Paper Code: CCCS101	Total Credit : 4
Title of Paper: Introduction to Computer Science and Programming	**Total Marks :** 70 **Time :** 3 Hrs

Unit	Description	Weighting
I	**Introduction:** **Core Elements of a** IDLE, types of objects, operators, overloading, commands, variable, assignment, input, straight line and branching programs, looping constructs, Turing completeness, conditionals, nesting.	20%
II	**Problem Solving:** Termination, decrementing functions, exhaustive enumeration, brute force, while loop, for loop, approximation, specifications, bisection search.	20%
III	**Machine Interpretation of a** Decomposition, module, function, abstraction, formal parameter, actual parameter, argument, assert, scope, mapping, stack, last in first out, string, slicing**.**	20%
IV	**Object in Python:** Tuples, lists, dictionaries, methods, identifiers, modifying objects, aliasing, mutability **Recursion:** Dictionaries, modular abstraction, divide and conquer, recursion, tower of Hanoi, base case, Fibonacci Sequence.	20%
V	**Efficiency and Order of Growth:** Efficiency, problem reduction, RAM, best case, worst case, expected case, growth, exponential growth, polynomial growth, logarithmic growth, global variable. **Memory and Search Methods:** Memory, storage, indirection, sorting	20%
Basic Text & Reference Books :-		
1.	Guttag, John. Introduction to Computation and Programming Using Python, MIT Press, 2013. ISBN: 9780262519632	
2.	Downey, Allen B. Think Python, Shroff, ISBN:9350238632	

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Master of Science (Computer Applications & Information Technology)
Semester: I

Paper Code: CCCS101		Total Credit : 4 Total Marks : 70
Title of Paper: Introduction to Computer Science and Programming		**Time :** 3 Hrs

Unit	Description		Total Marks
I	Q.1 (A) Answer the Following. (Definitions, Blanks, Full Forms, True/False, Match the Following)	04	14
	Q.1 (B) Medium / Long Questions. (With Internal Option)	06	
	Q.1 (C) Algorithm/ Pseudo Code/Program in Python. (With Internal Option)	04	
II	Q.2 (A) Answer the Following. (Definitions, Blanks, Full Forms, True/False, Match the Following)	04	14
	Q.2 (B) Medium / Long Questions. (With Internal Option)	06	
	Q.2 (C) Algorithm/ Pseudo Code/Program in Python. (With Internal Option)	04	
III	Q.3 (A) Short / Medium Questions (With Internal Option)	04	14
	Q.3 (B) Medium / Long Questions. (With Internal Option)	06	
	Q.3 (C) Algorithm/ Pseudo Code/Program in Python. (With Internal Option)	04	
IV	Q.4 (A) Short / Medium Questions (With Internal Option)	04	14
	Q.4 (B) Medium / Long Questions. (With Internal Option)	06	
	Q.4 (C) Algorithm/ Pseudo Code/Program in Python. (With Internal Option)	04	
V	Q.5 (A) Short / Medium Questions (With Internal Option)	04	14
	Q.5 (B) Medium / Long Questions. (With Internal Option)	06	
	Q.5 (C) Algorithm/ Pseudo Code/Program in Python. (With Internal Option)	04	

Paper Code: CCCS102	Total Credit : 4
Title of Paper: Fundamental of Computers and Data Processing	**Total Marks :** 70 **Time :** 3 Hrs

