

**Gondwana University, Gadchiroli**



**Choice Based Credit System (CBCS)  
Syllabus  
Of**

**Master of Computer  
Management(M.C.M)**  
(Two Year Post Graduate Course)

Prepared by  
**Dr. S. B. Kishor**

**2017-2018**

- **Lab\*:**

<b>MCM II (Semester III)</b>			
<b>Subject</b>	<b>Paper Code</b>	<b>Paper Name</b>	<b>Max. Marks</b>
<b>Core</b>	<b>PMCMT301</b>	<b>Principle of Technique Management</b>	<b>80</b>
	<b>PMCMT302</b>	<b>Front End Development with Visual Basic</b>	<b>80</b>
<b>Discipline Specific Elective (DSE)</b>	<b>PMCMT303.1 PMCMT303.2</b>	<u><b>Elective</b></u> <b>1. Oracle (PL/SQL Prog.) 2. Web Technologies</b>	<b>80</b>
<b>Skill Based Elective (SBE)</b>	<b>PMCMT304.1 PMCMT304.2</b>	<u><b>Elective</b></u> <b>1. Research Methodology 2. Enterprise Resource Planning</b>	<b>80</b>
<b>Core Lab*</b>	<b>PMCMP305</b>	<b>Lab on PMCMT 302</b>	<b>100</b>
<b>DSE based Lab</b>	<b>PMCMP306</b>	<b>Lab on PMCMT303.1 or PMCMT303.2</b>	<b>100</b>
<b>Ability Enhancement</b>	<b>PMCMP307</b>	<b>Seminar</b>	<b>25</b>

1)Not more than two students should be allowed to do practical on one machine.

2)Wherever possible Practical's should be perform using Open Source Software.

- **Batch:** Each batch can be of Maximum 12 students.

## MCM II (Semester IV)

Subject	Paper Code	Paper Name	Max. Marks
Core	PMCMT401	E-Commerce and Web Designing	80
	PMCMT402	Java Concepts	80
Discipline Specific Elective (DSE)	PMCMT403.1 PMCMT403.2	<u>Elective</u> 1. VB.NET  2. Android Application Development	80

<b>Skill Based (SB)</b>	<b>PMCMT404.1</b>	<b>Project</b>	<b>80</b>
<b>Core Lab*</b>	<b>PMCMP405</b>	<b>Lab on PMCMT401 &amp; PMCMT 402</b>	<b>100</b>
<b>DSE based Lab</b>	<b>PMCMP406</b>	<b>Lab on PMCMT403.1 or PMCMT403.2</b>	<b>100</b>
<b>Ability Enhancement</b>	<b>PMCMP307</b>	<b>Seminar</b>	<b>25</b>

**M.C.M - II (SEMESTER – III)**

**PMCMT301**

**PAPER –I: PRINCIPLE OF TECHNIQUE MANAGEMENT**

**[Max. Marks: 80**

**UNIT - I: Management and Organization**

Concept, Process, Profession, Science or Art, Levels And Decisions Made, Planning Concept, Nature, Steps, And Characteristics of Good Plan.

Organization: Concept, Importance, Types of Organization, Authority and Responsibility, Delegation, Span of Control, Centralization vs. Decentralization.

Coordination: Concept Importance, Need, Principles, Methods of Effective Coordination.

**UNIT - II: Marketing Management**

Meaning, Nature, Scope of Marketing Process, 7Ps of Marketing;

**Marketing Research** – Meaning Scope, Methodology.

**Marketing Plan** – Formulation, Strategic Marketing Process – GE, BCG, SBU Etc. Models.

**UNIT - III: Human Resource Management**

Nature, Concept, Significance Of Human Factor, Human Resource Planning –Recruitment And Selection, Job Evaluation: Concept Objectives, Importance, Procedures; Merit Ration And Performance Appraisal: Need, Methods; Record Keeping: Service Records, Attendance, Absenteeism, And Time Keeping HRA.

