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No. KU/Aca(S&T)/SSK-193/Comp.Sc.(UG/PG)/2016-17/ 140 Dated: 15 MAY 2017

NOTIFICATION

Sub: Regarding, Revision of PGDCA Syllabus w.e.f. 2017-18 & onwards.
Ref: 1) BOS Res. No.15 dated 5.10.2016
2) Science Faculty Res. No. 15 dated 12.1.2017
3) AC Res. No. 44 dated 25.3.2017
4) Vice-Chancellor's order dated: 12.05.2017

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Adverting to the above it is hereby notified to the Chairman, Department of studies in Computer Science, principal of concerned affiliated degree colleges coming under the jurisdiction of Karnatak University, Dharwad that the PGDCA Syllabus is revised w.e.f. 2017-18 & onwards.

Hence the contents of this notification may please be brought to the notice of the student and all concerned.

The said syllabus is displayed on our University website i.e. **www.kud.ac.in. Academic Folder**

REGISTRAR

To,
1. The Chairman, BOS in Computer Science (UG/PG), PG Dept. of Computer Science, K.U. Dharwad for information.
2. The Registrar,(Evaluation), K.U. Dharwad.

Copy f.w.cs. to:
1. Dr. (Smt) Pancharatna, Dean Faculty Science, P.G. Dept. of Zoology, K.U. Dharwad,
2. The Principal of concerned affiliated degree colleges coming under the jurisdiction of Karnatak University, Dharwad

Copy to :
1. P.S. to Vice-Chancellor, K.U. Dharwad.
2. S.A. to Registrar, K.U. Dharwad.
3. O.S., Academic(P.G) Section, K.U. Dharwad.
4. O.S., Exam (UG Branch) Section, K.U. Dharwad.
5. O.S., Exam Confdl/QP/GAD/ CDC Section, K.U. Dharwad.
6. Office File

KARNATAK UNIVERSITY, DHARWAD

Regulations governing one-year
P.G. Diploma In Computer Applications

PREAMBLE

INTRODUCTION: The area of Computer Science and its applications is advancing rapidly, especially during the last few years. In view of the present developments in the area and needs of job market, the Board of Studies in Computer Science, decided to revise the present syllabus of PGDCA course.

OBJECTIVES

To train students in various aspects of Computer applications
To provide diverse and fulfilling career options in computer applications.

COURSE OFFERED

One year P.G. Diploma course in Computer Application (concurrent course)

COURSE STRUCTURE:

1. **Title:**
The course shall be called P.G. Diploma in computer Applications (PGDCA)

2. Duration:
This course is extended over a period of one academic year with two semesters. Each semester will have 16 weeks duration.

3. Eligibility:

A candidate who has passed the Bachelor's degree examination with a minimum of 45% marks in any discipline is eligible for admission to the course. In case of SC/ST students the relaxation for eligibility condition shall be as fixed by the University from time to time.

4. Medium of Instruction:
The medium of instruction will be in English only.

5. Hours of Instruction:
There shall be four hours per week for every theory & practical papers.

6. Number of papers:
Each semester will have a total of 600 marks consisting theory and practical.

7. Attendance:
A student shall obtain a minimum of 75% of the total instruction/practical hours in each paper/practical as per the University regulations.
A student who does not satisfy the above requirement of attendance shall not be eligible to appear for the examination and should seek fresh admission to the semester.

8. Scheme of Examination:
The board of examiners will scrutinize and approve the question papers set by the paper setters selected from a panel of examiners.
There shall be single valuation for theory and practical examination. Marks shall be awarded for theory and practical examinations.
There shall be a University examination at the end of each semester. Each semester examination will have theory and practical as prescribed.
The composition of the marks shall be as under:

Each theory paper and practical will have 80 marks for the semester examination and 20 marks for Internal Assessment.

Duration of the theory examination shall be of three hours.

The question Paper format shall be as follows:

The Question Paper shall consists of two parts. Answering five full questions choosing at least two question from each part.