Unit	Description	Weighting
I	**Information concept and processing:** Introduction, Data and Information, Features of Information, Categories of Information, Levels of Information. **Concepts of Data:** Organization of Data as a file, Types of File, Classification of data files by functions, File Organization.	20%
II	**Elements of Electronic Data Processing (EDP):** Introduction to computerized business data processing, Benefits of EDP, Overview of Commercial Application. **Number systems:** Binary, Octal, Decimal, Hexadecimal, Conversion of Number System ASCII, BCD	20%
III	**Elements of Computer Systems:** Introduction, Computer Classification, Capabilities and Limitations, Computer Generation **Input Units:** Functions of Input Units, Types of Input Devices.	20%
IV	**Output Units:** Types of Output Devices, Types of Printer, Types of VDU, Types of Plotters. **Memory:** Introduction, Classification of Memory, Primary Memory, Types of RAM and ROM, Characteristics of Memory.	20%
V	**Data Storage Devices:** Secondary storage devices, magnetic media, types of disks, storage principles, magnetic tape, hard disk and floppy disk, optical media, CD-ROM, CD, DVD. Merits, demerits and application of storage devices.	20%
Basic Text & Reference Books :-		
1.	Computer Fundamentals 4/e, Pradeep Sinha, BPB Publications	

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Master of Science (Computer Applications & Information Technology)
Semester: I

Paper Code: CCCS102		Total Credit : 4 Total Marks : 70
Title of Paper: Fundamental of Computers and Data Processing		Time : 3 Hrs

Unit	Description		Total Marks
I	Q.1 (A) Answer the Following. (Definitions, Blanks, Full Forms, True/False, Match the Following)	06	14
	Q.1 (B) Medium / Long Questions. (With Internal Option)	08	
II	Q.2 (A) Answer the Following. (Definitions, Blanks, Full Forms, True/False, Match the Following)	06	14
	Q.2 (B) Medium / Long Questions. (With Internal Option)	08	
III	Q.3 (A) Short / Medium Questions (With Internal Option)	06	14
	Q.3 (B) Medium / Long Questions. (With Internal Option)	08	
IV	Q.4 (A) Short / Medium Questions (With Internal Option)	06	14
	Q.4 (B) Medium / Long Questions. (With Internal Option)	08	
V	Q.5 (A) Short / Medium Questions (With Internal Option)	06	14
	Q.5 (B) Medium / Long Questions. (With Internal Option)	08	

Paper Code: CCCS103	Total Credit : 4
Title of Paper: Practical Based on CCCS101	**Total Marks :** 70 **Time :** 3 Hrs

Description

1. Understanding IDLE: Installing, Running Programs, Saving and Loading Files
2. Understanding Python Operators.
3. Understanding Branching.
4. Understanding Looping.
5. Understanding Functions and Parameters.
6. Understanding Tuples, Lists, Dictionaries.
7. Understanding Mutability of various objects.
8. Understanding Recursion.

Paper Code : CCCS103	Total Credit : 4
	Total Marks : 70
Title of Paper: Practical Based on CCCS101	Time : 3 Hrs

Unit	Description		Total Marks
I	Q.1 (A) Viva – Voce	20	70
	Q.1 (B) Practical	50	

Paper Code: CCCS104	Total Credit : 4
Title of Paper: Practical Based on CCCS102 and Elective Courses	**Total Marks :** 70 **Time :** 3 Hrs

Description
1. To understand and implement concept of desktop publishing software   2. To understand and implement the basic concept of Word Processing Software   3. To understand and implement the concept of Presentation Packages   4. To understand and implement the concept of Spreadsheet Packages

Paper Code : CCCS104			Total Credit : 4 Total Marks : 70
Title of Paper: Practical Based on CCCS102 and Elective Courses			**Time :** 3 Hrs
Unit	**Description**		**Total Marks**
I	Q.1 (A) Viva – Voce	20	70
	Q.1 (B) Practical	50	

Paper Code: FCCS101	Total Credit : 4
Title of Paper: Communication Skills in English	**Total Marks :** 70
	Time : 3 Hrs

