COURSE TITLE	Advanced C Programming
COURSE CODE	**CC-108**
COURSE CREDIT	**3**
Session Per Week	**4**
Total Teaching Hours	**40 HOURS**

LEARNING OUTCOMES

On the completion of the course students will:
1. To obtain in depth knowledge of C language.
2. To understandadvancedfeatures of C ProgrammingLanguage .

DETAIL SYLLABUS

UNIT	TOPIC / SUB TOPIC	TEACHING HOURS
1	**Structures & Unions**	**10**

	• **Structures**
	  o Defining astructure
	  o Accessinga structure variable
	  o Operations on structure members
	  o Copying and comparing variables
	  o Arrays of structure
	  o Arrays within Structures
		8

	• **Unions** o Defining Unions	2
2	**Pointer**	**10**

	• Pointer
	  o Definition and Concept
	  o Advantage of using pointer
	  o Pointer Arithmetic
	  o Array of Pointers
	  o Pointers and Functions
	  o Pointers with UDFs
		10

3	**Dynamic Memory Allocation &Link List**	**10**

	• Dynamic Memory Allocation
	  o Memory Allocation Function
	  o malloc()
	  o calloc()
	  o realloc()
	  o free()
		2

3 cnt	• **Linked List** o Concepts o Advantages o Overview of types of Linked list o Operations on Singly Linked List(create,display, insert at first,insert at last,delete at first,delete at last) o Application of Link list		8 hrs
4	**Files and Preprocessors**		**10**
	• **Files** o Concepts of File Management o Filesfunctions – fopen(), fclose(), fprintf(), fscanf(), fseek(), ftell(),rewind(), putc(), getc(), putw(),getw() o Error handling functions		8
	• **Preprocessors** o Types of Preprocessors o Macro substitution directives o File inclusion directives o Compiler control directives		2

Create any Application using C Programming Language :

Note:
  As a part of assignment or termwork, A group of students (2-4) are expected to submit a small project mentioned below :
  Sample C Projects
  1. Employee Record System
  2. LibraryManagementSystem
  3. CalendarApplication
  4. Student Result System
  5. Student Enrollment System
  6. Hospital management System

TEXT BOOK/S:

1. Introduction to C Programming
Publication : Oxford
By Reema Thareja

REFERENCE BOOKS:

Publication :Oxford
By Pradip Dey, Manas Ghosh

2. Programming in ANSIC (Fifth Edition 2011)
Publication :McGraw Hill
By Balagurusamy

WEB RESOURCES:
1. https://www.tutorialspoint.com/cprogramming/
2. http://www.javatpoint.com/c-programming-language-tutorial
3. https://www.programiz.com/c-programming
4. http://www.cprogramming.com/tutorial/c-tutorial.html
5. http://www.programmingsimplified.com/c-program-examples

REQUIRED SOFTWARE/S

1. Tarbo C

COURSE TITLE	Dynamic HTML and XML
COURSE CODE	CC-109
COURSE CREDIT	3
Session Per Week	3
Total Teaching Hours	40 HOURS

AIM

LEARNING OUTCOMES

DETAIL SYLLABUS

UNIT	TOPIC / SUB TOPIC	TEACHING HOURS
	Introduction to HTML 5	10

1	•Introduction
	• **Basic Elements of HTML 5**
	  ☐ **Markup Element**
	  o \<article>
	  o \<aside>
	  o \<command>
	  o \<detail>
	  o \<summery>
	  o \<figure>
	  o \<footer>
	  o \<header>
	  o \<hgroup>
	  o \<mark>
	  o \<meter>
	  o \<nav>
		3

	o \<progress>
	  o \<ruby>
	  o \<rt>
	  o \<rp>
	  o \<section>
	  o \<time>	

1	☐ Media Element
	  o <audio>
	  o <video>
	  o <source>
	  o <embed>	

	☐ **Canvas Element**
	☐ **Form Elements**
	  o <detailist>
	  o <keygen>
	  o <output>
		4

	o The Input type attribute values o tel, search, url, email, datetime, date, month, week, time, datetime-local, number, range, color	**3**
2	**Introduction to JavaScript**	**10**

	• **JavaScript Introduction**
	 o Understanding JavaScript
	   o About Dynamic HTML
	   o Selecting an development environment for
	      JavaScript
	   o HTML and JavaScript
		4

	• **Advanced JavaScript**
	   o Element of JavaScript
	   o Variables
	   o Operators
	   o Flow control statement
	   o Arrays
	   o Functions
	   o Event handling
	   o Browser and JavaScript
	   o Web page and JavaScript
	   o Frames and JavaScript
		4

	• **Frames and Validation in JavaScript**
	   o Frames and JavaScript
	   o Validating User forms
		2

	Introduction to Jquery	**10**

	• Introduction
	• jquery Primer
	• Using jquery
	   o The two jquery downloads
	   o Including jquery (Using script)
	   o Basic jquery syntax
	   o Connecting jquery to the load event	

