

Program Structure: F.Y.B.C.A. (SEM – 1 and SEM – 2)
(w.e.f. Academic Year June, 2020 – 2021)

Course Code	Title	Teaching Per Week (Credit/Hours)		Course Credits	University Examination		Internal Marks	Total Marks
		Theory	Practical		Duration	Marks		
101	Communication Skills	2	0	02	3 Hours	70	30	100
102	Mathematics	3	0	03	3 Hours	70	30	100
103	Introduction to Computers	4	0	04	3 Hours	70	30	100
104	Computer Programming & Programming Methodology (CPPM)	4	0	04	3 Hours	70	30	100
105	Data Manipulation and Analysis	4	0	04	3 Hours	70	30	100
106	Practical	-	12	06	5 Hours	140	60	200
	Foundation Elective (to be selected from NCC / NSS / Saptadhara)	0	0	02				
Total				25		490	210	700

Course Code	Title	Teaching Per Week (Credit/Hours)		Course Credits	University Examination		Internal Marks	Total Marks
		Theory Hours	Practical Hours		Duration	Marks		
201 – 1	Organizational Structure & Behavior	2	0	2	3 Hours	70	30	100
201 - 2	Introduction to Internet & HTML							
202 - 1	Computerized Financial Accounting	3	0	3	3 Hours	70	30	100
202 - 2	Emerging Trends and Information Technology							
203	Operating System - I	4	0	4	3 Hours	70	30	100
204	Programming Skills	4	0	4	3 Hours	70	30	100
205	Concepts of Relational Database Management System	4	0	4	3 Hours	70	30	100
206	Practical	0	12	06	5 Hours	140	60	200
	Foundation Elective (to be selected from NCC / NSS / Saptadhara)	0	0	02				
Total				25		490	210	700

For Practical: (Batch Size –30 Maximum) : 1. In case of more than 10 students in a batch, separate batch should be considered. 2. The journal should be certified by the concerned faculty and also by the Head of the Department, failing which the student should not be allowed to appear for the External Practical Examination.
Programming passing rules: As per University rules.

Consolidated Course Papers for F.Y.B.C.A. (SEM - I & SEM – II)
Academic Year of Implementation: 2020-2021

Course 101: Communication Skills

Course Code	101
Course Title	Communication Skills
Credit	2
Nature of Subject:	Theory Only
Teaching per Week	2 Hrs
Minimum weeks per Semester	15 (Including Class work, examination, preparation etc.)
Review / Revision	June 2020
Purpose of Course	Effective communication is vital for the success in various situations. This course will help students develop and improve English Communication skills.
Course Objective	The objective of this course is to guide/help students in improving their English communication skills.
Pre-requisite	Basic School English
Course Out come	After studying this subject, students will be able to improve their communication skills in English.
Course Content	<p>Unit 1. Introduction</p> <p>1.1. Spoken and conversation for Greetings, Requests, Invitation, Permission, Thanks etc.</p> <p>1.2. Basic Sentence patterns</p> <p>1.3. Basic rule of Composition</p> <p>1.4. Vocabulary Development</p> <p>1.5. Paragraph Development</p> <p>Unit 2. Fundamentals of Grammar</p> <p>2.1. Agreement between Subject and Verb</p> <p>2.2. Model Auxiliary</p> <p>2.3. Active and Passive voice</p> <p>2.4. Conjunction and prepositions</p> <p>Unit 3. Writing Skills</p> <p>3.1. Guidelines for effective writing</p> <p>3.2. Writing style of application</p> <p>3.3. Personal Resume</p> <p>Unit 4. Business Letter and Report Writing Skills</p> <p>4.1. Business letter and Memo including Requests, Complaints, Quotation etc.</p> <p>4.2. Technical Report writing</p> <p>Unit 5. Speaking and Discussion Skills</p> <p>5.1. Components of Effective talk / presentation</p> <p>5.2. Planning of content of a talk / presentation</p>