Unit	Description	Weighting
I	**ORAL COMMUNICATION :** - Meaning, nature and scope - Principles of effective oral communication - Techniques of effective speech - Meaning and Definition - Process – Functions – Objectives - Importance – Essentials of good communication - Communication barriers - Overcoming communication barriers - Communication: At the college, On the campus, Outside the campus, At the post office, For Business and pleasure, Review.	20%
II	**GRAMMER AND USAGE :** - The Articles - Nouns & Pronouns - Tenses - Auxiliary verbs (Model auxiliaries) - Questions and negatives - Prepositions attached to verbs	20%
III	**GRAMMER AND USAGE :** - Vocabulary words often confused, Abbreviations and Numerals - Active-Passive - Conjunctions - Reported speech - Translation	20%
IV	**BUSINESS COMMUNICATION** - Enquiries and Replies - Quotations - Voluntary offers - Placing of orders - Cancellations of orders - Complaints and Adjustments	20%
V	**INFORMATIONTECHNOLOGYFOR COMMUNICATION** - Word Processor-Telex-Facsimile(Fax) - E-mail-Voicemail-Internet –Multimedia-Teleconferencing - Mobile Phone Conversation - Video Conferencing - SMS - Telephone Answering Machine - Advantages and limitations of these types.	20%
Basic Text & Reference Books :-		
1.	Creative English Communication By N.Krishnaswami and T.Sriraman.	
2.	Contemporary English Grammar, Structure and Composition By David Green.(MacMillan)	
3.	Essential of Business Communication By Rajendra Pal and J.S.Korlahalli(S.Chand & Sons)	
4.	Business correspondence & Report By R.C.Sharma & Krishna Mohan.	
5.	Business Communication Dr. S.V. Kadvekar, Prin. Dr. C.N. Rawal and Prof.Ravindra Kothavade – Diamond Publications, Pune.	

Paper Code: FCCS101		Total Credit : 4 Total Marks : 70
Title of Paper: Communication Skills in English		**Time :** 3 Hrs

Unit	Description		Total Marks
I	Q.1 (A) Short /Medium Questions. (With Internal Option)	06	14
	Q.1 (B) Medium / Long Questions. (With Internal Option)	08	
II	Q.2 (A) Short /Medium Questions. (With Internal Option)	06	14
	Q.2 (B) Medium / Long Questions. (With Internal Option)	08	
III	Q.3 (A) Short / Medium Questions (With Internal Option)	06	14
	Q.3 (B) Medium / Long Questions. (With Internal Option)	08	
IV	Q.4 (A) Short / Medium Questions (With Internal Option)	06	14
	Q.4 (B) Medium / Long Questions. (With Internal Option)	08	
V	Q.5 (A) Short / Medium Questions (With Internal Option)	06	14
	Q.5 (B) Medium / Long Questions. (With Internal Option)	08	

Paper Code: CECS101	Total Credit : 4
Title of Paper: PC Software and Applications	Total Marks : 70 Time : 3 Hrs

Unit	Description	Weighting
I	**Operating System :** Introduction, Types of Operating System DOS: Internal & External commands, file name, wildcard character, autoexec.bat & config.sys, hidden system files. Commands like DIR, MKDIR, CHDIR, COPY, TYPE, DELETE,RENAME, PRINT, FORMAT, SYS, LABEL, CHKDSK, SCANDISK, ATTRIB, PATH, PROMPT, DATE, TIME, BACKUP, RESTORE etc. WINDOWS: Concept of Window, icon, menu, picture Control Panel etc. Desktop : my computer, network neighbourhood, recycle bin etc., start menu, windows explorer, long & short file names, creating folder, copying & moving files, deleting files, creating shortcuts, adding & deleting from start menu, adding & removing hardware, scanning disk, defragmentation, security features, installing other software etc.	20%
II	Introduction to personal computers Significance and use of a typical PC Operating System Introduction to Editors Classification of PC Software Introduction to word processing Examples of some popular word processing packages Uses of word processors Creation, editing, and formatting of documents	20%
III	Mail merge facility in word processors Global search & replacement of text Page layout and printing of a document Spelling checker, Tables, Templates, Advanced features Introduction to spreadsheets Examples of some popular spreadsheet packages Uses of spreadsheet packages	20%
IV	Addressing cells in a spreadsheet Building Spreadsheets using formulas, conditional calculations, built-in functions Graph-plotting facilities Sorting and filtering data Using externally created data files in a spreadsheet package	20%
V	What-if analysis and protection facility in spreadsheets Using pivot tables Applications of spreadsheets Introduction to presentation tools Creating a presentation Formatting slides Slide transition and adding special effects Inserting pictures, sound, charts	20%
Basic Text & Reference Books :-		
1.	Taxali R.K : PC Software for windows made simple, Tata McGraw-Hill Publishing Co. Ltd.	
2.	Manuals of PC Software	