Each full question carrying 16 marks. Full question may divided into sub questions.

9. Internal Assessment marks:

Each theory/practical paper will have 20 marks for Internal Assessment.

No minimum marks are prescribed for Internal Assessment.

Internal Assessment marks once awarded will hold good even if a candidate reappears for the examination.

10. Declaration of results.

The grading of successful candidate at the examination shall be as follows:

Percentage marks	Class
70.00 to 100.00 %	First Class with Distinction
60.00 to 69.99 %	First Class
50.00 to 59.99 %	Second Class
Below 50%	Fail

Scheme of Study and Examination for P.G. Diploma in Computer Science Applications

(Not under CBCS Scheme)

(PGDCA) (With effect from 2017-2018 onwards)

SEMESTER-I

Sl. No	Subject Code	Subjects	Lecture Hrs/w	Practical Hrs/w	Duration Theory/Practical Exam Hrs.	Marks		Total Marks
						Exam	IA	
1	PGDCA 1.1	Introduction to Office Automation	4	-	3	80	20	100
2	PGDCA 1.2	C Programming	4	-	3	80	20	100
3	PGDCA 1.3	Windows Operating System	4	-	3	80	20	100
4	PGDCA 1.4	Office Automation Lab	-	02	3	80	20	100
5	PGDCA 1.5	C-Programming Lab	-	02	3	80	20	100
6	PGDCA 1.6	Operating System Lab	-	02	3	80	20	100
		Total	12	06	-	480	120	600

SEMESTER-II

Sl. No	Subject Code	Subjects	Lecture Hrs/w	Practical Hrs/w	Duration Theory/Practical Exam Hrs.	Marks		Total Marks
						Exam	IA	
1	PGDCA 2.1	Page Maker & Adobe Photoshop	4	-	3	80	20	100
2	PGDCA 2.2	Corel Draw	4	-	3	80	20	100
3	PGDCA 2.3	Tally& SPSS	4	-	3	80	20	100
4	PGDCA 2.4	Page Maker & Adobe Photoshop Lab	-	02	3	80	20	100
5	PGDCA 2.5	Corel Draw Lab	-	02	3	80	20	100
6	PGDCA 2.6	Tally& SPSS Lab	-	02	3	80	20	100
		Total	12	06	-	480	120	600

PG Diploma in Computer Application

PROGRAM OUTCOMES (PO)

PO1: It will equip the students with skills required for designing, developing applications in Information Technology.

PO2: Students will able to learn the latest trends in various subjects of computers & information technology.

PO3: The PG Diploma is aimed at graduates with a computing background and provides a detailed coverage of the key concepts and challenges in data and resource protection and computer software security.

PO4: To give hands on to students while developing real life IT application as part of the study.

PO5: To train graduate students in basic computer technology concepts and information technology applications.

PO6: Design and develop applications to analyze and solve all computer science related problems.

PROGRAM SPECIFIC OUTCOMES (PSO)

PSO1: To expose the students to open Source technologies so that they become familiar with it and can seek appropriate opportunity in trade and industry.

PSO2: Able to provide socially acceptable technical solutions to real world problems with the application of modern and appropriate programming techniques.

PSO3: Design applications for any desired needs with appropriate considerations for any specific need on societal and industrial aspects.

PGDCA 1.1 INTRODUCTION TO OFFICE AUTOMATION

Total Hours: 48

Course Outcome

Upon Completion of the course, the students will be able to

- To provide an in-depth training in use of office automation, internet and internet tools.
- The course also helps the candidates to get acquainted with IT.
- Learning Outcomes: After completion of the course, students would be able to documents, spreadsheets, make small presentations and would be acquainted with internet.

UNIT-I

Introduction to computers: Anatomy of Computer System, Hardware and Software Components, Memory unit: Types of memory, ROM, RAM, types of RAM & ROM, Introduction to cache add virtual memory.