	<p>5.3.Use of Visual aids</p> <p>5.4.Effective speaking skills</p> <p>5.5.Discussion skills</p>
Reference Books	<p>1.Handbook of practical Communication skills – Chrisle W. JAICO</p> <p>2.Basic Managerial Skills for all – S. J. McGrath - PHI</p> <p>3.Reading to learn – Sheila Smith & Thomas M. Methuen (London)</p> <p>4.Communication conversation Practice _ Tata McGraw Hill</p> <p>5. Communication in English – R. P. Bhatnagar & R. T. Bell – Orient Longman</p> <p>6. Good English – G. H. Vallins – Rups & Co.</p>
	<p>7. Let’s talk English – M. I. Joshi</p> <p>8. Essentials of Business Communications – Pat & Sons, S. Chand</p>
Teaching Methodology	Class Work, Discussion, Self-Study, Seminars and/or Assignments
Evaluation Method	<p>30% Internal assessment.</p> <p>70% External assessment.</p>

Course 102: Mathematics

Course Code	102
Course Title	Mathematics
Credit	3
Teaching per Week	3 Hrs
Minimum weeks per Semester	15 (Including Class work, examination, preparation etc.)
Review / Revision	June 2020
Purpose of Course	Purpose of this course is to develop mathematical abilities relevant to Computer Science.
Course Objective	The objective of this course is to guide/help students in developing Mathematical Abilities relevant to Computer Science.
Pre-requisite	School Mathematics
Course Out come	After studying this subject, students will be able to develop Mathematical Abilities relevant to Computer Science.
Course Content	<p>Unit 1. Set Theory</p> <ul style="list-style-type: none"> 1.1.Introduction 1.2.Representation 1.3.Operation and its properties 1.4.Venn Diagram 1.5.Cartesian product and graph <p>Unit 2. Functions</p> <ul style="list-style-type: none"> 2.1.Definition 2.2.Types – Domain and Range 2.3.Construction and functions <p>Unit 3. Mathematical Logic</p> <ul style="list-style-type: none"> 3.1.Introduction to logic 3.2.Truth Table <p>Unit 4. Boolean Algebra</p> <ul style="list-style-type: none"> 4.1Definition & Examples of Boolean Algebra 4.2Boolean Functions 4.3Representation and minimization of Boolean Functions 4.4Design example using Boolean algebra <p>Unit 5. Matrices and Determinants</p> <ul style="list-style-type: none"> 5.1.Matrices of order $M * N$ 5.2.Row and Column transformation 5.3.Addition, Subtraction and multiplication of Matrices 5.4.Computation of Inverse 5.5.Cramer’s Rule 5.6.Business Application of Matrices

Reference Books	<ol style="list-style-type: none"> 1. Co-ordinate Geometry – Shanti Narayan 2. Linear Algebra – Sushoma Verma 3. Advanced Mathematics – B.S. Shah & Co. 4. Schaum’s Outline of Boolean algebra and switching circuits – Elliot Mendelson 5. Digital Computer Fundamentals - Tata McGraw Hill, 6th Edition, Thomas C. Bartee 6. Business Mathematics - Qazi Zameeruddin, V. K. Khanna and S. K. Bhambri, Vikas Publishing House Pvt. Ltd.
Teaching Methodology	Class Work, Discussion, Self-Study, Seminars and/or Assignments
Evaluation Method	30% Internal assessment. 70% External assessment.

