Semester 1 st		Contact Hrs.			Marks			Credits
Subject Code	Subject Name	L	T	P	Int.	Ext.	Total	
BGWDS1-101	Mathematics	3	0	0	40	60	100	3
BGWDS1-102	Fundamentals of Computer and IT	3	0	0	40	60	100	3
BGWDS1-103	Introduction to Scripting Languages	3	0	0	40	60	100	3
BGWDS1-104	Workshop on Desktop Publishing	0	0	4	60	40	100	2
BGWDS1-105	Introduction to Scripting Languages Laboratory	0	0	4	60	40	100	2
BGWDS1-106	Fundamentals of Computer and IT Laboratory	0	0	4	60	40	100	2
BGWDS1-107	English	1	0	0	40	60	100	1
BGWDS1-108	English Practical/Laboratory	0	0	2	30	20	50	1
BGWDS1-109	Human Values, De- addiction and Traffic Rules	3	0	0	40	60	100	3
BGWDS1-110	Human Values, De- addiction and Traffic Rules (Lab/ Seminar)	0	0	1	25	**	25	1
BGWDS1-111	Mentoring and Professional Development	0	0	1	25	**	25	1
Total		13	0	16	460	440	900	22

^{**}The Human Values, De-addiction and Traffic Rules (Lab/ Seminar) and Mentoring and Professional Development course will have internal evaluation only. (See guidelines at the last page of this file)

MATHEMATICS

Subject Code: BGWDS1-101 L T PC Durations: 45Hrs.

3003

Objectives and Expected Outcomes: The objectives of this course are to Student must have the knowledge of Basic Mathematics. After studying this course, students will be able to: Represent data using various mathematical notions. Explain different terms used in basic mathematics. Describe various operations and formulas used to solve mathematical problems.

UNIT-I (12 Hrs.)

Set Introduction: Objectives, Representation of Sets (Roster Method, Set Builder Method), Types of Sets (Null Set, Singleton Set, Finite Set, Infinite Set, Equal Set, Equivalent Set, Disjoint Set, Subset, Proper Subset, Power Set, Universal Set) and Operation with Sets (Union of Set, Intersection of Set, Difference of Set, Symmetric Difference of Set) Universal Sets, Complement of a Set.

UNIT-II (11 Hrs.)

Logic Statement: Connectives, Basic Logic Operations (Conjunction, Disjunction, Negation) Logical Equivalence/Equivalent, Statements, Tautologies and Contradictions.

UNIT-III (12 Hrs.)

Matrices Introduction: Types of Matrix (Row Matrix, Column Matrix, Rectangular Matrix, Square Matrix, Diagonal Matrix, Scalar Matrix, Unit

Matrix, Null Matrix, Comparable Matrix, Equal Matrix), Scalar Multiplication, Negative of Matrix, Addition of Matrix, Difference of two Matrix, Multiplication of Matrices, Transpose of a Matrix.

UNIT-IV (10 Hrs.)

Progressions Introduction: Arithmetic Progression, Sum of Finite number of quantities in A.P, Arithmetic

Means, Geometric Progression, Geometric Mean.

Recommended Books:

- 1. Discrete Mathematics and Its Applications by Kenneth H. Rosen, McGraw Hill, 6th Edition, 2017.
- 2. College Mathematics, Schaum Series, Frank Ayers and Philip A. Schmidt published by Tata McGraw Hill,2010

FUNDAMENTALS OF COMPUTER AND IT

Subject Code: BGWDS1-102 L T P C Durations: 45 Hrs. 3 0 0 3

Objectives and Expected Outcomes: To understanding the concept of input and output devices of Computers. Learn the functional units and classify types of computers, how they process information and how individual computers interact with other computing systems and devices. Understand an operating

system and its working, and solve common problems related to operating systems. Learn basic word processing, Spreadsheet and Presentation Graphics Software skills. Study to use the Internet safely, legally, and responsibly.

UNIT-I (12 Hrs.)