#### **UNIT - IV: Business Communication**

Process, Objectives, Significance, Types, and Barriersto Effective Communication, Listening and Interpersonal Skills, and Negotiations: Bargaining. Compromise, Lose-Lose and Win-Win Orientation, Elements of Negotiation, Making Presentations, Writing Letter.

**Report Writing:** Elements of Report, Framework, Structure of Report, Types; Steps in Writing Report.

#### **Books:**

- 1) V.P.Michel ,”Principles of Management”, PHI
- 2) Chandra Bose ,”Principles of Management and Administration”, PHI, ISBN: 978-81-203-1929-5
- 3) P.C.Tripathy, P N Reddy, “Principles of Management” ,TMH, ISBN: 9780070220881

#### **References:**

- 1) Mohan, “Development of Communication Skills”, McMillan, ISBN: 9780230639089.
- 2) C.B.Memoria, “Marketing Management”, Kitab Mahal, ISBN : 81-225-0138-9
- 3) Asha Kaul ,”Effective Business Communication”, PHI, ISBN: 978-81-203-1709-3

### **M.C.M - II (SEMESTER –III)**

#### **PMCMT302**

#### **PAPER –II: FRONT END DEVELOPMENT WITH VISUAL BASIC**

**[Max. Marks: 80]**

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#### **UNIT-I : Introduction to Visual Basic**

Integrated Development Environment (IDE) – Features, Event driven programming,

**Programming Constructs:** Data Types, Variable, Constant, Operator, System defined Function, Dialog Box and Creating User Interface

**Control flow statement:** if-then, select-case, for-next, while wend, do-loop statement. With..End With, DoEvent statement

#### **UNIT-II: VB Control and Procedure**

**Visual Basic Control:** Form, Label, Textbox, Frame, Checkbox, Option Button, ListBox, ComboBox, Timer, Scrollbar, Picture, Image, File Controls, **ActiveX Control:** Tab Strip, Status Bar, Slider, Month View, DTPicker, Rich Text Box, Common Dialog

**Procedure:** Types of Procedure, Subroutine, Function, Module

### **UNIT-III: Menu, Interface and Array**

Menu Editor, Creating Menus, Utility features provided by menu editor, modifying menu at run time, pop-up menu, Creating Toolbar using Image List

**Interface:** SDI, MDI,

**Array:** One Dimensional Array, Built-in Array function, For..Each Loop, Arrays Types

### **UNIT-IV: ActiveX Data Object**

Use of ADO Object, ADO Architecture, Connecting ADODC to Bound Control, ADO Object Methods for Editing, Updating and Searching

Data Environment, Data Report,

**Debugging and Error Handling:** Types of Error, Debugging, Handling Run Time Error.

### **Books:**

- 1) Evangelos Petroustos, "Mastering Visual Basic 6", BPB, 2005 ISBN-81-7635-269-1.
- 2) Moel Jerke, "Complete Reference Visual Basic 6", TMH, 2004, ISBN -0-07-463666-9.
- 3) Steve Brown, "Visual Basic 6.0 Complete", Complete Idiot's Books, ISBN 978-0789718129

### **References:**

- 1) Peter Norton's, "Visual Basic 6.0", SAMS tec-Media, 2006, ISBN-81-7635-150-4
- 2) Michael Halvorson, "Learn Visual Basic 6.0 Now", PHI, ISBN 0-7356-0729-X
- 3) Michael Vine, "Visual Basic Programming – For Absolute Beginner", PHI, ISBN: 0761535535
- 4) Paul Sheriff, "Teaches Visual Basic 6", PHI 978-8120315624

## **M.C.M - II (SEMESTER – III)**

### **PMCMT303.1**

### **ELECTIVE Paper –I: ORACLE (PL/SQL PROGRAMMING)**

**[Max. Marks: 80]**

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#### **UNIT – I: Introduction**