Paper – 103 (Introduction to Computers)

Course Code:	103
Course Title:	Introduction to Computers
Total Credits :	4 Credits
Nature of Subject :	Theory only
Teaching per Week:	4 Hours per week per Semester
Minimum weeks per Semester:	15 weeks (Including class work, examination, preparation etc.)
Review/Revision Year:	June, 2020
Purpose of Course :	<ul style="list-style-type: none"> - Concepts and types of computer and various hardware technologies relevant to computer as well as some important peripherals will be covered. - Introduction of computer internal memories, number systems and conversions from decimal to binary. - Exposure of various input and output devices as well as concepts of Internet and relevant gadgets and their applications.
Objective :	Objective is to provide knowledge of functional units, number System, Devices and memory & its storage.
Pre-requisite:	Fundamental Knowledge of Computers
Course Outcome :	After studying this subject, students will get knowledge of functional units, number System, devices and memory & its storage.
Course Content:	<p><u>UNIT-1: Introduction</u></p> <p>1.1 Introduction of Computer 1.2 Applications of Computer 1.3 Types of Computers – Super Computers, Mainframes, Mini Computers, Micro computers(Desktop, Laptop, Notebook, Tablet, Smart Phones) 1.4 Block Diagram and functional units of computer</p> <p><u>UNIT-2: Basic Computer Architecture</u></p> <p>2.1 Concepts of Address Bus and Data Bus 2.2 Concept of virtual memory and cache memory 2.3. Hardware Components 2.3.1. Motherboard 2.3.2. Types of Processor (CPU and GPU) 2.3.3. Understanding processor speed 2.3.4. Memory – RAM(SRAM,DRAM, SDRAM), ROM, EPROM, EEPROM 2.3.5. Storage Devices – Hard Disk, CD, DVD, USB flash memory 2.4. Introduction to Software 2.4.1. Purpose and significance of Operating System 2.4.2. Concept of System Software and Application Software</p>

	<p>UNIT-3: Number System</p> <p>3.1. Introduction of Decimal, Binary, Octal and Hexadecimal number Systems.</p> <p>3.2 Conversion of Decimal to Binary and Binary to Decimal</p> <p>3.3 Binary addition & subtraction</p> <p>3.4 ASCII and ANSI character code</p> <p>Unit – 4: Input & Output Devices</p> <p>4.1. Introduction of Input Devices</p> <p>4.1.1. Pointing Devices – Mouse, Trackball, Joystick, Touch Screen, Light Pen</p> <p>4.1.2. Keyboard</p> <p>4.1.3. RFID concepts and application in FastTag</p> <p>4.2. Introduction and purpose of Scanning Devices</p> <p>4.2.1. Optical Scanner</p> <p>4.2.2. Bar Code Reader</p> <p>4.2.3. Web Camera</p> <p>4.3. Introduction and comparisons of Output Devices</p> <p>4.3.1. Monitors – LED, LCD, TFT, OLED, TouchScreen Monitor</p> <p>4.3.2. Printers – Dot Matrix Printer, Laser Printer, Inkjet Printer</p> <p>Unit - 5: Concepts of Internet</p> <p>5.1. Concepts of Internet and WWW</p> <p>5.1.1 Types of Internet Services</p> <p>5.1.2 Hardware – Modem, Router, Blue tooth, Fire-Stick</p> <p>5.1.3 Internet connections using Hotspot, WiFi, cable</p> <p>5.2 Introduction of Cloud</p> <p>5.2.1 Concepts of cloud</p> <p>5.2.2 Purpose and application of Cloud (Example of GoogleDoc)</p> <p>5.2.3 Concepts of Online Data Backup</p> <p>5.3 Introduction of Web Browser and relevant terminologies :</p> <p>5.3.1 URL, Address bar, Domain, Links, Navigation Buttons</p> <p>5.3.2 Tabbed browsing, Bookmarks, History</p>
Reference Books:	<ol style="list-style-type: none"> 1. How computer work: Ron White – Tech media 2. Introduction to computers: 4th Edition – Peter Norton 3. Fundamentals of Computers: V. Rajaraman 4. Computer Fundamentals: Pradeep K. Sinha & Priti Sinha (BPB) 5. Introduction to Networking RecharMcMohan Tata McGraw Hill Publication 6. HTML Black Book – Steven Holzner – Dreamtech Press 7. Computer Network Fundamentals and application – R S Rajesh Vikas Publication 8. HTML for the World Wide Web, Fifth Edition, with XHTML and CSS- Peachpit Press
Teaching Methodology:	Class Work, Discussion, Self-Study, Seminars and/or Assignments
Evaluation Method:	30% internal assessment. 70% External assessment

