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SYLLABUS (CBCS)

BCA Semester IV : (FOUR)

WEB DEVELOPMENT USING
PHP

Code No : BCA401

Effective from June 2012

BCA401 – WEB DEVELOPMENT USING PHP

PHP BASICS

(40%)

Introduction to PHP:

PHP configuration in IIS & Apache Web server

PHP Variable: Static & global variable, GET & POST method

PHP Operator: Conditional Structure & Looping Structure,

Array

User Define Function: argument function, default argument, variable function, return function

Variable Length Argument Function: func_num_args, func_get_arg, func_get_args

Variable Function: Gettype, settype, isset, unset, strval, floatval, intval, print_r

String Function: Chr, ord, strtolower, strtoupper, strlen, ltrim, rtrim trim, substr, strcmp, strcmp, stripslashes, strpos, strstr, strpos, str_replace, strrev, echo, print

Math Function: Abs, ceil, floor, round, fmod, min, max, pow, sqrt, rand

Date Function: Date, getdate, setdate, Checkdate, time, mktime

Array Function: Count, list, in_array, current, next, previous, end, each, sort, rsort, asort, arsort, array_merge, array_reverse

Miscellaneous Function: define, constant, include, require, header, die

File handling Function: fopen, fread, fwrite, fclose, file_exists, is_readable, is_writable, fgets, fgetc, file, file_get_contents, file_put_contents, ftell, fseek, rewind, copy, unlink, rename, move_upload_file

PHP COMPONENTS

(40%)

PHP GD Library

PHP Regular expression function

Cookies

Session

Server variable

Database Connectivity with MySQL (Using PhpMyAdmin)

ADVANCED PHP

(20%)

PHP with OOPS: Class, constructor, inheritance, serialize objects

PHP with XML

Text and Reference Books:

- Beginning PHP5
- PHP Bible
- Professional PHP5
- PHP Manual

PATTERN OF QUESTION PAPER

BCA401 – WEB DEVELOPMENT USING PHP

Total Marks : 60 , Duration : TWO Hours

Passing standard: 24 Marks

*** There are four questions.**

*** Each question carries equal marks (i.e. 15)**

Total Marks: 60

Q.1 (A) Answer any five (two or three line answers, 5 out of 7) (5 * 2marks)	[10]
Q.1 (B) Short Note (1* 5marks)	[5]
Q.2. (A) Attempt any three (out of 5) (3 * 3marks)	[9]
Q.2 (B) Descriptive question (1 out of 2) (1* 6marks)	[6]
Q.3 (A) Create a webpage (1* 6marks)	[6]
Q.3 (B) Questions on php functions (3 out of 4) (3 * 3marks)	[9]
Q.4 (A) Descriptive question (1 out of 2) (1 * 6marks)	[6]
Q.4 (B) Attempt any three (3 out of 4) (3* 3marks)	[9]

BCA402 – SYSTEM ANALYSIS AND DESIGN

PART-I

(25%)

INTRODUCTION TO SYSTEM ANALYSES AND DESIGN

Business Process Modeling, Information System Components, Types of Business Information Systems, Organizational Structure, System Development Techniques and Tools, Overview of Systems development Methodologies, The System Development Life Cycle, Information Technology Department, The System Analyst Position.

PRELIMINARY INVESTIGATION

The importance of strategic planning, A framework for system development, Information System Projects, Evaluation of system requests, Preliminary investigation overview, Steps in preliminary investigation

REQUIREMENTS MODELING

System analysis phase overview, System development methods, Modeling tools and techniques, system requirements checklist, Scalability and total cost of ownership, Fact finding, Interviews, Other fact finding techniques, Documentation, Preview of data, Process and object modeling

PART-II

(30%)

DATA AND PROCESS MODELING

Data flow diagrams, Data dictionary, Process Description tools, Logical vs. physical models

OBJECT MODELING

Object oriented terms and concepts, Relationships among objects and classes, Object modeling with the unified modeling language

TRANSITION TO SYSTEM DESIGN

Evaluating software alternatives, Steps in evaluating and purchasing software packages, Completion of system analysis, Transition to system design, Prototyping, Overview of system design, Designing and using codes

