15. Write a program to create a pyramid structure

1

12

123

1234

- 16. Write a program to check entered number is Armstrong or not.
- 17. Write a program to input N numbers and find their average.
- 18. Write a program to find the area and volume of a rectangular box using constructor.
- 1.9. Write a program to design a class time with hours, minutes and seconds as data members. Use a data function to perform the addition of two time objects in hours, minutes and seconds.
- 20. Write a program to implement single inheritance.
- 21. Write aprogram to find largest element from an array.
- 22. Write a program to implement push and pop operations on a stack using array.
- 23. Write a program to perform insert and delete operations on a queue using array.
- 24. Write a program for Linear search.
- 25. Write a program for Binary search.
- 26. Write a program for Bubble sort.
- 27. Write a program for Selection. sort.
- 28. Write a program for Quick sort,
- 29. Write a program for Insertion sort.
- 30. Write a program to implement linked list.

<u>PART C: Learning Resources</u> Textbooks, Reference Books, Other Resources

Suggested Readings

- J. R. 1-lanly and E B. Koffman, "Problem Solving and Program Design in C", Pearson, 2015
- E. Balguruswamy, "C++", TMH Publication ISBN 0-07-462038-X
- Herbert Shildt, "C++ The Complete Reference "TMH Publication ISBN 0-07-463880-7

Reference Books:

- R. Lafore, 'Object Oriented Programming C++"
- N. Dale and C. Weems, 'Programming and problem solving with C++: brief edition", Jones & Bartlett

- Adam Drozdek, Data Structures and algorithm in C++", Third Edition, Cengage Learning.
 Sartaj Sahani, "Data Structures, Algorithms and Applications with C++", McGraw Hill.
 Robert L. Kruse, "Data Structures and Program Design in C++", Pearson.
 D.S. Mal Data Structure using C++", Second edition, Cengage Learning.
 M. A. Weiss, "Data structures and Algorithm Analysis in C", 2nd edition, Pearson,
 Lip schutz. 'Schaum's outline series Data structures". Tata McGraw-Hill

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Suggestive digital platform web link _					
https://www.youtube.com					
No.	Online Course	Duration	Platform		
I	Programming in C	8 weeks	NPTEL		
2	Beginning C++ Programming - From Beginner to	Self paced	Udemy		
	Beyond https:www.uderny.com				
	nttps.www.uderny.com				

	PART D: Asse	essment and Evaluation		
Internal Assessment : Continuous Comprehensive Evaluation (CCE) : 40 Marks		External Assessment: University Exam (UE): 60 Marks Time 03.00 Hours		
Internal Assessment	Marks	External Assessment	Marks	
Hands-on Lab Practice	10 Marks	Practical record file	10 Marks	
Viva	10 Marks	Viva voce practical	10 Marks	
Lab Test from practical list	10 Marks	Table works/ Exercise Assigned (02) in practical exam	30 Marks	
Assignments (Charts/ Model)/ Technology Dissemination/ Excursion/ Lab visit/ Industrial Training	10 Marks	Reports of excursion/ Lab visits/ Industrial training/ Survey/ Collection/ Models	10 Marks	
Total Excursion/ Lab visits/ Industrial Training is compulsory	40 Marks	Total	60 Marks	