RDBMS Concept, Introduction to Oracle, SQL Tools, Oracle as multi-User System, SQL, SQL \*Plus, Getting Started with SQL, Writing SQL Commands, Components of SQL, Data Types, Database Users, Database Objects, Elements of SQL

#### **UNIT – II: SQL Languages**

**Data Definition Language :** Creation of Table, Viewing table Structure, Data Integrity through Constraints, Altering Table, Dropping Table, Truncating Table

**Data Retrieval:** Select Command, SQL Operators, Text Search, Group Queries, Order By Clause

**DML Operation:** Insert, Update and Delete

**Transaction Control Language:** Commit, Rollback, SavePoint

**Data Control Language:** Grant, Revoke

### **UNIT - III: SQL Function and Database Objects**

**Sql \*functions: Character Function-** ASCII(), CHR(), CONCAT(), LENGTH(), INSTR(),

**Case Manipulation-** INITCAP(), LOWER(), UPPER(), **Numeric Functions-** ABS(), LOG(), ROUND(), SORT(), POWER(), MOD(), **Date Function-** SYSDATE(), NEXT\_DAY(),

LAST\_DAY(), ADD\_MONTHS(), MONTHS\_BETWEEN(), **Conversion Function-** TO\_CHAR(), TO\_DATE(), TO\_NUMBER(), **Group Functions-** AVG(), COUNT(), SUM(), MAX(), MIN()

Database Objects: Views, Sequence, Synonym

Join, Set Operator and Subquery

### **UNIT - IV: PL/SQL**

Basic Elements of Programming, Select..Into Statement, Exception Handling: Predefined Exception, When Other Exception, Cursor: Explicit Cursor, Explicit Cursor Attributes, Subprogram and Packages, Trigger

#### **Books :**

- 1) S.B. Kishor, Oracle (SQL/& PL/SQL Programming”, Das Ganu, ISBN 978-81-921757-5-1
- 2) Ivan Bayross, “ Oracle Developer 2000”, BPB, 2006, ISBN : 8/7029-899-7

#### **References :**

- 1) Paul Hipsley, “Developing Client / Server Applications with oracle Developer/2000 TM”, Techmedia, 1997, ISBN – 81-87150-02-X
- 2) Ivan Bayross, “ Commercial Application Development using Oracle Developer 2000 Forms 6i”, BPB, 2003, ISBN : 81-7656-742-6

### **M.C.M - II (SEMESTER –III)**

#### **PMCMT303.2**

### **ELECTIVE Paper –II: WEB TECHNOLOGIES**

**[Max. Marks: 80**

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#### **UNIT – I :Introduction to Core PHP**

Introduction to PHP, Why PHP, Hardware & Software Requirements, Advantages of PHP Why PHP is better alternative, PHP Syntax, Data Types, Variables, Operators, Conditional Statements, Loops; Super Globals, String Manipulation, Working with Array, PHP functions, Working with Forms, MySQL Database MySQL Database - What is Database, Database Models, Tables, Records and Files, SQL Language, MySQL Command-Line

#### **UNIT – II :Advanced PHP Programming Cookies**

What is Cookie? Cookie Syntax, How to Create, Store, Retrieve and Delete Cookie. PHP File Upload – Create an Upload-File Form, Upload Script and Save Uploaded file, putting restrictions on uploads.

PHP File Handling – Opening and Closing of a File, Check End-of-file, Reading a File – Line by Line and Character by Character.

Session – What is Session? Creating, Storing and Destroying Sessions.

Classes & Object – OO Concepts, Define Class, Class Attributes, An Object, Creating an Object, Object Properties & Methods, Object constructors and destructors, Static Method, Class Inheritance, Abstract Class, Implement Inheritance.