3	**• Using Selectors**
	  o Selecting elements by ID
	  o Selecting elements by Class
	  o Selecting elements by Type
	  o Selecting elements by Hierarchy
	  o Selecting elements by Attribute
	• Functions
	  o Traversing the DOM
	  o Changing text and HTML
	  o Inserting Elements
	• Events
	  o Binding and Unbinding
	  o All Events	

4	**Introduction to XML and XML Document Type Definition**	**10**

	• XML
	  o Introduction
	  o XML versus HTML
	  o XML terminologies
	  o XML standards(XML,XML namespace,
	    DTD,CSS,XSL,XML schema, Xquery, Xlink,
	    Xpointer,Xpath)
	  o XHTML
		5

	• XML Documentation
	  o Introduction to DTD
	  o Document type declaration
	  o Element type declaration
	  o Attribute declaration
	  o Conditional sections, limitations of DTD
		5

TEXT BOOK/S:

1. HTML 5 in Simple Steps
Publisher: DreamTech Press
By Kongent solution
(Chapter-2 for unit 1)

2. Javascript 2nd Edition Step by step
Author: Steve suehring
(Chapter-22 for unit 3)

3. XML and Related Technologies (First Edition 2009)
Pearson Education

COURSE TITLE	Database Management System - I
COURSE CODE	**CC-110**
COURSE CREDIT	**3**
Session Per Week	**4**
Total Teaching Hours	**40 HOURS**

AIM

This course introduces students to information of data, working of related data to gain knowledge. Students also will design the real life application

LEARNING OUTCOMES

On the completion of the course students will:
1) To understand the concept, role and importance of Database.
2) To recognize the elements of Database for real applications.
3) To identify the key relationship between the Database components.
4) To comprehend the type of relational model to apply according to the scenery of applications.
5) To be aware of the real functions of Database Management Software.
6) To normalize the Tables to remove the anomaly existing in the Database.
7) To deal with every tiny elements of the Database.

DETAIL SYLLABUS

UNIT	TOPIC / SUB TOPIC	TEACHING HOURS
	Database System and Data Models	**10**
	Data and Information Data Vs. Information	**1**
	Database o Introduction of the Database and the DBMS o Role, Advantage and Disadvantages of DBMS o Types of Database	**3**
1	**Distributed Database Management Systems** o Evolution of DDBMS o Distributed Processing and Distributed Database o DDBMS Advantages and Disadvantages o Characteristics of DDBMS o Components of DDBMS	**2**
	Database Systems o The Database System Environment o DBMS Functions	**3**

	Data Model Basic Building Block o The Relational Model o The E-R Model	**1**
2	**The Relational Database Model**	**10**
	• **A logical view of Data** o Tables and Their characteristics	**1**
	Keys	**1**
	Integrity Rules	**1**
	Concept of Functional Dependency	**1**
	Relational Set Operators	**2**
	The Data Dictionary and The System Catalog	**1**
	• **Relationship within the Relational Database** o The 1 : M Relationship o The 1 : 1 Relationship o The M : N Relationship	**3**
	Data Redundancy Revisited	
3	**Entity Relationship Modeling**	**10**
	• **The Entity Relationship Model** o Entities o Attributes o Relationships o Connectivity and Cardinality o Existence Dependence o Relationship Strength o Weak Entities o Relationship Participation o Relationship Degree o Recursive Relationship o Composite Entities	**7**
	Developing an ER diagram (Using Crow's-foot Model)	**3**
4	**Normalization of Database Tables**	**10**
	The need of Normalization	**2**
	• **The Normalization process** o Conversion to First normal form o Conversion to Second normal form o Conversion to Third normal form	**8**

TEXT BOOK/S:

Database System Concepts (First Edition: 2008)
Publisher: Cengage Learning
By Peter Rob and Carlos Coronel
Chap-1(1.1, 1.2, 1.6), chap-2(2.5(2.5.3, 2.5.4)),

Chap-3(3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7),

Chap-4(4.1, 4.2), chap-5(5.2, 5.3)

REFERENCE BOOKS:

1. Introduction to Database Management Systems (First Edition 2006) Publisher: Tata McGraw-Hill
By ISRD Group

2. An Introduction to Database Systems (Eighth Edition 2006) Publisher : Pearson
By C. J. Date, A. Kannan & S. Swamynathan

3. An Introduction to Database Systems Publisher: Pearson
By: ITL Education Solutions Limited.

COURSE TITLE	Discrete Mathematics
COURSE CODE	CC-111
COURSE CREDIT	3
Session Per Week	4
Total Teaching Hours	40 HOURS

AIM

The objective of this course is to present the foundations of many basic computer related concepts
and provide a coherent development to the students for the courses like fundamentals of Computer Organization, RDBMS, Data Structures, Analysis of Algorithms, Artificial Intelligence, Computer Graphics and others.