Paper – 104 Computer Programming & Programming Methodology

(CPPM)

Course Code:	104
Course Title:	Computer Programming & Programming Methodology (CPPM)
Total Credits :	4 Credits
Nature of Subject :	Theory and Practical application
Teaching per Week:	4 Hours per week per Semester
Minimum weeks per Semester:	15 weeks (Including class work, examination, preparation etc.)
Review/Revision Year:	June, 2020
Purpose of Course :	<ul style="list-style-type: none">- Computer programming (often shortened to programming) is a process that leads from an original formulation of a computing problem to executable computer programs.- Programming involves activities such as analysis, developing, understanding, generating algorithms, verification of requirements of algorithms including their correctness, and implementation (commonly referred to as coding) of algorithms in a target programming language.- Students pursuing their Graduation program will encounter their first programming language which is one of the pioneer computer programming languages.- Purpose of the course is to emphasis on concepts of Compiler based programming language, structure of code, algorithms, flow-charts, problem solving attitude, concepts of variables and declaration mechanism of different datatypes, simple I/O statements, conditional statements, loops, compound iterations, strings and certain inbuilt functions, header files, concepts of arrays and one dimensional numeric array operations, numeric inbuilt functions and concepts of pointers.
Objective :	Object of this course is to introduce students the essentials of computer Programming and programming methodology using C language.
Pre-requisite:	None
Course Outcome :	<ul style="list-style-type: none">- Students will be able to formulate a computing problem to executable computer program using C language.- Understand about compiler based programming languages.- Concepts of variables, literals, data types, conversions of data types, input and output data and processing of data, inbuilt functions, arrays, header files, conditional and iterative statements.
Course Content:	UNIT-1: Introduction 1.1 Concepts of Programming Language 1.1.1 Introduction of Source Code, Object Code and executable code 1.1.2 Algorithm and Flowchart 1.1.3 Concepts of Structured Programming Language 1.2 Concepts of Editor, Interpreter and Compiler 1.2.1 Introduction of C program body structure 1.2.2 Character Set, concepts of variables and constants 1.2.3 Identifiers, literals, Key words 1.2.4 Data types (signed and unsigned) (Numeric : int, short int, long, float, double) , (Character type: char, string) and void. 1.2.5 Concepts of source code, object code and executable code.

UNIT-2: Input/Output Statements and Operators:

2.1 Input/Output statements:

2.1.1 Concepts of Header files (STDIO, CONIO)

2.1.1.1 Concepts of pre-compiler directives.

2.1.1.2 Use of #include and #define

2.2 Input/Output Statements:

2.2.1 Input statements : scanf(),getc(), getch(), gets(), getchar()

2.2.2 Output Statements: printf(), putc(), puts(), putchar()

2.2.3 Type specifiers (formatting strings) : %d, %ld, %f, %c, %s, %lf

2.3 Operators :

2.3.1 Arithmetic operators (+, -, *, /, %, ++, --,)

2.3.2 Logical Operators (&&, ||, !)

2.3.3 Relational Operators (>, <, ==, >=, <=, !=)

2.3.4 Bit-wise operators (&, |, ^, <<, >>)

2.3.5 Assignment operators (=, +=, -=, *=, /=, %=)

2.3.6 Ternary Operator and use of sizeof() function.

2.4 Important Built-in functions:

2.4.1 Use of <string.h> : (strlen, strcmp, strcpy, strcat, strrev)

2.4.2 Use of <math.h> : (abs(), floor(), round(), ceil(), sqrt(), exp(), log(), sin(), cos(), tan(), pow() and trunc())

UNIT-3: Decision Making statements :

3.1 if statements :