### **UNIT – III :Introduction To Python**

Basic Concept, Python Identifiers And Reserved Words, Lines And Indentation, Multi-Line Statements, Comments, Print And Raw\_Input()/Input, Command Line Arguments And Processing, Command Line Arguments, Standard Data Types - Basic, None, Boolean (True & False), Numbers, Python Strings, Data Type Conversion, Python Basic Operators (Arithmetic, Comparison, Assignment, Bitwise Logical), Python Membership Operators (In & Not In), Python Identity Operators (Is & Is Not), Operator Precedence, Control Statements.

### **UNIT – IV :Advanced Python**

Python strings, Concept, Slicing, escape characters, String special operations, String formatting operator, Triple quotes, Raw String, Unicode strings, Built-in String methods. Python Lists - concept, creating and accessing elements, updating & deleting lists, basic list operations. **Python tuples and sets** - Concept (immutable), creating & deleting tuples, accessing values in a tuple, updating tuples, delete tuple elements, basic tuple operations, Indexing, slicing and Matrices, built-in tuple functions. Sets - Concept, operations.

**Python Dictionary** - Concept (mutable), creating and accessing values in a dictionary, updating dictionary, delete dictionary elements, properties of dictionary keys, built-in dictionary functions and methods.

#### **Books:**

1. Larry Ullman, “PHP 6 and MYSQL 5 for Dynamic Web Sites: Visual Quick Pro Guide”, Peachpit Press, ISBN- 978-0321525994

#### **References :**

1. Joseph Joyner, “Python Programming for Beginners”, ISBN 13-9781633830394

## **M.C.M - II (SEMESTER – III)**

### **PMCMT304.1**

### **ELECTIVE PAPER –I: RESEARCH METHODOLOGY**

**[Max. Marks: 80**

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#### **UNIT-I: Introduction to Research Methodology**

Meaning, Objectives, Motivation In Research, Types, Approaches, Importance, Research Methodology, Scientific Research, Process, Criteria For Good Research, Problems Encountered, Defining Research Problem, Research Design: Meaning, Need, Features, Important. Six P of Research, Sampling



## **UNIT-II: Sampling Design**

**Sample Design:** Census and Sample Survey, Implications of a Sample Design, Steps in Sampling Design, Criteria of Selecting of Sampling Procedure, Characteristics of a Good Sample Design, Different Types of Sample Designs, How to Select a Random Sample, Complex Random Sampling Designs.

## **UNIT –III: Methods of Data Collection and Analysis of Data**

**Methods of Data Collection :**Collection of Primary Data, Observation Method, Interview Method, Collection of Data through Questionnaires, Collection of Data through Schedules, Difference between Questionnaires and Schedules, Some other Methods of Data Collection, Collections of Secondary Data, Selection of Appropriate Method for Data Collection, Case Study Method.

**Analysis of Data:** Types of Analysis, Statistics in Research, Measures of Central Tendency, Dispersion.

## **UNIT –IV: Testing Hypotheses and Report Writing**

Introduction of Hypotheses, Basic Concepts Concerning Testing of Hypotheses, Procedure for Hypotheses Testing, Flow Diagram for Hypotheses Testing, Measuring Power of a Hypothesis Test, Test of Hypotheses , Important Parametric Tests, Hypothesis Testing Means.

**Report Writing :**Significance of Report Writing, Different Steps in Report Writing, Layout of the Research Report, Types of Report, Mechanics of Writing a Research Report, Precautions for Writing Research Reports.

### **Books:**

- 1) Kothari .C.R, “Research Methodology-Methods and techniques”, New Age Publications, ISBN-978-81-224-2488-1

### **References:**

- 1) Sancheti&Kapoor,”Business Statics” , S. Chand & Sons, ISBN 81-219-2456-1

**M.C.M - I (SEMESTER – I)**

**PMCMT304.2**

**ELECTIVE PAPER –II: ENTERPRISE RESOURCE PLANNING**

**[Max. Marks: 80**

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**UNIT- I: Curtain raiser to ERP**

Enterprise an Overview: Introduction, Business functions and Business processes, Integrated Management information, Role of the enterprise in implementing the ERP system  
Introduction to ERP: Introduction, common ERP myths, a brief history of ERP, Advantages of ERP, over expectations in ERP

Basic Concepts of ERP: Introduction, Importance to a company, ERP market, Value of ERP

**UNIT-II: ERP: A Deep Glance**

Risk and Benefits of ERP: Justifying ERP investments, Benefits of ERP Systems, Risk factor of ERP implementation.

