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SHIVAJI UNIVERISTY, KOLHAPUR-416 004. MAHARASHTRA

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शिवाजी विद्यापीठ, कोल्हापूर - ४१६ ००४.

दुरध्वनि: (ईपीएबीएक्स) २६०९००० विस्तारीत . २६०९०९४)

फॅक्स : ००९१-०२३१-२६९१५३३ व २६९२३३३.

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Ref. No./SU/BOS/Commerce /PGDCA/ 2412

Date :17.06.2015

The Principal,
All Affiliated P.G.D.C.A Colleges
Shivaji University, Kolhapur.

Subject: Regarding revised Syllabi, Nature of Question Paper and Equivalence
of Post Graduate Diploma in Computer Application. under the Faculty
of Commerce.

Sir/Madam,

With reference to the subject mentioned above, I am directed to inform you that the university authorities have accepted and granted approval to the revised syllabi of Post Graduate Diploma in Computer Application under the Faculty of Commerce.

This syllabi will be implemented from the academic year 2015-16 (i.e. from June 2015) onwards. A soft copy (C.D.) containing the syllabus is enclosed herewith. This syllabi is also available on university website www.unishivaji.ac.in.

The question papers on the pre-revised syllabi of above mentioned course will be set for the examinations to be held in Oct/Nov-2015 & March/April-2016. These two chances are available for repeater students, if any.

You are, therefore requested to bring this to the notice of all students and teachers concerned.

Thanking you,

Yours faithfully,
Sd/-
Dy. Registrar

Encl: -As above .

Copy to:-

1. Dean, Faculty of Commerce
 2. Chairman, Board of Studies in Business Management
 3. Appointment Section
 4. B.Com. Section
 5. Affiliation Section (P.G.)
 6. Computer Centre
 7. P.G. Admission
 8. Meeting Section
 9. P. G. Seminar
 10. Other Exam-I, II, III, IV
 11. Eligibility Section
- } For information
- } For information & necessary action.

Shivaji University, Kolhapur

Post Graduate Diploma In Computer Applications [PG-DCA]

w.e.f. Academic year 2015- 2016 onwards

Introduction:-

An immense need was felt to make the course more comprehensive and application oriented the Post Graduate Diploma in Computer Applications.

Objectives:-

The main objective of the course is to impart adequate professional knowledge and computer skills so as to enable the candidates to take up careers in the field of Information Technology and to equip with latest knowledge, skills pertaining to the tasks and responsibilities of Information Technology.

Duration of the Course:-

Duration: One year part time course.

Eligibility:-

1. Graduate of any discipline (under 10+2+3) pattern of any recognized University.
2. A student who is pursuing any post graduate course of Shivaji University can be admitted to PGDCA course i.e. student may be allowed to do simultaneously two courses.

Structure of the Course:-

PG-DCA Semester- I

Paper No.	Name of the Paper	Total Marks	Theory Workload per Week	Practical Workload per Week
1.1	Fundamentals of Computers	40	2	-
1.2	E-Commerce and HTML	40	3	2
1.3	Visual Programming Part-I	40	3	2
1.4	Programming using 'C'	40	2	1
1.5	RDBMS with Oracle Part-I	40	2	1
	Total	200	12	6

PG-DCA Semester- II

Paper No.	Name of the Paper	Total Marks	Theory Workload per Week	Practical Workload per Week
2.1	Office Automation Tools	40	2	1
2.2	Web Designing with PHP and MySQL	40	3	1
2.3	Visual Programming Part-II	40	3	1
2.4	Advanced Programming using 'C'	40	2	1
2.5	RDBMS with Oracle Part-II	40	2	1
2.6	Practical	100	--	1
2.7	Project Work	100	--	--
	Total	400	12	6

Standard of Passing :-

To pass the examination in Post Graduate Diploma in Computer Applications, a candidate must obtain a minimum of 40% of marks in each head of passing and also in Aggregate. Subject to the condition of clearing in all heads a candidate will be awarded class of distinction.

If aggregate percentage is :-

Greater than or equal to 40% but less than 50% - Pass Class.