3.1.1 simple if statements

3.1.2 if...else statements

3.1.3 if...else if...else statements

3.1.4 Nested if statements.

3.2 Switch..case statements

3.2.1 Use of break and default

3.2.2 Difference between switch and if statements.

UNIT-4: Iterative statements :

4.1 Use of goto statement for iteration

4.2 while loop

4.3 do..while loop

4.4 for loop

4.5 Nested while, do..while and for loops

4.6 Jumping statement: (break and continue)

UNIT-5: Concepts of Arrays and pointer

5.1 Concepts of Single-dimensional Array

5.1.1 Numeric single dimensional Array

5.1.2 Numeric single dimensional array operations:

5.1.2.1 Sorting array in ascending or descending. (Bubble and selection)

5.1.2.2 Searching element from array (Linear Search)

5.1.3 Character Single dimensional Array

5.1.3.1 Character Single dimensional array operations:

5.1.3.2 Use of \0, \n and \t

5.2 Pointers:

5.2.1 Concepts of Pointers

5.2.2 Declaring and initializing int, float, char and void pointers

5.2.3 Pointer to single dimensional numeric array.

Reference Books:	<ol style="list-style-type: none"> 1. Programming in C, Balaguruswami – TMH 2. C: How to Program, Deitel & Deitel - PHI 3. C Programming Language, Kernigham & Ritchie - TMH 4. Programming in C, Stephan Kochan - CBS 5. Mastering Turbo C, Kelly & Bootle - BPB 6. C Language Programming – Byron Gottfried - TMH 7. Let us C, Yashwant Kanetkar - BPB Publication 8. Magnifying C, Arpita Gopal - PHI 9. Problem Solving with C, Somashekara - PHI 10. Programming in C, Pradip Dey & Manas Ghosh – Oxford
Teaching Methodology:	Class Work, Discussion, Self-Study, Seminars and/or Assignments
Evaluation Method:	30% internal assessment. 70% External assessment

Course 105: Data Manipulation and Analysis (DMA)

Course Code:	105
Course Title:	Data Manipulation and Analysis
Credit:	4
Nature of Subject:	Theory and Practical Application
Teaching per Week	4 Hours
Minimum weeks per Semester:	15 (Including Class work, examination, preparation etc.)
Review / Revision:	June, 2020
Purpose of Course:	Understand concepts of Data and storage of data. This course is aimed to impart knowledge about storing data, concepts of database, retrieval of data and manipulation of data. It is aimed to cover effective storage of data, statistical analysis of data and graphical presentation of data. It also covers concepts of database and fundamental of query languages to insert, access, and manipulate data. This course is not spreadsheet or database specific.
Course Objective:	i) Concepts of data, data storage and statistical manipulation of data. ii) Introduction of spreadsheet and data manipulation using spreadsheet. iii) Concepts of database, storage and manipulation of data using query language.
Pre-requisite:	Concepts of data.
Course Outcome:	Students will be proficiently working on data manipulation using spreadsheet, fundamentals of database and handling database using query language using SQL.
Course Content:	<p>UNIT-1: Concepts of worksheet: (Max.Weightage: 15%)</p> <p>1.1 Fundamentals of Worksheet:</p> <p>1.1.1 Concepts of workbook, adding worksheet, cell address, formula bar, column, rows, cells, Insert, delete, format cells , cell size (row-height, column weight), rename sheet, protect sheet, lock cell.</p> <p>1.1.2 Cut, copy, paste, paste special, format painter, font size, font face, fill color, font color, font alignment</p> <p>1.2 Alignment, indent, Number format, percent style, coma style, increase/decrease decimal</p> <p>1.2.1 Insert picture, shapes</p> <p>1.2.2 Insert Textbox, Header & Footer, Symbols</p> <p>1.2.3 Save, save as, save file as csv, spell check, protect sheet and Workbook, Linking spread sheets.</p> <p>1.2.4 Print, Quick print, Print preview</p> <p>1.2.5 Split, Hide and freeze panes in worksheet.</p> <p>UNIT-2: Formulas, Chart and Data: (Max.Weightage: 15%)</p> <p>2.1 Charts :</p> <p>2.1.1 Creating 2D and 3D charts (Columns, Line, Pie, Bar, Scatter)</p> <p>2.1.2 Difference among columns, Line and bar charts.</p> <p>2.2 Formulas:</p> <p>2.2.1 sum, average, count, max, min, sumif, pmt, stddev</p> <p>2.2.2 Logical (if, AND, OR, NOT, TRUE, FALSE)</p> <p>2.2.3 Date and Day function : Date, day, time, now, Hour, Minute, Second, Month, Days360, weekday</p> <p>2.3 Data :</p> <p>2.3.1 Sort Data, Filter Data</p> <p>2.3.2 Text to columns, Remove Duplication</p> <p>2.3.3 Consolidated Data (sum, count, max, min, average)</p> <p>UNIT-3: Concepts of Database: (Max.Weightage: 25%)</p> <p>3.1 Database characteristics:</p> <p>3.1.1 Data Independence (Logical and Physical)</p> <p>3.1.2 Components of Database (User, Application , DBMS, Database)</p> <p>3.1.3 Database Architecture (1-tier, 2-tier, 3-tier)</p> <p>3.1.3.1 Comparison, advantages and disadvantages.</p>