Human Computer Interface: Concepts of Hardware and Software; Data and Information. Functional Units of Computer System: CPU, registers, system bus, main memory unit, cache memory, Inside a computer, SMPS, Motherboard, Ports and Interfaces, expansion cards, ribbon cables, memory chips, processors. Devices: Input and output devices (with connections and practical demo), keyboard, mouse, joystick, scanner, OCR, OMR, bar code reader, web camera, monitor, printer, plotter. Memory: Primary, secondary, auxiliary memory, RAM, ROM, cache memory, hard disks, optical disks.

Data Representation: Bit, Byte, Binary, Decimal, Hexadecimal, and Octal Systems, Conversions and Binary Arithmetic (Addition/ Subtraction/ Multiplication) Applications of IT.

UNIT-II (11 Hrs.)

Concept of Computing, Types of Languages: Machine, assembly and High-level Language; Operating system as user interface, utility programs.

Word processing: Editing features, formatting features, saving, printing, table handling, page settings, spell-checking, macros, mail-merge, equation editors.

UNIT- III (10 Hrs.)

Spreadsheet: Workbook, worksheets, data types, operators, cell formats, freeze panes, editing features, formatting features, creating formulas, using formulas, cell references, replication, sorting, filtering, functions, Charts & Graphs.

Presentation Graphics Software: Templates, views, formatting slide, slides with graphs, animation, using

special features, presenting slide shows.

UNIT -IV (12 Hrs.)

Electronic Payment System: Secure Electronic Transaction, Types of Payment System: Digital Cash, Electronic Cheque, Smart Card, Credit/Debit Card E-Money, Bit Coins and Crypto currency, Electronic Fund Transfer (EFT), Unified Payment Interface (UPI), Immediate Payment System (IMPS), Digital Signature and Certification Authority.

Introduction to Bluetooth, Cloud Computing, Big Data, Data Mining, Mobile Computing and Embedded Systems and Internet of Things (IoT)

Recommended Books:

- 1. "Introduction to Computers", Peter Norton, McGraw Hill Education; 7 edition(1 July 2017).
- 2. Computers Today, D. H. Sanders, McGraw Hill. First Edition edition(1983)
- 3. "Computers", Larry long & Nancy long, Twelfth edition, Prentice Hall. (January 13,2004)
- 4. Problem Solving Cases in Microsoft Excel, Joseph Brady & Ellen FMonk, Thomson Learning, Cengage Learning; 15 edition (February 23,2017).

INTRODUCTION TO SCRIPTING LANGUAGE

Subject Code: BGWDS1-103 LT PC Durations: 45Hrs.

3003

Objectives and Expected Outcomes: Student should be able to understand various tags under HTML. Students should be able to write HTML programs. To develop HTML pages and websites.

UNIT-I (11 Hrs.)

Introduction to HTML: HTML and the World Wide Web, HTML elements, basic structure elements of HTML, creating HTML pages, HTML tags, colour and fonts, formatting the body section, creating links. Adding graphics with image elements, using image as links, image maps, image files. Adding sound and Video formats, other multimedia formats, adding multimedia to web pages.

UNIT-II (11 Hrs.)

Presenting information in tables, Understanding the use of frames, frame set documents, targeted links, non frame elements, inline frames.

Building interactivity with forms, form elements and attributes, using form control elements, processing forms.

UNIT-III (11 Hrs.)

Style Sheets & Graphics in HTML: Understanding styles, Style rules, Creating styles for tags, Creating classes & applying style. Formatting text & paragraphs in HTML: Introduction to Font family, Style sheets, Displaying graphics

Page Layout & Navigation in HTML: Navigational Aids, Layouts, Tables & Forms, Incorporating Sound & Video

UNIT-IV (12 Hrs.)

Introduction to Cascading Style Sheets: Concept of CSS, Creating Style Sheet, CSS Properties, CSS Styling(Background, Text Format, Controlling Fonts), Working with block elements and objects, Working with Lists and Tables, CSS Id and Class, Box Model(Introduction, Border properties, Padding Properties, Margin properties), Creating page Layout and Site Designs.