Greater than or equal to 50% but less than 60% - Second Class.

Greater than or equal to 60% but less than 70% - First Class.

Greater than or equal to 70% - First Class with Distinction.

Nature of Examination –

University theory examination shall be 2 hours duration for 40 marks paper. The nature of theory question paper will be as follows.

Instructions: 1. Solve any Five questions.

2. Figures to right indicate full marks.

Q. 1 Attempt any two from the following. 8 Marks.

a) Short answer type question.

b) Short answer type question.

c) Short answer type question.

Q. 2 Long answer type question. 8 Marks.

Q. 3 Long answer type question. 8 Marks.

Q. 4 Long answer type question. 8 Marks.

Q. 5 Long answer type question. 8 Marks.

Q. 6 Long answer type question. 8 Marks.

Q. 7 Attempt any two from the following. 8 Marks.

a) Short answer type question.

b) Short answer type question.

c) Short answer type question.

Internal Marks

For the internal marks of theory paper conduct 10 marks objective type test with respective paper individually by subject teacher at the end of each semester.

PG-DCA Semester - I

Paper - 1.1: Fundamentals of Computers

UNIT-I Introduction to computers-

(10)

Definition of Computer system, characteristics and limitations, Evolution of computers, Computer generations, Basic Computer organization(Block diagram with explanation of each unit), classification- micro, mini, mainframe, super, Types-Analog, Digital, Hybrid, applications of computers.

UNIT-II Input and output devices-

(10)

Concept of hardware, software, Types of software- application (Unique, standard), System, Input devices- Keyboard, mouse, joystick, scanner, MICR, OMR, OCR. Output Devices- Monitor, Printers (Impact and non impact), plotter- Flat-bed and drum, Selection of printer and paper for output depending upon user requirements.

UNIT-III Computer Memory and languages-

(10)

Memory- concept, primary memory – RAM-SRAM, DRAM, ROM- PROM, EPROM,EEPROM, cache memory, Secondary memory- floppy disk, hard disk, CD-ROM, magnetic drum and tapes, Pen drive. Computer languages- need, Types High-level, low- level, assembly level, their advantages and disadvantages, Concepts of - Interpreter, Compiler and Assembler

UNIT-IV Introduction to Operating System-

(10)

Operating system- definition, functions, Types –Single user single task, single user multi task, multiuser, examples-DOS, Windows, Linux, Unix. Working with Windows OS- start menu, control panel, Standard icons- my computer, recycle bin, network places etc. Windows accessories- paint brush, notepad, word pad, calculator, using Windows Explorer program.

Reference Books-

1. Computer Today- S. Basndara
2. Computer Fundamentals- P. K. Sinha
3. Operating System – Godbole
4. Computer Fundamentals- V. Rajaraman

PG-DCA Semester - I
Paper- 1.2: E-Commerce and HTML

UNIT-I Introduction To E-Commerce- (10)

E-Commerce- Meaning, objective, challenges and opportunities, basic models of Ecommerce – Business to business(B2B), business to customer(B2C), customer to business(C2B), Electronic Data Interchange: Concept of EDI, requirements, benefits, components of EDI and its applications.

UNIT-II Electronic payment system and e-security- (10)

Overview of electronic payment technology- prepaid, postpaid, Instant paid payment system, electronic or digital cash, electronic checks, online credit card-based systems, Security issues, security threats, security breach, access control, firewall and proxy services, digital signature, electronic document

UNIT-III Introduction To Internet- (10)

Concept of Internet, Benefits of internet, Concept of –ISP, Browsers, Web Page, URL, FTP, HTTP, E-Mail-Concept, Creating account, Sending mail, Attachments, Introduction to World Wide Web

UNIT-IV Introduction to HTML- (10)

Advantages and disadvantages of HTML, Essential tags, Heading and formatting tags, anchor tag, table tag, List tags, Introduction to frames-Frameset and Frame tag.