	<p>3.2 Database Models (Hierarchical, Network, E/R, Relational)</p> <p>3.2.1 E/R model : Entity, Relationship, Attribute</p> <p>3.2.2 E/R Diagram : One to one, one to many , many to one, many to many</p> <p>3.2.3 Strong entity, weak entity</p> <p>3.2.4 key attribute, derived attribute, Multi-valued attribute</p> <p>3.3 Types of keys :</p> <p>3.3.1 Super key, candidate key, Primary key, Composite key, Foreign key, Unique key.</p> <p>UNIT-4: Normalization and Concepts of SQL: (Max.Weightage: 25%)</p> <p>4.1 Why normalization (Insertion, Updating, Deletion anomalies)</p> <p>4.2 Normalization Rules:</p> <p>4.2.1 Concepts of Dependency, Transitive Dependency</p> <p>4.2.2 Armstrong Axioms</p> <p>4.2.3 1st Normal Form, 2nd Normal Form, 3rd Normal Form, B.C.N.F.</p> <p>4.3 Concepts of Structure Query Language (SQL)</p> <p>4.3.1 SQL datatypes : int, float, double, char, varchar, number, varchar2, Text, date</p> <p>4.4 DDL Statements :</p> <p>4.4.1 Create , Drop, Truncate, Rename, Alter</p> <p>4.5 DML and DQL(Data Query Language) Statements :</p> <p>4.5.1 Insert, Update, Delete</p> <p>4.5.2 select</p> <p>UNIT-5: Queries (Single Table only) (Max.Weightage: 20%)</p> <p>5.1 Using where clause and operators with where clause:</p> <p>5.1.1 In, between , like, not in, =, !=, >, <, >=, <=, wildcard operators</p> <p>5.1.2 Order by, Group by, Distinct</p> <p>5.1.3 AND, OR operators, Exists and not Exists</p> <p>5.1.4 Use of Alias</p> <p>5.2 Constraints (Table level and Attribute Level)</p> <p>5.2.1 NOT NULL, CHECK, DEFAULT</p> <p>5.2.2 UNIQUE, Primary Key, Foreign Key</p> <p>5.2.3 On Delete Cascade</p> <p>5.3 SQL Functions :</p> <p>5.3.1 Aggregate Functions: avg(), max(), min(), sum(), count(), first(), last().</p> <p>5.3.2 Scalar Functions: ucase(), lcase(), round(), mid().</p> <p>5.4 Creating sequence</p> <p>5.5 Views :</p> <p>5.5.1 Creating simple view, updating view, dropping view.</p> <p>5.5.2 Difference between View and Table.</p>
<p>References :</p>	<ol style="list-style-type: none"> 1. OpenOffice.org For Dummies - Gurdy Leete, Ellen Finkelstein, Mary Leete - Wiley Pub. 2. Beginning OpenOffice 3: From Novice to Professional - Andy Channellle - Apress Pub. 3. The OpenOffice.org 2 Guidebook - Solveig Haugland 4. Taming Apache OpenOffice: Getting Started - Jean Hollis Weber - Friends of OpenDocument Inc. 5. Open Office Basic: An Introduction - James Steinberg - Gold Turtle Pub. 6. Database System Concepts: – Henry F. Korth & Abraham Silberschatz – McGraw Hill Education 7. Introduction to Database Management System– Bipin C. Desai – Galgotia Publication 8. Principles of database systems – Jeffery Ullman – Galgotia Publication 9. An introduction to Database Systems – C. J. Date – Addison Wesley 10. Introduction to database Management – Navin Prakash -TMH 11. Learn Open Office 3.1 Base – AZIMUTH 12. OpenOffice 3.4 Volume III: Base-Christopher N. Cain, Riley W. Walker-