[2 Hours]

UNIT-II

MS-word: Introduction, what is Word-Processing, Important Features of MS-Word, Creating and Editing a documents, Entering Text in the documents, Moving Around the documents, Formatting a Document

Formatting A Document: Format and align text, Line and paragraph spacing,add bulleted and numbered lists,add borders and shading, Changing the Layout of a Document.

Using Editing and Proofing Tools: Spell and grammar check, ShortcutMenus, Find and replace text.

Working with Tables: Insert a table, convert a table to text, Navigate and select text in a table, resize parts of a table,align text in a table, format a table, Insert and delete columns and rows, Borders and shading, Merge table cells.

[20 Hours]

UNIT-III

MS-Excel: The Basics Creating a New Workbook Navigating in Excel Moving the Cell Pointer Using Excel Menus Using Excel Toolbars: Hiding, Displaying, and Moving Toolbars Entering Values in a Worksheet and Selecting a Cell Range, saving a Workbook & Reopening a saved workbook

Formatting a Worksheet: Formatting Fonts & Values Adjusting Row Height and Column Width, Changing Cell Alignment, Adding Borders, Applying Colors and Patterns, Using the Format Painter, Using AutoFormat Merging Cells, Rotating Text and using AutoFit

Managing your workbooks: Inserting and Deleting Worksheets Renaming and Moving Worksheets,protecting a Workbook Hiding Columns, Rows and Sheets, Entering Date Values and using AutoComplete

Formulas: Creating a basic Formula Calculating Value Totals with AutoSum Editing & Copying Formulas Fixing Errors in Your Formulas

Creating & Working with Charts: Creating a Chart Moving and Resizing a Chart Formatting and Editing Objects in a Chart,working with Pie Charts Adding Titles, Gridlines, and a Data Table Formatting a Data Series and Chart Axis Annotating a Chart Working with 3-D Charts.

[20 Hours]

UNIT-IV

PowerPoint: What's New in PowerPoint, Understanding the PowerPoint Program Screen.
Presentation: Creating a New Presentation, Inserting and Deleting a Slide and Selecting a Layout Opening a Presentation, Navigating a Presentation Using Undo, Redo and Repeat Saving a Presentation**.**
Inserting and Editing Text: Inserting Text Editing Text, Cutting, Copying, and Pasting Text, Moving and Copying Text with the Mouse, Checking Your Spelling, Finding and Replacing Text Inserting Symbols and Special Characters
Formatting Text: Changing Font Type, Changing Font Size, Changing Font Color, Changing Font Style, Using the Font Dialog Box, Using the Format Painter Using WordArt**.** Formatting a Presentation: Using Document Themes, Changing the Background of a Slide Rearranging Slides Adding Headers and Footers Using the Slide Master Working with Bulleted and Numbered Lists Changing Paragraph Alignment and Line Spacing Working with Tabs and Indents.
Working with Objects: Inserting Clip Art Inserting Pictures and Graphics Files Formatting Pictures and Graphics Inserting Shapes Formatting Shapes Resize, Applying Special Effects to Objects Grouping Objects.
Working with Tables: Creating a Table, Adjusting Column Width and Row Height, Inserting and Deleting Rows and Columns, Merging and Splitting Cells, Working with Borders and Shading Applying a Table Style**.**

[6 Hours]

REFERENCES:

l.Programming in C, P.B. Kotur.
2. Office Automation Concepts and Tools by Tsichritzis, D. (Ed.)
3. Microsoft Office 2016 by Joan Lambert.

PGDCA 1.2 C PROGRAMMING

Total Hours: 48]

Course Outcome

Upon Completion of the course, the students will be able to

- Able to implement the algorithms and draw flowcharts for solving Mathematical and Engineering problems.
- Demonstrate an understanding of computer programming language concepts.
- To be able to develop C programs on linux platform

UNIT-I

Introduction to Programming Paradigms: Evolution of programming languages, Structured programming, Procedural programming, object oriented programming, Functional programming and Logic programming, compilation process, object code, source code, executable code, fundamentals of algorithms, flow charts.