Reference Books-

1. E-Commerce By C.S.V Murthy, Himalaya Publication
2. E- commerce Fundamentals and applications by Henry Chan, Raymond Lee, Tharan Dillon and Elizabeth Chang.
3. E-Commerce by S. Jaiswal – Galgotia Pub.
4. Web Publishing by Monica D’Souza(BPB)

Practical Experiments

1. Opening new accounts on internet
2. Searching using various search engines
3. Composing and sending e-mails
4. Attaching files to e-mails, forwarding e-mails.
5. Simple HTML programs using essential tags.
6. Heading and formatting HTML pages.
7. Use of Anchor tag
8. Use of List tags
9. Use of Table tags
10. Creation of web pages using frames and frameset

PG-DCA Semester - I
Paper- 1.3: Visual Programming Part-I

UNIT-I .NET Framework- (10)

Event Driven Programming, .NET as better Programming Platform, Introduction to framework, .NET Architecture, CLR, CTS, Just-In-Time Compiler, MSIL, .NET Framework class library.

UNIT-II Introduction to Visual Basic.NET- (10)

Data types, Operators-arithmetic, relational, logical, bitwise, Branching statements-if – Then Statement(s), Select case Statement, Looping statements-For–Next, While---End While, Do-----loop while, Do-----loop until, Unconditional statement: Exit statement, and continue statement.

UNIT-III ActiveX controls- (10)

Label Control, TextBox Control, Button Control, ComboBox Control, ListBox Control, CheckBox Control, RadioButton, GroupBox Control, PictureBox, Timer Controls, Date Time Picker, Mouse and key board events.

UNIT-IV Arrays and Strings - (10)

Arrays- Concept, Dim, Redim, Preserve, types- one dimensional, two dimensional, jagged array, control array, collections, String handling functions.

Reference Books:

1. VB.NET Complete Reference-Tata MacGraw Hill
2. Visual Basic.NET Black Book – Steven Holzner
3. Visual Basic.NET Programming Bible – Bill Evje

Practical Experiments:-

1. Basic study of Visual Studio.NET IDE.
2. Compiling Visual Basic.NET Program.
3. Control Structures: Conditional, Branching and Looping.
4. Based on simple console applications.
5. Creating Forms using various Basic controls.
6. Simple console programs on Arrays- one dimensional, two dimensional and jagged array.
7. Simple application using string handling functions

PG-DCA Semester - I
Paper- 1.4: Programming using 'C'

UNIT-I Problem solving - (8)

Algorithm- concept, characteristics, steps to write algorithm, examples.

Flow chart- Concept, symbols used for flow charting, examples

UNIT-II Basics of 'C' programming- (12)

Importance of 'C' language, Basic structure of 'C' program, compiling and running 'C' program, Character set, key words and identifiers, constants, variables, data types, declaration of variables and assign values, symbolic constant, operators and expressions.

input-output operations: Reading and writing characters- getchar(), putchar() Formatted input output- scanf(), printf()

UNIT-III Control statements- (10)

Branching statements- if, if---Else, nested if--- else, if ladder, switch--- case statement, Looping statements – while, do while, for, Breaking control statements- break, continue and goto statement.

UNIT-IV Array and strings (10)

Definition, One and two dimensional array, declaration and initializing one and two dimensional array, character strings handling, Reading and writing strings- gets(), puts(), String handling functions strcpy(), strlen(), strcat(), strcmp()

Reference Books-

1. Programming in ANSI C - E. Balagurusamy
2. Programming in C – Schuam outline Series
3. Let Us C – Yashwant Kanetkar
4. Introduction to Programming Using C- A. J Pawar, R. A. Lad, S. S. Shinde, D. R. Patil (Wiley-Dreamtech)

Practical Experiments:-

1. Writing the algorithms and developing flowcharts
2. Simple programs (Using scanf(), printf(), Use of various format specifiers and non graphic characters for formatted outputs).
3. Programs demonstrating conditional branching (Using if structures, switch)
4. Programs on loops (while, do while, for)
5. Programs based on breaking control statements and unconditional branching.(Use of break, continue and goto)
6. Programs based on one dimensional (Searching and sorting)
7. Programs on string handling (Use of gets(), puts(), strlen(), strcpy(), strcat(), strcmp())
8. Demonstration of declaration, initializing and use of pointers.
9. Programs on Pointer to array
10. Programs to demonstrate use of Two dimensional arrays (Matrix handling).