PART-III

(15%)

USER INTERFACE, INPUT AND OUTPUT DESIGN

User interface design, Input design, Output design issues, Printed output

DATA DESIGN

Data design concepts, Data design terminology, Data relationships, Normalization, Steps in database design, Database models, Data storage, Data control

PART-IV

(30%)

APPLICATION ARCHITECTURE

Design checklist, Planning the architecture, Client/server architecture, Impact of the internet, Processing methods, Network models, Modeling application architecture, System management and support, system design completion

APPLICATION DEVELOPMENT

Quality assurance, Overview of application development, Structured application development, Other application development tools, Coding, Object-oriented application development, Testing the application, Documentation, Management approval

Text Books:

- System Analyses And Design, 4th Edition, By Shelly/Cashman/Rosenblatt (Thomson)

Reference Books:

- System Analyses and Design, 3rd Edition, By Elias Awad (Galgotia Publications)

PATTERN OF QUESTION PAPER

BCA402 – SYSTEM ANALYSIS AND DESIGN

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Q.1 (B) Short Note (1* 5marks)	[5]
Q.2. (A) Attempt any two (out of 5) (2 * 2.5marks)	[5]
Q.2 (B) Data Flow Diagram (1* 10marks)	[10]
Q.3 (A) Answer any two (2 out of 3) (2 * 4marks)	[8]
Q.3 (B) Answer any two (2 out of 3) (2 * 3.5marks)	[7]
Q.4 (A) Descriptive question (1 out of 2) (1 * 6marks)	[6]
Q.4 (B) Attempt any three (3 out of 5) (3* 3marks)	[9]

BCA403 – ADVANCED WINDOWS PROGRAMMING

INTRODUCTION TO VB.NET (10%)

Overview of a .net framework: versioning and deployment, Memory management, Cross-Language integration, Metadata, IL disassembler, The IDE components like IDE menu, Toolbox, Solution explorer, Property window, Output window, Task list window. Namespace and the imports keyword, the AssemblyInfo.vb file

BASICS OF VB.NET (10%)

Variables (declaration, types, conversion), Constants, Arrays, Variables as Objects, Operators, Flow control statements, Modular coding (subroutines, functions), Arguments, etc. appearance of forms, Loading and showing forms, Designing menus, Building dynamic forms at runtime, MDI application

WINDOWS CONTROLS (30%)

TextBox control, ListBox control, CheckedListBox, ComboBox, Controls, ScrollBar and TrackBar Control, Common Dialog control, Color Dialog control, Open and Save as Dialog control, Print Dialog Box, RichTextBox control, Listview, TreeView control

OO FEATURES (10%)

Building class, encapsulation and abstraction, Inheritance, Polymorphism

BASIC FRAMEWORK CLASSES (15%)

Sorting and searching in array, Arraylist collection, Hash Table, SortedList class, Char class, String class, DateTime class, Time Span class, Directory class, File class, DirectoryInfo class, FileInfo class

DATABASE APPLICATION USING ADO.NET: (20%)

Architecture of ADO.NET, Creating a DataSet, Data binding, DataAdapter object, Command object and DataReader object

Error Handling and Debugging (5%)

Types of Errors, Exceptions and Structured Exception Handling, Debugging

Text Books:

- Mastering Visual Basic .NET by E Petroustos, BPB

Reference Books:

- Visual Basic .NET Programming by Peter Aitken's, Dreamtech Press

PATTERN OF QUESTION PAPER

BCA403 – ADVANCED WINDOWS PROGRAMMING

Total Marks : 60 , Duration : TWO Hours

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*** There are four questions.**

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Total Marks: 60

Q.1 (A) Answer any five (two or three line answers, 5 out of 7) (5 * 2marks)	[10]
Q.1 (B) Short Note (2 out of 3) (2* 2.5marks)	[5]
Q.2. (A) Attempt any one (out of 2) (1 * 6marks)	[6]
Q.2 (B) Answer any three (out of 5) (3* 3marks)	[9]
Q.3 (A) Answer any two (2 out of 3) (2 * 4marks)	[8]
Q.3 (B) Answer any two (2 out of 3) (2 * 3.5marks)	[7]
Q.4 Create .NET application program (2 out of 4) (2 * 7.5marks)	[15]