[10Hours]

UNIT-II

Fundamentals: C character set Identifiers & Keywords, data types, constants, variables and arrays, declarations, expressions, statements, symbolic constants

Data types: Properties of type and objects, data objects, variables and constants, data types, specification and implementations of elementary data types, declaration, type checking and type conversion, assignment and initialization, structured data types-vectors and arrays, records, lists, character strings, files and input-output.

[12 Hours]

UNIT-III

Operators and Expressions: Arithmetic operators, unary operators, relational and logical operators, assignment operators, conditional operators, Library functions.

[8 Hours]

UNIT-IV

Control Statements: Branching, Looping, Nested control structures, switch break, continue statements, comma operator, go to statement.

Functions: Defining a function, accessing a function, function prototypes, passing arguments to a function, recursion.

[8 Hours]

UNIT-V

Arrays: Defining and processing,one-dimensional Array, Multidimensional Array declaration and their applications, Passing arrays to a function**.**

String: String variables, declaring & initializing string variables, reading & writing strings, string Functions - concatenation, comparison, copy, length implementing the above functions without using built-in string functions, arithmetic operations on characters, programming examples.

[10 Hours]

REFERENCES:

1. Programming Languages, Design and Implementation, Pratt, T.W., PHI
2. Programming with C, Gottfried, Schaum'sSeries, TMH Publications.
3. Programming in ANSI C, E. Balaguruswamy, TMH Publications.
4. Computer Programming C.V. Rajmaman, PHI

5. Let us C - YashwantKanetkar, BPB Publications
6. Programming Languages, Concepts and Constructs, Ravi Sethi, Addison Wiley.

PGDCA 1.3 WINDOWS OPERATING SYSTEM

Total Hours: 48

Course Outcome

Upon Completion of the course, the students will be able to

- Understand the basic components of a computer operating system, and the interactions among the various components.
- The course will cover an introduction on the policies for scheduling, deadlocks, memory management, synchronization, system calls, and file systems

UNIT-I

Windows Overview: History, understanding the OS architecture, Graphics interface, Benefits, Screen attributes: icons and bars, Mouse vs. keyboard input, Features and accessories of the Windows program, Objects and their properties.

[8 Hours]

UNIT-II

Installing Windows: Exploring OS Editions, Planning Clean Installs vs. Upgrades, Understanding Installation Types, Using Virtualized Installations

Program management: Creating, saving and editing documents, Concurrent execution of programs, Sharing data between programs

Folder and file management: Working with files, Naming files, Copying and moving files, Deleting files, Managing folders a. Creating, Viewing, Expanding and collapsing.

[10 Hours]

UNIT-III

Managing the Desktop: Understanding Desktop Features, Working with Gadgets, Changing Display Settings, Creating Shortcuts

Control panel: Customizing screens, Screen colors, Pattern, Spacing icons, selecting time/date, Customizing printing, changing the print queue, configuring the printer(s), Adding printers.

Working with fonts: changing, removing, adding, Customizing mouse and keyboard use, System properties and the device manager**.**

[10 Hours]

UNIT-IV

Management tools: DOS sessions, Explorer, Memory configuration, Safe mode

Device Management: Understanding Device Drivers, Exploring Plug-and-Play Operations, Connecting and Managing Devices, Using Disk Defragmenter, Performing a Disk Cleanup, Scheduling Tasks.

Managing Applications: Planning for Local and Network Applications, Install and uninstall applications, Configuring and Removing Applications, Using Group Policy for Application Control, Understanding Application Virtualization, The Difference between Services and Standard Applications.

[10 Hours]

UNIT-V

Controlling Malware: Understanding Malware Types, Planning for Malware Protection, Understanding Microsoft Protection Methods

Backup and Recovery: Planning for Backups, Testing Recovery Processes, Working with System Restore, Using Recovery Boot Options.