Paper Code: CECS101			Total Credit : 4 Total Marks : 70
Title of Paper: PC Software and Applications			Time : 3 Hrs

Unit	Description		Total Marks
I	Q.1 (A) Short /Medium Questions. (With Internal Option)	06	14
	Q.1 (B) Medium / Long Questions. (With Internal Option)	08	
II	Q.2 (A) Short /Medium Questions. (With Internal Option)	06	14
	Q.2 (B) Medium / Long Questions. (With Internal Option)	08	
III	Q.3 (A) Short / Medium Questions (With Internal Option)	06	14
	Q.3 (B) Medium / Long Questions. (With Internal Option)	08	
IV	Q.4 (A) Short / Medium Questions (With Internal Option)	06	14
	Q.4 (B) Medium / Long Questions. (With Internal Option)	08	
V	Q.5 (A) Short / Medium Questions (With Internal Option)	06	14
	Q.5 (B) Medium / Long Questions. (With Internal Option)	08	

Paper Code: CECS102	Total Credit : 4
Title of Paper: Desktop Publishing	**Total Marks :** 70 **Time :** 3 Hrs

Unit	Description	Weighting
I	**Introduction** Publishing – meaning and planning Graphics and desktop publishing, Publication purpose and effectiveness, Introduction to a popular desktop publishing software and key features	20%
II	**Using DTP Software-I (Page Maker)** Working with document - creating, saving, printing, etc. Working with tools and pallets, navigation Working with margins, indents, tabs and ruler Working with text , paragraph and graphics	20%
III	**Using DTP Software-II (Page Maker)** Working with multipage documents Working with master pages, hyperlinks Working with frames, text frames, Using tables Using styles and story board, Working with objects, forms Working with templates, Importing and exporting	20%
IV	**Corel Draw** Introduction, Surfing the Interface, Getting to know the status bar. Getting to scrollbar and color palette. Understanding Dialog box, Exploring the standard toolbar, Toolbox. Browsing the Menus, File, Edit, View, Layout, Arrange, Effect, Bitmaps, Text, Tools, Drawing and working with Lines and Curves. Drawing and working with Rectangles, Ellipse and Polygons, Adding Text and Formatting Text, Working with Objects, Defining Outline and Fill Color, Working with outlines, The outline pen dialog, The outline color dialog, Understanding fills, Fountain fills, Pattern fills, Creating Special Effects, Using an envelope, Creating perspective effects, Blending objects	20%
V	**Photo Shop** Photoshop's Environment Graphics and Environment Elements Navigating in Photoshop. Sizing Images, Image Size and Resolution Cropping. Selecting Image Areas. The Rectangular and Elliptical Marquee Tools. The Lasso Tools and Saving Selections. The Magic Wand Tool. The Magnetic Lasso Tool and Modifying Selections Layers, Feathering Edges: Image Modes, Color and Painting, Selecting Colors, Painting Tools and the Clone Stamp Tool. Text, Layer Effects, and Filters, Filters, Merging, and Flattening. Adjusting Images, Brightness/Contrast and Levels Adjustment Layers, Toning Tools and Hue/Saturation	20%
Basic Text & Reference Books :-		
1.	Jain S. : PageMaker 7 Training Guide, BPB, 2008	
2.	Manuals of Photoshop	
3.	Connally C. : PageMaker (R) 7 – The Complete Reference, McGraw-Hill/Osborne Media, 2002	
4.	Mastering Corel Draw by Rick Altman, BPB 4th Edition	