Recommended Books:

- 1. HTML & CSS: The Complete Reference, Fifth Edition (English, Paperback, Powell Thomas), edition Tata McGraw-Hill, 2003.
- 2. Internet& Web Technologies by Raj Kamal, edition Tata McGraw-Hill Education.2009.
- 3. Fundamentals of Internet and WWW, by Greenlaw R; Heppe, 2nd Edition, Tata

WORKSHOP ON DESKTOP PUBLISHING-LAB

Subject Code: BGWDS1-104 LTPC 00 4 2

Objectives and Expected Outcomes: Students must have basic understanding of designing/ Painting tools. Softcopy & Hardcopy of the exercises are to be maintained during the practical labs and to be submitted during the End Semester Examinations. The students will gain professional skills of Desk Top Publishing Tools like designing, Printing & Publishing by using various tools. Develop skills in printing

jobs through basic understanding of a variety of designing tools. Apply these concepts and knowledge in designing field including practice from text formatting to final publishing. Workshops are included to enhance professional skills like Brochures, Flexes, Business Cards, Certificates and News Letter layouts etc.

Experiments:

- Design and print a Title Page of a Magazine/Book.
- Prepare multiple designs for a Flex by using different Tools.
- Prepare NSS Certificates for appreciation using logos of University, College & NSS unit.
- Prepare 5 different Designing of Business Cards.
- Prepare Envelops displaying full address of the company by inserting graphical symbol/ logos of company.
- Design and Print Invoices for three companies.
- Prepare and print News Letter Layoutsfor any five activities of your college/university.
- Prepare Invitation Cards for cultural meet held in your college.
- Design and print Brochures to advertise a "Blood Donation Camp" in your college.
- Design Logos of your college, University & Govt. of Punjab also display these logos on black background as water mark.
- Design, Print and Publish 5 motivations Play cards.
- Design & Print assignment book of minimum 20 Pages an any Topic.
- Design & Print any five most important activities of your college in a collage.
- Design & Print Question Paper of any Subject.
- Assemble all the latest news cutting of your activities on a 10 X 8 size flex.

Recommended Books:

- 1. DTP Course, First edition by Shirish Chavan published by Rapidex,2003.
- 2. DTP Course Kit, First edition by Vikas Gupta published by Comdex, 2010.
- 3. CorelDraw 9, first edition by David Karlins published by Techmedia, Pearson Education(US),1999.
- 4. Adobe Illustrator CC, First edition by Brian Wood published by Adobe Press, 2019.

INTRODUCTION TO SCRIPTING LANGUAGES LABORATORY

Subject Code: BGWDS1-105 LT PC 00 4 2

Objectives and Expected Outcomes: Student should be able to understand various tags under HTML. Students should be able to write HTML programs. To develop HTML pages and websites. **Experiments:**

- Acquaintance with elements, Tags and basic structure of HTML files.
- Practicing basic and advanced text formatting.
- Working with Background, Text and Font properties.
- Practicing use of multimedia components (Image, Video & Sound) in HTML document.
- Designing of webpage-Document Layout.
- Designing of webpage-Working with List.
- Designing of webpage-Working with Tables.

- Practicing Hyper linking of Webpages.
- Designing of webpage-Working with Frames.
- Designing of webpage-Working with Forms and Controls.
- Acquaintance with creating style sheet, CSS properties and styling.

FUNDAMENTALS OF COMPUTER AND IT LABORATORY

Subject Code: BGWDS1-106 LT PC 0 0 4 2

Objectives and Expected Outcomes: Familiarizing with Open Office (Word processing, Spreadsheets and Presentation). To acquire knowledge on editor, spread sheet and presentation software. The students will be able to perform documentation and accounting operations. Students can learn how to perform presentation skills.

Experiments:

Word Orientation: The instructor needs to give an overview of word processor. Details of the four tasks and features that would be covered Using word – Accessing, overview of toolbars, saving files, Using help and resources, rulers, format painter.