**ERP and Related Technology:** Introduction, BPR, Data warehousing, Data mining, OLAP, PLM, SCM, GIS, Intranets and Extranets, Technology advancements and ERP security, Middleware, Computer crimes, Security and ERP, Computer Security

**UNIT-III: Overview of Markets and Modules**

ERP Marketplace and Marketplace Dynamics: Market Overview, Marketplace Dynamics, The changing ERP Market, Indian Scenario,

ERP – Functional Modules: Introduction, Functional Modules of ERP software, Integration of ERP, Supply Chain and Customer Relationships Applications.

**UNIT-IV: ERP Implementation**

ERP Implementation Basics: Introduction, Reasons for implementing ERP, Implementation Challenges

**ERP Implementation Life Cycle:** Introduction, Objectives, Phases of ERP implementation

**ERP Implementation Process :** Introduction, importance of preparation, implementing methodologies, managing the implementation, implementation strategy, Implementation plan, Risk assessment, Budget, cost, system issues, ERP Case Studies

**Books :**

- 1) Alexis Leon, “Enterprise Resource Planning”, TMH, 2<sup>nd</sup> Edition. 2008, ISBN- 978-0-07-065680-2
- 2) JyotindraZaveri, “Enterprise Resource Planning”, Himalaya Pub.

**Reference:**

- 1) Ellen Monk, “Concept in Enterprise Resource Planning,” Course Technology,4<sup>th</sup> Edition, ISBN-978-1111820398

**M.C.M. - II (SEMESTER – III)**  
**Paper Code : PMCMT305**  
**Lab Based on PMCMT302**

**[Max. Marks: 100**

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**Practical List on Front End Development with Visual Basic**

- 1) Build the application that adds and deletes items from the combo list.
- 2) Build the application to convert the Fahrenheit's temperature selected through scrollbar value into corresponding temperature in Celsius.
- 3) Design a form to accept First, Middle and Last Name and display the full name on Label when user clicks on Command Button.
- 4) Build an application that collects marks for five different subjects. Calculate total. If total is  $\geq 500$  display message "You are allowed" otherwise display "You are not allowed".
- 5) Design an application which displays a text and gives a choice to change text to bold, italic and underline (any one or in combination).
- 6) Develop a Visual Basic Application to check whether the inputted number is prime or not.
- 7) Develop an application that moves the image left or right side using click event.
- 8) Build the Calculator application to perform basic arithmetic operations.
- 9) Build the application, to change the color of Frame using RGB function from the values that are set by 3 Scroll bars.
- 10) Build a Calculator application to perform basic arithmetic operations.
- 11) Build the application, to accept the temperature of Number of days passed in the current month and determine the highest and average temperature.
- 12) Demonstrate the working of data bound controls.
- 13) Create a data bound control application to perform various data operations using DAO Control. Assume Database Name and Table Name is Donor having 4 fields Donor\_Number, Donor\_Name, Date\_of\_Birth, Donor\_Blood and Sex.
- 14) Create a data bound control application to perform various data operations using ADO Control. Assume Database Name and Table Name is Donor having 4 fields Donor\_Number, Donor\_Name, Date\_of\_Birth, Donor\_Blood and Sex.
- 15) Write an application to divide the number by another and it must be able to handle any error that may arise during run time.