LEARNING OUTCOMES

On the completion of the course students will:
1. To become reasonably good at problem solving and algorithm development.
2. Students also enhance their ability to think logically and mathematically.

DETAIL SYLLABUS

UNIT	TOPIC / SUB TOPIC	TEACHING HOURS
	Groups	10
1	☐ Binary operations with properties ☐ Algebraic structure ☐ Semigroups and Monoids ☐ Definition of group and examples ☐ Order of a group and order of an element	2
	☐ Abelian and cyclic group ☐ Groups < Zn, + n > & < Zp, *p > ☐ Sub-group	4
	☐ Lagrange's Theorem (without proof) ☐ Permutation group	4
	Relations and Ordering	10
	☐ Basic concept of binary relation ☐ Total no. of distinct relations ☐ Relation matrix and the graph of a relation	2

2	☐ Basic Property of binary relations in a set ☐ Equivalence relations and equivalence classes ☐ Covering and partition of a set ☐ Partial ordering and partially ordered set	4
	☐ Comparable elements , Chain ☐ Cover of an element, Hasse diagram ☐ Least, Greatest, Maximal, Minimal elements ☐ Lower and upper bounds of posets	4
3	**Lattices and Boolean Algebra**	**10**
	☐ Introduction to lattice ☐ Lattices as partially ordered sets ☐ Some properties of lattices ☐ Sub-lattices	2
	☐ Types of lattices like complete, bounded, distributive and complemented lattice ☐ Definition and important properties of a Boolean algebra ☐ Boolean subalgebra	4
	☐ Isomorphic Boolean algebras (graphically) ☐ Boolean expressions and their equivalence ☐ Max/Min terms, canonical forms	4
4	**Graph theory**	**10**
	☐ Basic concepts of Graph theory ☐ Paths, Reachability, and Connectedness ☐ Matrix representation of graphs ☐ Trees	2

TEXT BOOK/S:

J.P. Tremblay and R. Manohar
McGraw- Hill Publication

REFERENCE BOOKS:

1. Discrete Mathematics
Publisher: Oxford University Press
By Swapankumar Chakaborty, Bikas Kanti Sarkar
2. Discrete Mathematics
Publisher: Cengage Learning
By D.S. Malik, M.K.Sen

COURSE TITLE	Advance C Practical
COURSE CODE	CC-112
COURSE CREDIT	3
Session Per Week	3
Total Teaching Hours	40 HOURS

AIM

Students will be provided with practical knowledge of advanced C programming language which includes functions, structures, files, pointers, dynamic memory allocation & preprocessors.

LEARNING OUTCOMES

On the completion of the course students will:
1. Get in-depth practical knowledge of C language.
2. Know the advanced concepts of C Programming Language.
The students are expected to write program in 'C' language unit wise as given below.
The list in each unit is **indicative only and may or may not be asked in the examination.**

DETAIL SYLLABUS

UNIT	TOPIC / SUB TOPIC	TEACHING HOURS
1	1 . Write a program to define structure with tag state with fields state name, number of districts and total population. Read and display the data. 2. Write a program to create a list of books details. The details of a book include title, author, publisher, publishing year, number of pages, and price. 3. Define a structure called Item with members: Item_code, Item_name, Price. Create an array of five Items. Create a function which accepts the Item array and modifies each element with an increase of 10% in the price. 4. Define a structure to represent a date. Use your structures that accept two different dates in the format mm dd of the same year. Write a C program to display the month names of both dates.	

1	5. Define a structure that can describe a Hotel. It should have members that include name, address, grade, room charges, grade and no of rooms. Write a function to print out all hotel details with room charges less than a given value.	**10**
	6. Write a program to accept records of different states using array of structures. The structure should contain char state and number of int engineering colleges, int medical colleges, int management colleges and int universities. Calculate total colleges and display the state, which is having highest number of colleges. 7. Define a structure by name time with members seconds, minutes and hours of int type. A variable of the structure would thus represent time. If time1 and time2 are two variables of the structure type, write a program to find the difference of two times using a function. 8. Write a program to accept records of different states using array of structures. The structure should contain char state, int population, int literacy rate and int per capita income. Assume suitable data. Display the state whose literacy rate is highest and whose per capita income is highest.	
	9. Define a structure employee with members employee name, basic pay, dearness allowance, house rent, net salary. Declare an array of 5 employees. Write a function which calculates the net salary of employees and prints all employee details in descending order of their net salary. 10. Define a structure with tag population with fields Men and Women. Create structure with in structure using state and population structure. Read and display the data.	
2	1. Write a user defined function which will swap the values of two variables declared locally in the main program. 2. Write a user defined function calc(), which will returns the sum, subtraction, multiplication, and division values of two variable locally declared in the main function. 3. Write a user defined function which will return the length of the string declared locally in the main function.	
	4. Write a program, which takes a name of the user in the lowercase letters. Call a user defined function upper which will convert all lowercase letters into the uppercase letter. Finally print the string.	