Paper Code: CECS102		Total Credit : 4 Total Marks : 70
Title of Paper: Desktop Publishing		**Time :** 3 Hrs

Unit	Description		Total Marks
I	Q.1 (A) Short /Medium Questions. (With Internal Option)	06	14
	Q.1 (B) Medium / Long Questions. (With Internal Option)	08	
II	Q.2 (A) Short /Medium Questions. (With Internal Option)	06	14
	Q.2 (B) Medium / Long Questions. (With Internal Option)	08	
III	Q.3 (A) Short / Medium Questions (With Internal Option)	06	14
	Q.3 (B) Medium / Long Questions. (With Internal Option)	08	
IV	Q.4 (A) Short / Medium Questions (With Internal Option)	06	14
	Q.4 (B) Medium / Long Questions. (With Internal Option)	08	
V	Q.5 (A) Short / Medium Questions (With Internal Option)	06	14
	Q.5 (B) Medium / Long Questions. (With Internal Option)	08	

Paper Code: CECS103	Total Credit : 4
Title of Paper: Financial Management and Accounting	Total Marks : 70 Time : 3 Hrs

Unit	Description	Weighting
I	Accounting principles, concepts and conventions, double entry system of accounting, types of accounts journalizing, introduction of basic books of accounts of sole proprietary concern, control accounts for debtors and creditors, closing of books of accounts and preparation of trial balance. Trading and profit and loss account and balance sheet of sole proprietary concern with normal closing entries.Final accounts of partnership firms and limited company.	20%
II	Financial Management: Meaning, role and importance of financial management. Ratio analysis: Meaning, advantages, limitations, types of ratios and their usefulness. Costing: Nature, importance and basic principles, methods, elements of cost, cost sheet, pro-forma of cost-sheet, tender price.	20%
III	Budget and Budgetary Control: Nature and scope, importance methods of finalization of master budget and functional budgets. Standard Costing: Nature and scope, computation and analysis of variances with reference to material cost , labor cost, interpretation of the variances.	20%
IV	Marginal Costing: Meaning and scope of marginal costing, uses and limitations of marginal costing, breakeven point, simple example on decision making.	20%
V	Accounting Software Role of computers in commerce, Introduction to Accounting Packages, Hardware and software requirement for tally, Features of tally, Flow of Accounting package tally through examples, Various Phases of Accounting Cycle in Tally, Tax calculation & tally	20%
Basic Text & Reference Books :-		
1.	Accounting & Financial Management by D.R.Patel, Atul Prakashan	
2.	Manuals of Tally	

Paper Code: CECS103			Total Credit : 4 Total Marks : 70
Title of Paper: Financial Management and Accounting			**Time :** 3 Hrs

Unit	Description		Total Marks
All	Q.1 MCQ	14	14
I, II	Q.2 (A) Short /Medium Questions. (With Internal Option)	06	14
	Q.2 (B) Medium / Long Questions. (With Internal Option)	08	
	OR Q.2 Long Question	14	
II,III	Q.3 (A) Short / Medium Questions (With Internal Option)	06	14
	Q.3 (B) Medium / Long Questions. (With Internal Option)	08	
	OR Q.3 Long Question	14	
III,IV	Q.4 (A) Short / Medium Questions (With Internal Option)	06	14
	Q.4 (B) Medium / Long Questions. (With Internal Option)	08	
	OR Q.4 Long Question	14	
IV, V	Q.5 (A) Short / Medium Questions (With Internal Option)	06	14
	Q.5 (B) Medium / Long Questions. (With Internal Option)	08	
	OR Q.5 Long Question	14	