**M.C.M. - II (SEMESTER – III)**  
**Paper Code : PMCMT306**  
**Lab Based on PMCMT303.1**

**[Max. Marks: 100]**

**Practical List of Oracle(PL/SQL Programming)**

**PRACTICAL -I BASED ON (SQL& PL/SQL)**

A. Create table DONAR with following fields (Dno, Dname, City, Age, Sex, BG, Quantity, date).

B. Insert the following records into the table DONAR.

Dno	Dname	City	Age	Sex	BG	Quantity	Date
101	RAJESH RAO	CHANDRAPUR	28	M	O+ve	100	25-AUG-11
102	ANANDSHARMA	NAGPUR	20	M	O+ve	200	26-AUG-11
103	VISHALDESHPANDE	HYDERABAD	23	M	O-ve	250	26-AUG-11
104	SHRUTIRAKHUNDE	CHANDRAPUR	22	F	A+ve	100	27-AUG-11
105	ANUSHREEDHAKATE	-	22	F	A-ve	200	26-AUG-11
106	VIJETADHAKATE	BALLARPUR	22	F	O+ve	100	25-AUG-11
107	AAMIR TAJA	CHANDRAPUR	21	M	O+ve	250	27-AUG-11
108	AMIR KHAN	DURGAPUR	25	M	O+ve	100	25-AUG-11

C] Perform following queries on above table.

1. Find all donars whose name starts between alphabets 'A' to 'S'.
2. Find all donars who belongs to city CHANDRAPUR.
3. Find all donars who does not belongs to CHANDRAPUR city.
4. Find all donars who belongs to either CHANDRAPUR or NAGPUR city.
5. Find all donars whose city value contains NULL.
6. Arrange all donars in the sorted order whose age is between 18 and 22.
7. Find all male donars.
8. Find all male donars having O+Ve blood group.
9. Find all donars who donated the blood between 25-AUG-10 and 26-AUG-11.
10. Find all donars who donated more than 100 ml of blood.
11. Find all female donars who belong to city CHANDRAPUR having blood group 'O+Ve' in the sorted order of city?
12. Display all donars according their age.

13. Display the donar list in recent order of donation date.
14. Display all distinct blood group type.
15. Update the age of all donars by 1.
16. Mr. RAJESH RAO changed his name as RAMESH RAO and he is shifted to DURGAPUR. Note the above changes in the table.
17. Due to certain reason all the donars who donated the blood on date '26-AUG-11' are rejected. Hence delete their information.
18. Find the donars names whose first name starts with letter 'A' and ends with 'D' irrespective of case letter.
19. Find the donar names whose last name starts between alphabets 'D' to 'S' (Ex. DESPANDE, SHARMA)
20. Find total number of donars having O+Ve group.
21. Find total quantity of blood of group A+Ve.
22. Average age of female donar of O+Ve group by rounding the age to next digit.
23. Display all donars who name pronounces like 'AAMIR';
24. Find the donars who donated the blood in the month of AUG.
25. Find the donars who donated the blood on 15<sup>th</sup> Aug. of year.

## Functions

Perform following queries on table donar (Functions)

1. Find the donar names whose first name starts with letter 'A' and ends with 'D' irrespective of case letter.  
(Ex. ANAND) Hint: Use SUBSTR and INSTR function to extract first name.
2. Find the donar names whose last name starts between alphabet 'D' to 'S'  
(Ex. DESHPANDE, SHARMA)  
Hint: Use SUBSTR and INSTR function to extract first name.
3. Find total number of donars having O+ve group.
4. Find total quantity of blood of group A+ve.
5. Average age of female donar of O+ve group by rounding the age to next digit.  
Hint: use Ceil function to round the age to next digit.
6. Display all donars who name pronounces like 'AAMIR';
7. Find the donars who donated the blood in the month of AUG.
8. Find the donars who donated the blood on 15<sup>th</sup> Aug. of year.
9. Display all donar names in lowercase.
10. Find donars whose first name is five characters long.
11. Find every 3<sup>rd</sup> donar in the list. Donar numbers are assigned as consecutive no.  
Hint: ..... where  $\text{mod}(\text{dno}, 3) = 0$