2	5. Write a user defined function to reverse the given string. 6. Create a structure product with ProductCode (int), Name (char array) and Price data elements. In the main function declare p[5] of product. Do the necessary data entry for all five products. Pass the base address of an array to user defined function inc_price(), which will increase the price of all the products by 10%. Print all the products with all the details again after increasing the price. 7. Create a structure student with rollno (int), name (char array), marks (int), grade (char). Create an array stu[5] of type student. Take the details of students like rollno, name, and marks from the user. Call UDF prepare_result() which will store the values for grade based on marks (if marks >=75 then 'A', Between 60 to 75 'B', Between 50 to 60 'C', Between 35 to 50 'D' and Below 35 'F' grade). Print the details of the students with Grade.	10
3	Create a Singly Linked List with following functionalities: • Insert an element at the end of the list. • Insert an element at the beginning of the list. • Delete an element from the list. • Display all the elements of the list. • Insert an element before key value. • Insert an element after key value. • Sort a list. • Reverse a list.	10
4	1. Write a program to display contents of file on the screen. The program should ask for file name. Display the contents in capital case. 2. Write a program to find size of the file. 3. Write a program to combine contents of two files in a third file. Add line number at the beginning of each line. 4. Write a program to display number 1 to 100. Redirect the output of the program to text file. 5. Write a program to write contents of one file in reverse into another file. 6. Write a program to count number of lines, words and characters in a file.	

4	7. Write a program to create a file called dictionary.dat that contains the information such as Name, Surname, City and Phone number. Write a program to accept a City from user and list details of persons having the given city.	**10**
	8. Write a program to copy one file to another. While doing so, all extra spaces in a file should be squeezed to one. For eg. If a file contains line "I am learning C", it should be converted to "I am learning C".	
	9. Write a program that counts the frequency of a word from a text file. The program should accept file name as commandline argument. Program should continue to ask word and display its frequency in a file till the Enter key is pressed without entering any word.	
	10 Write a Program to insert the following contents in a file named "File1". Customer No. Account Type Balance 101 Savings 2000 102 Current 5000 103 Savings 3000 104 Current 10000 Append the contents of "File1" in another file "File2". Also display the contents of File2 on screen.	

Note:

The students should maintain the record of typical (not simple ones) programs in their file which duly certified, should be presented at the time of final examination.

TEXT BOOK/S:

Introduction to C Programming
Publication :Oxford
by Reema Thareja

REFERENCE BOOKS:

1. Computer Fundamentals & Programming in C
Publication: Oxford
By Pradip Dey, Manas Ghosh

2. Programming in ANSI C (Fifth Edition 2011)
Publication: Mc Graw Hill
By Balaguruswami

COURSE TITLE	DYNAMIC HTML & Advance Technology- PRACTICALS
COURSE CODE	CC-113
COURSE CREDIT	3
Session Per Week	3
Total Teaching Hours	40 HOURS

AIM

To develop the skill about the advanced topics of DHTML and JAVASCRIPT.
To make the students able to make interactive web site using DHTML,Javascript and XML.

LEARNING OUTCOMES

On the completion of the course students will:
1.Understand the basic to detail of CSS
2.Learn the fundamentals of Javascript.
3.Understand the use of XML in web site development.

DETAIL SYLLABUS

UNIT	TOPIC / SUB TOPIC	TEACHING HOURS
1	1. Write HTML program which contains cascaded style sheet for p, h2, h3, body and font attribute	10
	2.Write HTML program which contains external style sheet with user defined Classes.	
	3.Write HTML program which contains cascaded style sheet with border attributes of style sheet	
	4.Write HTML program which contains cascaded style sheet with margin attributes of style sheet	
	5.Write HTML program which contains external style sheet with background attributes of style sheet.	4
2		10
	1. Write a javascript to print your name and suname on screen.	10
	2. Write a javascript to find sum of two numbers entered by user.	
	3. Write a javascript to find sum of N numbers entered by user.	
	4. Write javascript to validate textbox to accept only text value.	
	5 Write a javascript to find reverse of given string.	4
	7. Write a java script to validate email address entered in textbox	4

3	1.Test if jQuery is loaded.	10	
	2.Scroll to the top of the page with jQuery		
	3.Disable right click menu in html page using jquery		
	4. Write a Jquery for Limit character input in the textarea including count		
	5. Write a jquery to Display a message when the contextmenu event is triggered on the paragraph elements	4	
4		10	
	1. Create an XML document template to describe the result of student in an examination. The description should include the student's roll number, name, three subject names andmarks, total marks, percentage, and result		
	2.Write program to demonstrate how to add attribute and Entity in XML document .		
	3.Create External DTD declaration for BOOKs XML document.(Element type declaration)		
	4.Write a program to describe Empty, Any and Mixed content in DTD.	4	
	5.Write a program to describe Attribute declaration in DTD.	5	
		5	