PG-DCA Semester - I
Paper- 1.5: RDBMS with Oracle Part- I

UNIT-I Introduction to RDBMS (10)

Data, Database, Database Management System, RDBMS, Concept of Data Models- Network, Hierarchical, Relational, Concept of - relation, attribute, domain, tuple, entities, DBA and Responsibilities of DBA.

UNIT-II Structured Query Language (SQL)- (10)

Features of SQL, data types- fixed length, variable length, examples, Types of SQL commands- DDL, DML, DCL, TCL., Data Constraints : Primary Key, Foreign key, Unique, Null, Check, Default.

UNIT-III Operators and functions- (10)

Select statement with where, group by, order by clause, SQL Operators: Logical, Relational, Special operators - In, Between, Like, Dual table concept, SQL functions: Arithmetic, Conversion, Date and time, Aggregate Functions.

UNIT-IV- Queries and Joins- (10)

Virtual table creation (View), Indexes, Sequence, Sub Queries and Join - Sub queries and Nesting Sub queries, Join: Equi join, Simple, Two table Join, Outer join, Self join

Reference Books-

1. Database System Concepts- Korth & Silberschartz.
2. SQL – PL/SQL By Ivan Bayross BPB Publications
3. Structure Query Language- By Osborne.

Practical Experiments:

1. Demonstration and Use of simple SQL commands.
2. Create table and add record using SQL.
3. Alter Table for given Clauses
4. Use of different Function.
5. Use various operator, clause and constraints while creating table and manipulating data in the table.
6. Create emp table and dept table with appropriate field and apply following integrity constraint on appropriate fields.
 1. Primary key.
 2. Foreign key.
 3. not null
 4. default
 5. check
7. Create student table with appropriate field and do following things.
 1. Insert 10 appropriate records.
 2. Update record
 3. Delete records.
 4. Alter table
 5. Drop table.
8. Use any tables and do select operations using Operators, clauses and aggregate function.

PG-DCA Semester - II
Paper- 2.1: Office Automation Tools

UNIT-I Word processor- (10)

Definition of Word Processor, features of MS- WORD, Menus-File, Edit, Home, Insert Page Layout, Mail-Merge, Tables, Document Formatting and Printing, Shortcut keys.

UNIT-II Spread Sheets- (10)

Definition of Spreadsheet, features of MS-Excel, Menus - File, Edit, Home, Insert, Functions- Statistical, Mathematical and String functions, Graphs - Creation of various types of Graphs.

UNIT-III Presentations- (10)

Definition of Presentations features of MS- PowerPoint, Menus-File, Edit, etc, Inserting slides, animation, slide transitions, inserting pictures, videos and audios, Setting of Slide Show.

UNIT-IV Data base processing- (10)

Definition of Field, Record, Database, Data Base Management System Concept(Primary and Foreign key), MS-Access Data types, Creating tables, Handling database-using queries, creating forms and reports.

Reference Books:

Practical Experiments:

1. Managing files and folders using windows Explorer
2. Managing desk top using control Panel and other utilities
3. Ms-word Creating letter, table, formatting documents
4. Mail-merge
5. Creating and saving worksheets
6. Use of different formula and functions
7. Creating worksheets and demonstrating various graphs
8. Creation of PowerPoint presentations
9. Use of Animation, Slide Transitions,
10. Inserting Videos and audios
11. Database creation on MS-Access
12. Table Creation, fields and records with different data types
13. Handling of database using queries
14. Creation of form and reports

PG-DCA Semester - II

Paper 2.2: Web Designing with PHP and MySQL

Unit-1: Fundamental of PHP (10)

Concept of PHP, Constants, variables declaration, Comments, Data types, Operators, Command line arguments

Unit-2: Branching and Looping statements (10)

Conditional statements, If-else, Switch, Ternary operators, looping statements- For loop, While loop, Do-while loop

Unit 3: Arrays in PHP (8)

Creating arrays, Inserting elements in arrays, Retrieving elements from array, Displaying arrays, Sorting array elements

Unit-4: Developing Applications in PHP using MySQL (12)

Introduction to Databases, Creating database, Creating tables, Inserting values in table, Displaying, changing, searching, deleting records from the table, Developing applications in PHP- Arithmetic operators through GUI, Web calculator, SQL queries- insert, select, delete, update, where, order by.