## ORACLE (PL/SQL)

- 1) Create following Tables and Execute the respective PL/SQL blocks.
  - o Create table employee with the fields (empno, ename, job, hiredate, jdate&sal).
  - o Create table Math with fields (numb, square, cube &square\_root). o Create table Patient with fields (p name, age, prescription).
  - o Create table Musicalbum with fields (title, hero, singer, qth). o Create table Stu with fields (name & marks).
  - o Create table errorh with fields (error\_no& description).
  - o Create a table DONAR where following fields(Donar no., donar name, city, age, Sex, Blood group, quantity of blood given, date of donation)
- 2) Write a PL/SQL block to accept employee number and display his/her job, joining date and salary of employee. Define the variable using % rowtype.
- 3) Write a PL/SQL block to accept three paper marks and display result if student scores more than 35 marks in each paper and also specify the class.
- 4) Write a PL/SQL block to find the square, cube, square root of nos.bet 1 & 25 using loop.
- 5) Write a program to divide a number by character number. If any error occurs it should be handled properly, and store the error number and its description in a table called errorh.
- 6) Write a PL/SQL block to accept and insert a valid data into the table patient. Write appropriate user defined exception.
- 7) Write a PL/SQL block, to display only title and quality of all album stored in the table music album.
- 8) Write a PL/SQL to delete the records from table music album where quantity is less than 4 using cursor.
- 9) Write a PL/SQL block to display the employee all having salary>some value. The value some value can be passing during execution or through bind variable.
- 10) Write a PL/SQL block to accept the title and display other information; it must handle the exception properly.
- 11) Write a procedure to swap two numbers.
- 12) Write a procedure to insert values into a table stu. Write a PL/SQL, main program to call the procedure stu insert.
- 13) Write a function which is able to perform addition of two numbers.
- 14) Write a function which is able to perform addition of two numbers as well as addition of three number using default argument concepts.

**M.C.M. - II (SEMESTER – III)**

**Paper Code : PMCMT306**

**Lab Based on PMCMT303.2**

**[Max. Marks: 100**

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**Practical List of Web Technologies**

**Practical List on PHP**

- 1) Write a PHP script to display Welcome message
- 2) Write a PHP script to demonstrate use of arithmetic operators, comparison operators, and logical operators
- 3) Write a PHP script to get type of variable using gettype()
- 4) Write a PHP script to set type of variable using settype()
- 5) Write a PHP script to set type of variable using type casting
- 6) Write PHP Script to print Fibonacci series
- 7) Write PHP Script to generate result and display grade
- 8) Write PHP Script to find maximum number out of three given numbers
- 9) Write PHP Script using two dimensional arrays such as addition of two 2×2 matrices
- 10) Write PHP Script for FOR EACH loop execution.

**Practical List on Python**

- 1) Write a Python program which accepts the radius of a circle from the user and compute the area.
- 2) Write a Python program which accepts the user's first and last name and print them in reverse order with a space between them.
- 3) Write a Python program to get the volume of a sphere with radius
- 4) Write a Python program to compute the greatest common divisor (GCD) of two positive integers
- 5) Write a Python program to get the ASCII value of a character

**M.C.M - II (SEMESTER – IV)**  
**PMCMT401**  
**PAPER –I: E-COMMERCE AND WEB DESIGNING**

**[Max. Marks: 80**

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**UNIT-I: E-Commerce and Introduction to Internet**

**E-Commerce-** Introduction, Application, Definition, Benefits of E-Commerce, Impediments of E-Commerce, Difference between Traditional and Electronic Commerce, E-Commerce Service,

**Electronic Data Interchange (EDI):** Introduction, Benefits, Value Added Services (VAS), On-line Payment Services, Trade Cycle.

**Introduction-** Internet, Basic Internet Terms, Internet Addressing, Protocols, Internet Protocols, Services of Internet, Search Engine.