	<p>Quantum Scientific Publishing</p> <p>13. Discovering SQL-A Hands-on Guide for Beginner-Alex KriegelWrox Publication</p> <p>14. A Conceptual Guide to OpenOffice.org 3-R. Gabriel Gurley (Free E-book)</p>
Teaching Methodology:	Class Work, Discussion, Self-Study, Seminars and/or Assignments
Evaluation Method:	30% Internal assessment. 70% External assessment.

Course-106: Practical

Course Code:	106
Course Title:	Practical
Total Credits :	06 Credits
Nature of Subject :	Practical only
Teaching per Week:	12 Hours per week per Semester
Minimum weeks per Semester:	15 weeks (Including class work, examination, preparation etc.)
Review/Revision Year:	June, 2020
Purpose of Course :	<ul style="list-style-type: none"> - Practical implementation of technologies covered as part of syllabus using required software and learning application areas. - Understanding and learning programming concepts, data types and variables using c programming language. - Learning concepts of compiler based programming language and its conditional and iteration structures. - Understanding use and application areas of spread-sheet. Storing and presenting data using charts, use of formulas and formatting data. - Understanding concepts of data and database. - Accessing, storing and controlling data using query language. (Only single table queries).
Objective :	Objective of this course is to introduce essentials of computer programming language, introduction of compiler based programming language, concepts of data and representation of data , use of query languages and storing and accessing data using query languages.
Pre-requisite:	None
Course Outcome :	<ul style="list-style-type: none"> - At the end of this course, students will have hands on experience of writing and applying codes using compiler based programming language. Students will understand structure of program, concepts of compiling and executing codes using variables, in-built functions, header files and control structures. - Students will have edge over concepts of work-sheets, storage of data, types of data, handling, manipulating and representing data using formulas and charts. - Students will be able to understand concepts of database and storage of data in structured way as well accessing and manipulation of data using structured query language.
Course Content:	<ol style="list-style-type: none"> 1. Creating and performing tasks based on unit 1 and 2 of Course-Paper-105. 2. Practical implementation of SQL based on Unit-3, Unit-4, Unit-5 of Course-Paper-105. 3. Practical implementation based on Course-Paper-104.
Teaching Methodology:	<ul style="list-style-type: none"> - Practical work - Lab sessions and hands on experience, Discussion, Self-Study - Students will create word document containing SQL based work including tables and queries and represent their work using presentation software at end of the semester.
Evaluation Method:	<p>30% Internal assessment. 70% External assessment.</p> <p>[For Internal and External Examination Suggested distribution of question weight will be :50% - based on Course-paper-104 , 15% - based on Unit-1 & Unit-2 of Course-paper-105 and 35% - based on Unit-3, Unit-4 and Unit-5 of Course-paper-105.)</p>