TEXT BOOK/S:

1.HTML 5 in SIMPLE STEPS
Publisher : DREAMTECH PRESS
BY Kogent Learning Solutions Inc.
2. Javascript 2nd Edition Step by step
Author: Steve suehring
3. XML and Related Technologies (First Edition 2009)
Pearson Education
By Atul Kahate

REFERENCE BOOKS:

1. HTML 5, Javascript and jQuery 24-Hour Trainer ,Dane Cameron,Wiley Publication
2. JavaScript Bible
3. HTML, DHTML, JavaScript, Perl & CGI Ivan Bayross
4. Beginning XML Wrox Press
5. XML how to program Deitel & Deitel.

WEB RESOURCES:

• www.w3schools.com
• The Mozilla JavaScript Guide
• Codecademy JavaScript Track
• http://css-tricks.com
• Learn to Code HTML & CSS
• JavaScript Garden
• http://www.xml.com

REQUIRED SOFTWARE/S

1. Any editor of Windows or Linux/UNIX.
2. Browser to view web pages

COURSE TITLE	Database Practical
COURSE CODE	CC-114
COURSE CREDIT	3
Session Per Week	3
Total Teaching Hours	40 HOURS

AIM

The course is aimed to make students acquainted with the features of database tools. It aims to
give emphasis on basic features of MySQL by illustrating some basic queries using sample problems.

LEARNING OUTCOMES

On the completion of the course students will:
1) Gain the knowledge of Open Source Database.
2) Develop skills for effective use of the MySQL
3) Familiar with basic as well as advance features of MySQL
4) Understand how to use the database in day to day life.

DETAIL SYLLABUS

UNIT	TOPIC / SUB TOPIC	TEACHING HOURS
	Introducing the MySQL Relational Database Management System	10
1	• Database Management System o The MySQL RDBMS o The Open Source Movement	2
	• The SQL Framework o What is SQL? o Creating an SQL Statement o Introduction to Queries -DDL & DML --Create --Insert --Select --Update --Delete	6
	• Installing and Verifying MySQL on Windows	2

		Working with MySQL , Managing Database and Data types	**10**
2		• Working with MySQL o File Storage for a Windows Installation o The MySQL Database o MySQL Interactive Mode - Commands: Clear, Exit, Quit, Help, Prompt, Status, Use o Assigning Account Passwords	**5**
		• Managing Databases o Creating Database o Using Database o Deleting Database	**2**
		• Data types in MySQL o Numeric Data Types -Integer and Fractional o String Data types o Date/Time Data Types	**3**
3		**Managing Tables and Manipulating Data In MySQL**	**10**
		• Managing Tables o Creating Tables o Defining Primary key o Introduction to different types of relationships in RDBMS -One-to-one -One-to-many -Many-to-many o Defining Foreign key and establishing relationship o Deleting Tables	**6**
		• Manipulating Data In MySQL o Inserting data into database -Using INSERT statement to add data. o Updating data into database -Using UPDATE statement to update a single table -Implement WHERE clause in UPDATE statement	**4**
		Manipulating Data In MySQL and Sample Project	**10**
		• Manipulating Data In MySQL o Retrieving data into MySQL Database -Using SELECT statement to display the values. -Using WHERE clause in SELECT statement o Deleting data into MySQL Database -Using DELETE statement from a single table -Using WHERE clause in DELETE statement	**4**

4	• **Sample Project** Create the following database and establish relationship:- Payroll 1) Payroll-DB - Department (Deptno, Dept_Name, Location) - Employee_Master (Empno, Empname, Designation, DOB, DOJ, Gender, Salary and Deptno) - Employee_Detail (Emp_detail_id, Empno, Salary_Date, Basic, DA, HRA, TA, PF, TAX) 2) Inventory-DB - Customer (Cust_no, Cust_name, City) - Item (Item_no, Name, Price, Stock, Mfg_date) - Order_Master (Order_no, Cust_no, Order_Date, Vendor_Name) - Order_Details (Order_no, Item_no, Quantity	6

Note:

Practicals and examination should be conducted using MySQL Database and MySQL Workbench

Following type of sample application can be asked in the final examination:

1) Generate database INVENTORY and create the following tables in it. Also create appropriate relationship among these tables.
• Customer (cid, c_name, e_mail, city)
• Product (pid, p_name, desc, rate)
• Order(cid, pid, oid, odate, qty)

Queries:

a. Insert the following data in the table:

Customer:	c_id	c_name	e_mail	city	
	1	Neha	neha@gmail.com	A'bad	
	2	Hemit	hem@ymail.com	Baroda	
	3	Apoorva	apoorva@gmail.com	A'bad	
	4	Abhishek	abhi@hotmail.com	Surat	

Product:	p_id	p_name	Desc	Rate	
	1	Pen	Cello Pinpoint	15	
	2	Pencil	Apsara Black	5	
	3	Eraser	Non-Dust	7	
	4	Refill	Cello	4	

Order:	O_id	c_id	p_id	o_date	p_qty	
	1	1	1	5/3/2017	3	
	2	1	1	6/3/2017	6	
	3	2	3	3/3/2017	7	
	4	3	4	1/3/2017	2	

b. Display the list of the customers where the city is "Ahmedabad".
c. Update the Rate of product to 11 where the pro_id is 4.
d. Delete the record with order_id 4.