BCA404 – OPERATING SYSTEM AND UNIX

PART-I-----(70%)

INTRODUCTION: (5%)

Operating system software, Types of operating system

PROCESS MANAGEMENT AND PROCESS SYNCHRONIZATION: (20%)

Process scheduling policies, Process scheduler, Scheduling algorithms(FCFS, SJN, Priority, SRT, RR), Parallel Processing, Process Synchronization, Test and set, WAIT and SIGNAL, Semaphores, Process Cooperation, Producer and Consumers, Readers and Writers

DEADLOCK: (8%)

Deadlocks, Conditions for deadlock, Deadlock modeling, Strategies for handling deadlocks, Starvation (The dining philosopher problem)

MEMORY MANAGEMENT: (15%)

Single-user contiguous scheme, Fixed partition, Dynamic partition , Allocation and deallocation methods, Relocatable dynamic partition, Paged memory allocation, Demand paging, Page replacement algorithms (FIFO, LRU), Paging, Segmentation, Virtual Memory

FILE MANAGEMENT (10%)

File manager, Interacting with file manager, Physical storage allocation, Data compression, Access methods, Access controls

DEVICE MANAGEMENT: (10%)

System Devices, Direct access storage devices, Component of the I/O subsystem, Communication among devices, management of I/O requests, Device handler seek strategies

PART-II-----(30%)

LINUX/UNIX OPERATING SYSTEM

INTRODUCTION:

The UNIX operating system, LINUX and GNU, The UNIX architecture, Features of UNIX

UNDERSTANDING THE UNIX COMMAND:

Locating commands, Internal and external commands, Command structure, Flexibility of usage.

GENERAL PURPOSE UTILITIES:

man, cal, date, echo, printf, bc, script, passwd, who, uname, tty

THE FILE SYSTEM OF UNIX:

The parent-child relationship, Absolute and relative path names, The HOME variable, file attributes, compressing and archiving files, ls, pwd, mkdir, cd, rmdir, cat, cp, rm, mv, more, file, wc, od, cpm, comm., diff, gzip, gunzip, tar, zip and unzip, chmod, ln, unmask, find

THE SHELL

Working with Bourne shell and Bash shell Wild-card, Redirection, Pipes and tee

FILTERS

pr, head, tail, cut, paste, grep, egrep, sort, uniq, tr

Text Books:

- Understanding Operating Systems Ida M. Flynn/Ann Mciver Mchoes, Thomson Learning
- UNIX Concepts and applications, Sumitabha Das, 3rd Edition TMH

Reference Books:

- Operating System Concepts, Silberschatz and Galvin, Addison Wesley

PATTERN OF QUESTION PAPER

BCA404 – OPERATING SYSTEM AND UNIX

Total Marks : 60 , Duration : TWO Hours

Passing standard: 24 Marks

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Total Marks: 60

Q.1 (A) Answer any five (two or three line answers, 5 out of 7) (5 * 2marks)	[10]
Q.1 (B) Short Note (1 out of 2) (1* 5marks)	[5]
Q.2. (A) Attempt any one (out of 2) (1 * 6marks)	[6]
Q.2 (B) Answer any three (out of 5) (3* 3marks)	[9]
Q.3 (A) Explain any four unix commands (4 out of 6) (4 * 2marks)	[8]
Q.3 (B) Answer any two (2 out of 3) (2 * 3.5marks)	[7]
Q.4. (A) Question based on UNIX (1 out of 2) (1* 5marks)	[5]
Q.4. (B) Answer any two (out of 3) (2* 5marks)	[10]

BCA405L – PRACTICAL LAB

Practical will be based on BCA401, BCA403 and BCA404.

PATTERN OF PRACTICAL EXAMINATION

Total Marks : 100 , Duration : THREE Hours

Passing standard: 40 Marks

BCA305L – PRACTICAL LAB

Total Marks: 100

Q.1 Practical Question(s) From BCA401	[25]
Q.2 Practical Question(s) From BCA403	[25]
Q.3 Practical Question(s) From BCA404	[25]
Viva-Voce	[25]