- Using word to create Resume Features to be covered: Formatting Fonts in word, Drop Cap in word, Applying Text effects, Using Character Spacing, Borders and Colors, Inserting Header and Footer, Using Date and Time option in Word.
- Creating an Assignment Features to be covered: Formatting Styles, Inserting table, Bullets and Numbering, Changing Text Direction, Cell alignment, Footnote, Hyperlink, Symbols, Spell Check, Track Changes.
- Creating a Newsletter Features to be covered: Table of Content, Newspaper columns, Images from files and clipart, Drawing toolbar and Word Art, Formatting Images, Textboxes and Paragraphs. Creating a Feedback form
- Features to be covered: Forms, Text Fields, Inserting objects, Mail Merge in Word.

Excel Orientation:

The instructor needs to tell the importance of Excel as a Spreadsheet tool, give the details of the four tasks and features that would be covered Excel – Accessing, overview of toolbars, saving excel files.

- Creating a Scheduler Features to be covered: Gridlines, Format Cells, Summation, auto fill, Formatting Text.
- Calculations Features to be covered: Cell Referencing, Formulae in excel average, std. deviation, Charts, Renaming and Inserting worksheets, Hyper linking, Count function, LOOKUP/VLOOKUP
- Performance Analysis Features to be covered: Split cells, freeze panes, group and outline, Sorting, Boolean and logical operators, Conditional formatting.
- Game (like Cricket, badminton) Score Card Features to be covered: Pivot Tables, Interactive Buttons, Importing Data, Data Protection, Data Validation.

Presentation Orientation:

- Students will be working on basic power point utilities and tools which help them create basic power point presentation. Topic covered includes: PPT Orientation, Slide Layouts, Inserting Text, WordArt, Formatting Text, Bullets and Numbering, Auto Shapes, Lines and Arrows.
- This session helps students in making their presentations interactive. Topics covered includes Hyperlinks, Inserting –Images, Clip Art, Audio, Video, Objects, Tables and Charts.
- Concentrating on the in and out of Microsoft power point. Helps them learn best practices in designing and preparing power point presentation. Topics covered includes: Master Layouts (slide, template, and notes), Types of views (basic, presentation, slide slotter, notes etc), Inserting Background, textures, Design Templates, Hidden slides. Auto content wizard, Slide Transition, Custom Animation, Auto Rehearsing.
- Power point test would be conducted. Students will be given model power point presentation which needs to be replicated.

Internet and its Applications: The instructor needs to tell the how to configure Web Browser and to use search engines by defining search criteria using Search Engines.

- To learn to setup an e-mail account and send and receive e-mails.
- To learn to subscribe/post on a blog and to use torrents for accelerated downloads.
- Hands on experience in online banking and making an online payment for any domestic bill.

Recommended Books:

- 1. IT Tools, R.K. Jain, Khanna Publishing House.
- 2. Introduction to Information Technology, ITL Education Solutions limited, Pearson Education, second edition, 2012.
- 3. Introduction to information technology, Turban, Rainer and Potter, John Wiley and Sons, 3rd Edition (24 May2004).
- 4. Problem Solving Cases in Microsoft Excel, Joseph Brady & Ellen FMonk, Thomson Learning, Cengage Learning; 15 edition (February 23,2017).

	ENGLISH	
Subject Code: BGWDS1-107	LT P C 1 0 0 1	Duration: 15 Hrs.

Objectives and Expected Outcomes: The objective of this course is to introduce students to the theory, fundamentals and tools of communication. To help the students become the independent users of English language. To develop in them vital communication skills which are integral to their personal, social and professional interactions. The syllabus shall address the issues relating to the Language of communication. Students will become proficient in professional communication such as interviews, group discussions, office environments, important reading skills as well as writing skills such as report writing, note taking etc.

UNIT-I (4 Hrs.)

Introduction: Theory of Communication, Types and modes of Communication

UNIT-II (5Hrs.)

Language of Communication: Verbal and Non-verbal, Spoken and Written, Personal, Social and Business, Barriers and Strategies, Intra-personal, Inter-personal and Group communication

UNIT-III (3 Hrs.)

Reading and Understanding: Close Reading, Comprehension, Summary Paraphrasing, Analysis and Interpretation, Translation(from Hindi/Punjabi to English and vice-versa), Precise writing/Paraphrasing (for International Students), Literary/Knowledge Texts

UNIT-IV (3 Hrs.)