TEXT BOOK/S:

Beginning MySQL
Publisher : Wiley Publishing, Inc
Robert Sheldon, Geoff Moes

TEXT BOOK/S:

Learning MySQL
Publisher: O`REILLY
Seyed M.M. "Saied" Tahaghoghi and Hugh E. Williams

COURSE TITLE	ENVIRONMENTAL STUDIES
COURSE CODE	EC-102
COURSE CREDIT	2
Session Per Week	2
Total Teaching Hours	

AIM

To develop the skill about the basic and important terminology of Internet.
To make the students able for web site design fundamentals using HTML scripting.

LEARNING OUTCOMES

1.Understand the meaning and syntax of different tags of HTML5
2.Learn the basic differences between HTML and HTML5
3.Understand the basic internet terminology and technology
4.To design web pages using simple and advanced tags of HTML5.
5.To understand the fundamental concept of Google AdSense and Analytics.

DETAIL SYLLABUS

UNIT	TOPIC / SUB TOPIC	TEACHING HOURS
1	**Multidisciplinary nature of environmental studies**	2
	Definition, scope and importance, need for public awareness.	
2	**Natural Resources : Renewable and non-renewable resources**	8
	• Natural resources and associated problems.	
	a) Forest resources : Use and over-exploitation, deforestation, case studies. Timber extraction, mining, dams and their effects on forest and tribal people.	
	b) Water resources : Use and over-utilization of surface and ground water, floods, drought, conflicts over water, dams-benefits and problems.	
	c) Mineral resources : Use and exploitation, environmental effects of extracting and using mineral resources, case studies.	
	d) Food resources : World food problems, changes caused by agriculture and over-grazing, effects of modern agriculture, fertilizer-pesticide problems, water logging, salinity, case studies.	

2 Cnt	e) Energy resources : Growing energy needs, renewable and non renewable energy sources, use of alternate energy sources. Case studies. f) Land resources : Land as a resource, land degradation, man induced landslides, soil erosion and desertification. • Role of an individual in conservation of natural resources. • Equitable use of resources for sustainable lifestyles.	
3	**Ecosystems**	**6**
	• Concept of an ecosystem. • Structure and function of an ecosystem. • Producers, consumers and decomposers. • Energy flow in the ecosystem. • Ecological succession. • Food chains, food webs and ecological pyramids. • Introduction, types, characteristic features, structure and function of the following ecosystems :- a. Forest ecosystem b. Grassland ecosystem c. Desert ecosystem	
4	**Biodiversity and its conservation**	**8**
	• Introduction – Definition : genetic, species and ecosystem diversity. • Biogeographical classification of India • Value of biodiversity : consumptive use, productive use, social, ethical, aesthetic and option values • Biodiversity at global, National and local levels. • Inida as a mega-diversity nation • Hot-sports of biodiversity. • Threats to biodiversity : habitat loss, poaching of wildlife, man-wildlife conflicts. • Endangered and endemic species of India • Conservation of biodiversity : In-situ and Ex-situ conservation of biodiversity.	
5	**Environmental Pollution**	**8**
	Definition • Cause, effects and control measures of :- a. Air pollution b. Water pollution c. Soil pollution d. Marine pollution e. Noise pollution f. Thermal pollution g. Nuclear hazards • Solid waste Management : Causes, effects and control measures of urban and industrial wastes. • Role of an individual in prevention of pollution.	

		Social Issues and the Environment	7
	6	• From Unsustainable to Sustainable development • Urban problems related to energy • Water conservation, rain water harvesting, watershed management • Resettlement and rahabilitation of people; its problems and concerns. Case Studies • Environmental ethics : Issues and possible solutions. • Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust. Case Studies. • Wasteland reclamation. • Consumerism and waste products. • Environment Protection Act. • Air (Prevention and Control of Pollution) Act. • Water (Prevention and control of Pollution) Act	
		Human Population and the Environment	6
	7	• Population growth, variation among nations. • Population explosion – Family Welfare Programme. VII • Environment and human health. • Human Rights. • Value Education. • HIV/AIDS. • Women and Child Welfare. • Role of Information Technology in Environment and human	
		Field work	
	8	• Visit to a local area to document environmental assets river/ forest/grassland/hill/mountain • Visit to a local polluted site-Urban/Rural/Industrial/Agricultural • Study of common plants, insects, birds. • Study of simple ecosystems-pond, river, hill slopes, etc. (Field work Equal to 5 lecture hours)	