Reference Books:

1. PHP and MySQL By Andrea Tarr (Dreamtech Publications)
2. PHP 5.1 for Beginners – By Ivan Bayross and Sharanam Shah (Shroff Publishers & Distributors)
3. Beginning PHP 6, Apache, MySQL Web Development- By Timothy Boronczyk, Elizabeth Naramore, Jason Gerner, Yann Le Scouarnec, Jeremy Stolz, Michael K. Glass

Practical Experiments:

I) Echo PHP Function, PHP Variables, If and Switch Statements

1. Create a web page evenodd.php into root directory of your local web server. Here, write a script for finding out whether it is an odd number or even number and display on the screen.
2. Create a web page for displaying message based on current time: Good Morning, Good Afternoon, Good Evening.
3. Accept user name and password from user and navigate to home page with suitable message.

II) PHP Operators and branching statements:

1. Write a PHP Script to declare 2 variables with specific numeric value of your choice and Perform the following operations: Addition, Subtraction, Multiplication and Division. Also display the Result on the screen.
2. Write a PHP Script to declare 2 variables with specific numeric value of your choice and find out the greater number between the two numbers.

IV) Loops

Simple programs using Loops.

PG-DCA Semester - II
Paper 2.3: Visual Programming Part-II

UNIT – I Exception Handling (10)

Exception Handling, Importance of Exception Handling, Exception Handling in VB.NET, User defined exception.

UNIT-II Windows Applications in VB.NET (10)

Windows Forms, Properties: name, IsMDIcontainer, size, window state, location, autosize, Adding controls to a form, Setting properties at run time, Working with input box and message box, Creating MDI form

UNIT-III Database connectivity in VB .NET (10)

Database: Connections, command, Data adapters, and datasets, name spaces, Connection to database using MS-Access, SQL Server, Data binding with controls like Text Boxes, List Boxes, Data grid etc., Data form wizard, Data validation

UNIT-IV Using Crystal Report (10)

Connection to Database, Table, Queries, Create and Modify Report, Formatting Fields and inserting Header, Footer, Details, Working with formula fields, Parameter fields, Group, Working with Multiple Tables

Reference Books:

1. VB.NET Complete Reference-Tata Mc Graw Hill
2. Visual Basic.NET Black Book – Steven Holzner
3. Visual Basic.NET Programming Bible – Bill Evje
4. Pro ADO.NET with VB.NET – Sahil Mailk and Paul Dickinson
5. Mastering Crystal Report - BPB Publication
6. Crystal Report – The Complete Reference: - Tata McGraw Hill

Practical Experiments:

1. Programs on Exception handling
2. Windows applications using Input and Message box
3. Creation of MDI form application
4. Simple Applications using database
5. Demonstrate use of data grid.
6. Crystal Report creation on Database

PG-DCA Semester - II
Paper- 2. 4 : Advanced Programming using 'C'

UNIT-I Functions-

(10)

Definition, declaration, Local and global variables, User defined functions, Categories of functions, Storage classes, Call by value and Call by reference

UNIT-II Structures and Union

(10)

Definition and declaration, Array of structures, Array within Structures, Structure within structure, Definition of Union and declaration, Difference between structure and Union.

UNIT – III Pointers

(8)

Definition and declaration, Operations on pointer, Pointer initialization, Pointer And Array.

UNIT -IV File Handling

(12)

Concept of File, Opening and closing files, File opening mode- read, write, append, Character and integer handling functions- getc(), putc(), getw(), putw(),Formatted input and output functions- fscanf(), fread(), fprintf(), fwrite().