Windows Update: Understanding Hotfixes and Service Packs, Planning for Windows Update and Microsoft Update.

[10 Hours]

REFERENCES:

1. Operating Systems: Internals and Design Principles by William Stallings, Fifth Edition Prentice Hall.
2. Microsoft Windows Operating System Essentials by Tom Carpenter Sybex Publishers.
3. An Introduction to Windows Operating System by Einar Krogh
4. Microsoft Windows Security Essentials 1st Edition by Darril Gibson

PGDCA 2.1 PAGE MAKER AND ADOBE PHOTOSHOP

Total Hours: 48

Course Outcome

Upon Completion of the course, the students will be able to

- This class provides you with the concepts and skills to use Adobe Page Maker effectively.
- Our goal is to make sure your class meets your objectives, not ours.
- Courses that relate to this class: Adobe Illustrator and Adobe Photo-shop.

PAGE MAKER

UNIT I

Introduction: Introduction to Page Maker Page Maker Icon and help, Tool Box, Styles, Menus etc., Different screen Views, Importing text/Pictures, Auto Flow, Columns, formatting text.

[10 Hours]

UNIT–II

Master Pages & customization: Master Pages and Stories, Story Editor, Menu Commands and short-cut commands, Spell check, Find & Replace, Import Export etc., Fonts, Points Sizes, Spacing etc., Installing Printers, Scaling (Percentages), Printer setup Use of D.T.P. in Advertisements, Books & Magazines, News Paper, Table Editor.

[10 Hours]

ADOBE PHOTOSHOP

UNIT–III

Introduction: Introduction to Adobe Photoshop & Documents, Various Graphic Files and Extensions, Vector Image and Raster Images, Various Colour Modes and Models.

[10 Hours]

UNIT–IV

Layers & Filters: Introduction to Screen and Work Area, Photoshop Tools & Palettes , Layers Palette ,Working with Layers , New Layer via Cut , New Layer via Copy ,Working with Images, The Filter Menu, Filter Gallery , Extract Filter,Noise Filters, Sketch Filters.

[10 Hours]

UNIT –V

Printing and Customization: Import, Export, Automate, Printing, Customize Workspace, Creating an Action.

[8 Hours]

REFERENCES:

1. PageMaker(R) 7: The Complete Reference By Carolyn Connally
2. Adobe PageMaker By Barnabas Crist Bal
3. Desktop Publishing Using PageMaker 6.0 Windows By Julia C. Bradley
4. Photoshop 7: The Complete Reference By Laurie Ulrich-Fuller
5. The Adobe Photoshop Layer By Richard Lynch
6. Introduction To Adobe Photoshop By Abigail J Morley

PGDCA 2.2 Corel DRAW

Total Hours: 48

Course Outcome

Upon Completion of the course, the students will be able to

- Have sufficed knowledge about the entire software.
- He will be well versed with drawing grids, segments, using rulers, coloring, manipulating effects, moderating shapes etc.

UNIT–I

Introduction to CorelDRAW: Use and importance in Designing, Various Graphic Files and File Extensions ,Vector Image and Raster Images , Introduction to Screen and Work Area.

[10 Hours]

UNIT–II

Introduction to Tools of CorelDRAW: Managing Palettes ,Working with Images, Patterns and Textures ,Working with Shapes, Colours and Fills ,Image Rasterisation and Editing, Transformation Menu.

[10 Hours]

UNIT–III

CorelDRAW Files: Coreldraw Files and supporting documents, Import and Export of Files and File formats Page Setup and Designing, Using Styles and Templates, Working with Text, Formatting Text, Text Attributes.

[10 Hours]

UNIT–IV

Page Layout and Layers: Designing Different Page Layouts, Column Layout, Special Effect to Objects and Texts, Contour Tool ,Layout for News Paper and Magazines, Working with Layers Hiding/Showing Layers - Deleting Layers, Masking Layers.