SIX MONTHS COMPULSORY CORE MODULE COURSE IN ENVIRONMENTAL STUDIES FOR UNDERGRADUATES

Teaching Methodologies The core Module Syllabus for Environment Studies includes class room teaching and Field Work. The syllabus is divided into eight units covering 50 lectures. The first seven units will cover 45 lectures which are class room based to enhance knowledge skills and attitude to environment. Unit eight is based on field activities, which will be covered in five lecture hours and would provide student first hand knowledge on various local environmental aspects. Field experience is one of the most effective learning tools for environmental concerns. This moves out of the scope of the text book mode of teaching into the realm of real learning in the field, where the teacher merely acts as a catalyst to interpret what the student observes or discovers in his/her own environment. Field studies are as essential as class work and form an irreplaceable synergistic tool in the entire learning process. Course material provided by UGC for class room teaching and field activities be utilized. The universities/colleges can also draw upon expertise of outside resource persons for teaching purpose. Environmental Core Module shall be integrated into the teaching programmes of all undergraduate courses.

COURSE TITLE	Fundamentals of Accounting
COURSE CODE	FC-102
COURSE CREDIT	2
Session Per Week	3
Total Teaching Hours	40 HOURS

AIM

1. To impart basic accounting knowledge & to ensure working knowledge amongst students for the subject.
2. To give overview regarding various cost components, and their valuation techniques.
3. To familiarize with the basic computerized accounting.

LEARNING OUTCOMES

This course introduces the terminology employed in accounting circles, the principles used in basic accounting and their maintenance.

DETAIL SYLLABUS

UNIT	TOPIC / SUB TOPIC	TEACHING HOURS
1	**Introduction to accounting**	10

	• Principle of double entry book keeping
	  o Meaning, Importance & scope of accounting
	  o Accountancy, accounting and book keeping
	  o Distinction between book keeping and accounting
	  o Branches of accounting
	  o Double entry system of accounting
	  o Accrual basic & cash basis of accounting
	  o Accounting equation
		5

	• Generally accepted accounting principles:
	  o Meaning of Generally accepted accounting principles
	  o Basic assumptions and principle of accounting
		5

2	**Journalizing, Posting, Balancing and preparation Subsidiary bo**	10

	• Journalizing, Posting, Balancing
	  o Meaning & classification of account
	  o Rules of debit and credit
	  o Meaning and format of journal
	  o Meaning of journalizing
	  o Ledger and its format
	  o Balancing
		4

	• Subsidiary books
	  o Meaning and types of cash book
	  o Trade and cash discount
	  o Three column cash book, petty cash book, purchase book, sales book, purchase return book & sales return book
		6

3	**Preparation of financial statements:**		**10**
	Meaning and utility of financial statements o Recognition of assets, liabilities, income and expense o Preparation of trading, profit & loss account and final balance sheet of trading company, partnership firm and joint stock companies (both horizontal and vertical form) with simple adjustments		
4	**Introduction to cost accounting**		**10**
	• Cost accounting o Meaning, objectives o Functions of cost accounting o Brief introduction to elements of cost (including fixed , variable and semi variable cost)		**2**
	• Material cost control o Meaning, Objectives, Classification of material cost, Determination of various levels and Problems on LIFO, FIFO & weighted average		**3**

	• Direct labour cost control
	   o Meaning
	   o Objectives
	   o Classification of the labour cost
	   o Determination of the labour cost by time wage
	   o Piece wage and incentive plans (including Halsey, Rowan plan)
			3

	• Computerized accounting o Overview of Financial accounting software (Tally, Ex. Microsoft Financial)		**2**

TEXT BOOK/S:

1. Financial Accounting,
Publisher: Pearson Education By P.C. Tulisan
(For unit 1 refer chapter 1, 2 & 5,
**   Unit 2 refer chapter 6, 7 & 8,**
**   Unit 3 refer chapter 9)**
2. Cost Accounting,
Publisher: Tata Mc. Graw Hill
By M.Y. Khan & P.K.Jain
(For unit 4 refer chapter 1, 2, 3 & 4)

REFERENCE BOOKS:

1 Financial Accounting Theory And Practice,
Publisher: Tata Mc. Graw Hill By Prassna Chandra
2 Financial Managemant,
Publisher: Vikas Publishing House By I M Pandey
3 Cost Accounting,
Publisher: Tata Mc. Graw Hill By Jawaharlal
4 Financial & Cost Accounting,
Publisher: Sultanchand & Sons. By S.N. Maheshwari
5 Cost Accounting, Pearson Education By Dutta

COURSE TITLE	General English
COURSE CODE	FC 102
COURSE CREDIT	2
Session Per Week	3
Total Teaching Hours	40 HOURS

AIM

It is impossible for a human being to experience every good or bad thing existing on this earth, but he can definitely learn from the experiences of others. This process of learning can be initiated if he acquaints himself with the literary works of the great masters. Such experiences sensitize the human being on issues pertaining to the struggle for human existence.