Writing Skills: Documenting, Report Writing, Making notes, Letter writing

Recommended Books:

- 1. Fluency in English Part II, Oxford University Press, 2006.
- 2. Business English, Pearson, 2008.
- 3. Language, Literature and Creativity, Orient Blackswan, 2013.
- 4. Language through Literature (forthcoming) ed. Dr. Gauri Mishra, DrRanjana Kaul, Dr Brati Biswas
- 5. On Writing Well. William Zinsser. Harper Resource Book.2001
- 6. Study Writing. Liz Hamp-Lyons and Ben Heasly. Cambridge University Press. 2006.
- 7. Data Communication System, Black, Ulysse, Third Edition, PHI.
- 8. Data and Computer Communications, Stalling, Ninth Edition, PHI.

ENGLISH PRACTICAL/LABORATORY

Subject Code: BGWDS1-108 LT PC 0 0 2 1

Expected Outcomes: The objective of this course is to introduce students to the theory, fundamentals, and tools of communication. To help the students become the independent users of English language. To develop in them vital communication skills which are integral to their personal, social, and professional interactions. The syllabus shall address the issues relating to the Language of communication. Students will become proficient in professional communication such as interviews, group discussions, office environments, important reading skills as well as writing skills such as report writing, note taking etc.

Interactive practice sessions in Language Lab on Oral Communication

- Listening Comprehension
- Self Introduction, Group Discussion and RolePlay
- Common Everyday Situations: Conversations and Dialogues
- Communication at Workplace
- Interviews
- Formal Presentations
- Monologue
- Effective Communication/ Miss-Communication
- Public Speaking

Recommended Books:

- 1. Fluency in English Part II, Oxford University Press, 2006.
- 2. Business English, Pearson, 2008.
- 3. Practical English Usage. Michael Swan. OUP.1995.
- 4. Communication Skills. Sanjay Kumar and PushpLata. Oxford University Press.2011.
- 5. Exercises in Spoken English. Parts. I-III. CIEFL, Hyderabad. Oxford UniversityPress,1997.

HUMAN VALUES, DE-ADDICTION AND TRAFFIC RULES

Subject Code: BGWDS1-109 L T PC Duration: 45Hrs.

3003

Objectives and Expected Outcomes: To help the students appreciate the essential complementarily between 'VALUES' and SKILLS' to ensure sustained happiness and prosperity which are the core aspirations of all human beings. To facilitate the development of a Holistic perspective among students

towards life, profession and happiness, based on a correct understanding of the Human reality and the rest of Existence. Such a holistic perspective forms the basis of Value based living in a natural way. To highlight plausible implications of such a Holistic understanding in terms of ethical human conduct, trustful and mutually satisfying human behavior and mutually enriching interaction with Nature.

UNIT- I (9 Hrs.)

Course Introduction - Need, Basic Guidelines, Content and Process for Value Education, Understanding the need, basic guidelines, content and process for Value Education, Self-Exploration—what is it? - its content and process; 'Natural Acceptance' and Experiential Validation—as the mechanism for self-exploration, Continuous Happiness and Prosperity—A look at basic Human Aspirations, Right understanding, Relationship and Physical Facilities—the basic requirements for fulfillment of aspirations of every human being with their correct priority, Understanding Happiness and Prosperity correctly—A critical appraisal of the current scenario, Method to fulfill the above human aspirations: understanding and living in harmony at various levels, Introduction to C++: Identifier, Keywords, Constants, And Operators: Arithmetic, relational, logical, And conditional and assignment. Size of operator, Operator precedence and associatively.

UNIT- II (8 Hrs.)

Understanding Harmony in the Human Being - Harmony in Myself: Understanding human being as a co-existence of the sentient 'I' and the material 'Body', Understanding the needs of Self ('I') and 'Body' –Sukh and Suvidha, Understanding the Body as an instrument of 'I' (I being the doer, seer and enjoyer), Understanding the characteristics and activities of 'I' and harmony in 'I', Understanding the harmony of I with the Body: Sanyam and Swasthya; correct appraisal of Physical needs, meaning of Prosperity indetail, Programs to ensure Sanyam and Swasthya, Practice Exercises and Case Studies will be taken up in Practice Sessions.