Reference Books-

1. Programming in ANSI C - E. Balagurusamy
2. Programming in C – Schuam outline Series
3. Let Us C – Yashwant Kanetkar
4. Introduction to Programming Using C- A. J Pawar, R. A. Lad, S. S. Shinde, D. R. Patil (Wiley-Dreamtech)

Practical Experiments:

1. Programs based on array
2. Programs based on string handling
3. Programs based on user defined functions
4. Programs based on pointers
5. Programs based on Structure
6. Programs based on Unions
7. Programs based on file handling.

PG-DCA Semester - II
Paper- 2.5: RDBMS with Oracle Part-II

Unit-I Introduction To PL-SQL-

(10)

Features of PL-SQL, Block concept and types, structure of PL-SQL block, Writing and executing PL-SQL block, Comparison between SQL & PL-SQL, Data types in PL-SQL, IF-ELSE Construct, Loop Statement- Simple loop , For Loop, While Loop.

Unit-II Control structures-

(10)

Branching statements- if---then ---end if, if --then--else--end if, if-- then elsif--end if, switch case

Iterative statements- simple loop, while loop, for loop

Unconditional branching statement- goto, continue, break statements.

Unit-III Working with Cursors-

(10)

Cursor- concept, types- implicit, explicit, steps to create explicit cursors, Attributes of implicit and explicit cursors.

Unit-IV Triggers-

(10)

Triggers- Concept, syntax, types- row-level, statement-level

Reference Books-

1. Structured Query Language - Osborne.
2. Structured Query Language - Martin Gruber.
3. SQL,PL/SQL Programming language of ORACLE- Ivan Bayross

Practical Experiments:

1. Use any tables and do sub query and Join operations.
2. Simple programs of PL/SQL using IF structures
3. Simple programs of PL/SQL using loop structures
4. Illustrative Examples on cursors.
5. Illustrative Examples on Triggers

PG-DCA Semester - II
Paper- 2.6: Practical

University will appoint a panel consisting of two external and one internal examiner for conducting practical examination as well as viva voce on project report. District wise panel may be appointed to carry out practical and viva voce simultaneously. Practical examination questions will be set by external and internal examiners at the time of practical examination.

The duration of the practical examination should be 2 hrs. The practical examination question paper will be set by considering following.

Que. No.	Paper No.	Title of the Paper	Marks
1	1. 1	Fundamentals of Computers	20
	2. 1	Office Automation Tools	
2	1. 2	E-Commerce and HTML	20
	2. 2	Web Designing with PHP and MySQL	
3	1. 3	Visual Programming Part-I	20
	2. 3	Visual Programming Part-II	
4	1. 4	Programming using 'C'	20
	2. 4	Advanced Programming using 'C'	
5	1. 5	RDBMS with Oracle Part-I	20
	2. 5	RDBMS with Oracle Part-II	
Total Marks			100

PG-DCA Semester - II
Paper- 2.7: Project Work

Project Work :-

The project report can be prepared by group of 2 students. The project report will be assessed by internal guide for 50 marks and there will be Viva for 50 marks conducted by two external panel examiners appointed by University.

Equivalence in accordance with titles and contents of papers (For Revised Syllabus)

Paper No.	Title of the Old Paper	Paper No.	Title of the New Paper
1.	Modern Operating Environments and MS-Office	1. 1	Fundamentals of Computers
		2. 1	Office Automation Tools
2.	E-Commerce and Web Design	1. 2	E-Commerce and HTML
		2. 2	Web Designing with PHP and MySQL
3.	Windows Programming with Visual Basic	1. 3	Visual Programming Part-I
		2. 3	Visual Programming Part-II
4.	Software Engineering and Accounting Package	1. 4	Programming using 'C'
		2. 4	Advanced Programming using 'C'
5.	Business Data Processing with Oracle	1. 5	RDBMS with Oracle Part-I
		2. 5	RDBMS with Oracle Part-II
6.	Project Work & Viva voce	2. 6	Practical
		2. 7	Project Work