LEARNING OUTCOMES

On the completion of the course students will:
(1) To familiarize the students with the best samples of writings in English so that they can learn the structure of language as it is used creatively.
(2) To orient students to social and cultural issues.
(3) To acquaint students with different writing styles of English.

DETAIL SYLLABUS

UNIT	TOPIC / SUB TOPIC	TEACHING HOURS
1	Gems of Wisdom – An Anthology of Short Stories Macmillan Publishers: Part-1 1. The lady or the tiger? (Frank R Stockton) 2. The gift of the Magi (O' Henry) 3. The sniper (Liam O' Flaherty) 4. Black boy (Richard Wright) 5. An astrologer's day (R K Narayan)	10

2	Gems of Wisdom – An Anthology of Short Stories Macmillan Publishers: Part-2 6. The model millionaire (Oscar Wilde) 7. Too dear (Leo Tolstoy) 8. The ant and the grasshopper (W S Maugham) 9. The world renowned nose (V M Basheer) 10. The diamond necklace (Guy de Maupassant)	10
3	**Grammar**	10
	• Tenses • Types of Sentences • Prepositions • Articles • Modals	
4	**Speaking Skills**	10
	• Pronunciation (identification of sounds, vowels and consonants) • Syllable Division • Rhyming Words • Vocabulary from the Text	2

REFERENCE BOOKS:

(1) Enrich Your English
 - by CIEFL (Academic Skills Book)
(2) Contemporary English Grammar
 - by Raymond Murphy
(3) Essential English Grammar
 - by Raymond Murphy

COURSE TITLE	Tally
COURSE CODE	FC-102
COURSE CREDIT	2
Session Per Week	2
Total Teaching Hours	20 HOURS

AIM

Account is of critical importance in the current world in providing information to businesses. This course will enable student to know each and every aspect of the computerized account.

LEARNING OUTCOMES

On the completion of the course students will:
• Know accounting is essential to planning and decision making
• Faciliting accounts using technology
• Make their own financial project

DETAIL SYLLABUS

UNIT	TOPIC / SUB TOPIC	TEACHING HOURS
1	**Fundamentals of Tally** Overview of computerized accounting system, benefits of cumputerized accounting, future of tally, features of tally, creating company, configure tally.	5
2	**Finalization in tally** Processing transaction in tally – ledgers and groups & accounting vouchers, generating printing of accounting voucher – financial reports in tally.	5
3	**Purchase & sales module in tally** Cash and credit purchases, cash and credit sales, purchase returns, sales returns, bill of exchange, revenue recognition principles, master configuration, voucher configuration.	5
4	**VAT, TDS & Inventory in tally** Accounting & Inventory reports in tally, accounting reports, inventory reports, printing reports.	5

Recommended Reading:

1. Tally ERP9
2. Learning Tally ERP9
3. Accounting made simple with tally9.0 ERP, Akshar Publication
4. Complete Tally, BPB Publications

REFERENCE BOOKS:

List of practicals: (sample guide line)

• Create a company
• Create a ledgers / vouchers
• Create ledgers for VAT/ TDS
• Create vouchers for VAT/ TDS
• Create inventory details
• Write one company account [at least 20 transaction]
Examples of transaction:
a) Purchase 400 pants from Mr. Amit at the rate of Rs. 375
b) Sales 500 Unit of pants at the rate of Rs. 400 to Mr. Bakul
c) Cash purchase to Mr. Cable, 500 Pants @ Rs. 475
d) Cash sales 550 unit of shirts @ Rs. 385
e) Rajesh started his business with cash 1,00,000 Rs. And 1,50,000.00 Bank balance.
f) Rs. 1,00,000 purchases with 15% VAT
g) Ashish sales Rs. 50,000 and output VAT rate is 12.5%
h) Amount paid by Mr. Ashish by Cheque.
i) Salary pay by cheque to mimjee Rs. 12,000
j) Miscellaneous Expenses pay Rs. 1,500
k) Purchase a computer form e-bay stores worth Rs. 30,000
l) Calculate depreciation on computer at the rate is 5% annual.
m) Purchase goods worth Rs. 40,000 from Mr. Chintan.
n) Purchase goods return worth Rs. 15,000 to Mr. Chintan,
o) Take a Home loan from HDFC Bank at the rate of 12% Rs. 1,50,000
p) Adjustment pay to Mr. Chintan
q) Adjustment of VAT Entry by cheque.
r) Commission receive Rs. 1,500 from Raj & Sons.
s) Received cheque to E-bay stores.

REQUIRED SOFTWARE/S

Tally 9.0 ERP