UNIT- III (17 Hrs.)

Understanding Harmony in the Family and Society- Harmony in Human-Human Relationship: Understanding harmony in the Family- the basic unit of human interaction, Understanding value sin

human relationship; meaning of, Nyaya and program for its fulfillment to ensure Ubhay-tripti; Trust (Vishwas) and Respect (Samman) as the foundational values of relationship, Understanding the meaning of Vishwas; Difference between intention and competence, Understanding the meaning of Samman, Difference between respect and differentiation; the other salient values in relationship, Understanding the harmony in the society (society being an extension of family): Samadhan, Samridhi, Abhay, Sahastitvaas comprehensive Human Goals, Visualizing a universal harmonious order in society- Undivided Society (Akhand Samaj), Universal Order (Sarvabhaum Vyawastha)- from family to world family!

UNIT- IV (11 Hrs.)

Understanding Harmony in the Nature and Existence - Whole existence as Co-existence: Understanding the harmony in the Nature, Interconnectedness, and mutual fulfillment among the four orders of nature- recyclability and self-regulation in nature, Understanding Existence as Co-existence(Sah-astitva) of mutually interacting units in all-pervasive space, Holistic perception of harmony at all levels of existence

- Practice Exercises and Case Studies will be taken up in Practice Sessions.

Implications of the above Holistic Understanding of Harmony on Professional Ethics: Natural acceptance of human values, Definitiveness of Ethical Human Conduct, Basis for Humanistic Education, Humanistic Constitution and Humanistic Universal Order, Competence in professional ethics: Ability to utilize the professional competence for augmenting universal human order, Ability to identify the scope and characteristics of people- friendly and eco-friendly production systems, Ability to identify and develop appropriate technologies and management patterns for above production systems, Case studies of typical holistic technologies, management models and production systems, Strategy for transition from the present state to Universal Human Order: At the level of individual: as socially and ecologically responsible engineers, technologists and managers, At the level of society: as mutually enriching institutions and organizations.

Recommended Books:

- 1. Ivan Illich, 1974, Energy & Equity, The Trinity Press, Worcester, and HarperCollins, USA.
- 2. E.F. Schumacher, 1973, Small is Beautiful: a study of economics as if people mattered, Blond & Briggs, Britain.
- 3. A Nagraj, 1998, Jeevan Vidyaek Parichay, Divya Path Sansthan, Amarkantak.
- 4. Sussan George, 1976, How the Other Half Dies, Penguin Press. Reprinted 1986, 1991

HUMAN VALUES, DE-ADDICTION AND TRAFFIC RULES (LAB/SEMINAR)

Subject Code: BGWDS1-110 LT PC 0 0 0 1

One each seminar will be organized on Drug De-addiction and Traffic Rules. Eminent scholar and experts of the subject will be called for the Seminar at least once during the semester. It will be binding for all the students to attend the seminar.

GUIDELINES REGARDING MENTORING AND PROFESSIONAL DEVELOPMENT

The objective of mentoring will be development of:

- Overall Personality
- Aptitude (Technical and General)
- General Awareness (Current Affairs and GK)
- Communication Skills
- Presentation Skills

The course shall be split in two sections i.e. outdoor activities and class activities. For achieving the above, suggestive list of activities to be conducted are:

Part – A (Class Activities)

- 1. Expert and video lectures
- 2. Aptitude Test
- 3. Group Discussion
- 4. Quiz(General/Technical)
- 5. Presentations by the students
- 6. Team building Exercises

Part – B (Outdoor Activities)

- 1. Sports/NSS/NCC
- 2. Society Activities of various students chapter i.e. ISTE, SCIE, SAE, CSI, Cultural Club, etc.

Evaluation shall be based on rubrics for Part - A & B

Mentors/Faculty in charges shall maintain proper record student wise of each activity conducted and the same shall be submitted to the department.