[10 Hours]

UNIT–V

Printing and Customization: Preparation of Visiting Cards & Invitation Cards, Shaping Dockers & Logo Design Introduction Brochure & Books, Introduction to Magazine Designing, Web Photo Gallery Printing.

[8 Hours]

REFERENCES:

1. CorelDraw x5 Unleashed, Foster D. Coburn III
2. CorelDraw The Official Guide By Gary David Bouton
3. CorelDRAW Jesse Russell Ronald Cohn.
4. Corel Draw Graphics Suite X4 Training Guide - Corel Draw Version by Mc Sharma

PGDCA 2.3 TALLY AND SPSS

Total Hours: 48

Course Outcome

Upon Completion of the course, the students will be able to

- MS Paint
- Photoshop
- PageMaker
- Adobe Photoshop CC
- Adobe creative team, Adobe press

TALLY

Unit-I

Manual Accounting: Accounting, Need for accounting, Types of accounts, Rules of debit & credit, Accounting principles or standards, Accounting concepts, Accounting conventions, Accounting system, Recording transactions in journal, Ledger (Classifying), Trial balance, Final Accounts, Trading & P/L statement, Balance sheet, Adjustment Entries, Summary.

[8 Hours]

UNIT-II

Computerized Accounting: Installing Tally – Requirements & procedure for installing tally, Education mode, Changing default settings through tally. Opening screen of tally, Creating Company, shutting a company, Altering/Modifying existing Company, Buttons on the button Panel

Accounting Information: Menu related to accounts, Groups, Managing Groups, Creating new group & sub group, Displaying, altering & deleting a group, Creating, Displaying & altering multiple groups.

Ledgers: Displaying, altering & deleting single and Multiple Ledgers.

[8 Hours]

UNIT-III

Cost categories & Cost centers: Creating, Displaying, Altering & Deleting a cost category and cost centers, Vouchers in Tally, Inventory information, stock categories, stock item, Multiple Stocks, Multiple Godowns, reports and internet capabilities.

[8 Hours]

SPSS

UNIT-IV

Introduction to PASW: Menus, Tool Bar, Dialogue Box, Designate Window, Basic steps for performing any Statistical Procedure

Data Management: Creating a Data File, Defining Variables, Entering & Saving Data, Opening an existing Data File, Inserting Variables, Inserting Cases, Identifying Duplicate Cases, Identifying Unusual Cases, Sorting Cases, Merging a File: Add Cases, For Adding Variables, Data Aggregation, Splitting File, Selecting Cases, Listing Cases.

[8 Hours]

UNIT-V

Data Transformation: Computing a New Variable, Recoding Variables, Types of measurement Scales, Descriptive Statistics, Crosstabs.

Describing Data Graphically: Line Chart, Pie Chart, Bar Chart, Histogram and the Standard Normal

Curve, Box Plot, Scatter Diagram, P-P Plot, Q-Q Plot, Chart Builder, Formatting Charts.

[8 Hours]

UNIT-IV

One Sample t-Test: Hypothesis testing, Independent Sample t-Test, Sample t-Test, Procedure for Testing for Differences in Means between Groups, Interpretation of Null Results.

Nonparametric statistics: Runs Test, Chi-Square Test, Mann-Whitney U Test, Wilcoxon Signed Rank
Test, Kruskal-wallis Test.

[8 Hours]

REFERENCES:

1. Tally ERP 9 by **Asok K. Nadhani** , BPB Publishers
2. Computerized Accounting Using Tally.ERP 9 by Tally Education Private Limited.
3. SPSS in Simple Steps by Kiran Pandya Smruti Bulsari Sanjay Sinha, Dreamtech press (201l)
4. SPSS: A User-Friendly Approach by Jeffery E. Aspelmeier, Thomas W. Pierce ,Worth Publishers (2009)
5. Statistical Methods for Practice and research: A Guide to Data Analysis using SPSS 0002 edition 2009
6. A Visual Approach to SPSS for windows: A Guide to SPSS 17.0 by Leonard D.Stern, Pearson 2009