**UNIT-II: Basic of HTML and Tag**

**Introduction to HTML -** Introduction, Features of HTML, Advantages & Disadvantages of HTML, HTML Editors, Step to Create and View HTML Document, Basic Structure of HTML Program

**Tags & Attributes-** Nesting of Tags, Classification of HTML Tags, Block Formatting Tags.

**List -** Introduction to Lists, Unordered List, Ordered List, Definition List, Nested List, Difference Between Ordered and Unordered List.

**Linking -** Introduction, Type of Hyperlink Creation, Working with Links, Pathname and Types, Types of Linking or Anchors.

**UNIT-III: Advanced HTML**

**Graphics in Web Page -** Image Tag, Align Images, Embedding Inline Images and External Images,

**Tables -** Basic table tags and their related attribute

**Frames-** Frames, <Frame> and <Frameset> tags,

Form designs, Form Controls, Text controls, password fields, radio buttons, and check boxes. Reset and submit buttons, form control selection, option processing and text area.

**UNIT -IV: CSS and XML**

**CSS:** Defining style sheets features, adding style to document, Unlink to a single sheet. Embedding style sheet, Using inline style and its properties,

**XML:** Introduction. XML and SGML, Design goals of XML, Application of XML; XML Software, XML tags, Structure of XML documents, Element markup, Attribute markup,

**Namespaces:** Qualified name and Unqualified names, Namespace scope, default name space, working with formatting

**Working with DTD:** Introduction, HTML and DTD, Benefits of the DTD, Structure. of DTD, and Declarations of variable in DTD Element name, Occurrence indicators, Connectors,

**Books:**

- 1) Greenstein and Feinman, "Electronic Commerce", TMH, 2000, TMH, ISBN-0-07-042141-2,.
- 2) Bhushan Dewan, "E-Commerce by ", S.Chand, 2001, First Edition, ISBN - 81-219-2083-3,

**References:**

- 1) Complete HTML , BPB, 2010, ISBN-13:978-0-07-070194-6.
- 2) C.Xavier, "Web Technology and Design", TMH, 2010, ISBN-13:978-81-224-1450-9



**M.C.M - II (SEMESTER – IV)**  
**PMCMT402**  
**PAPER –II:JAVA CONCEPTS**

**[Max. Marks: 80**

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**UNIT – I: Introduction to Java**

History of Java, Features of Java, JDK Environment, the Java Virtual Machine, Garbage Collection

**Programming Concepts of Basic Java:** Identifiers and Keywords, Data Types in Java, Java coding Conventions, Expressions in Java, Control structures, decision making statements, Arrays and its methods

**UNIT – II: Objects and Classes**

Object Fundamentals, Pass by value, ‘this’ reference, Data Hiding and Encapsulation, Overloading, Overriding Constructors, Finalization, Subclasses (Inheritance), Relationship between super class object and subclass object, implicit subclass object to super class object Conversion, Dynamic method dispatch.

**Language Features:** Scope rules, Static data, Static methods, Static blocks, Modifiers of Class, Method, Data Members and Variable, Abstract Classes, Interfaces, Packages, Importing Packages and Classes, User define packages.

**UNIT – III: Exception Handling & Multithreading**

Types of Exceptions try, catch, finally, throws keywords, creating your own exception, exceptions and Inheritance

**Multithreading:** Multithreading Concept, Thread Life Cycle, Creating multithreading Application, Thread Priorities, Thread synchronization.

**UNIT – IV: Abstract Window Toolkit & Streams and File I/O**

**Abstract Window Toolkit:** Components and Graphics, Containers, Frames and Panels, Layout Managers-Border Layout, Flow Layout, Grid Layout, Card Layout, AWT all Components, Event Delegation Model, Event Source and Handlers, Event Categories, Listeners, Adapters-Anonymous Classes, Applets-Applet Life Cycle, Applet Context, Inter applet communication.

**Streams and File IO:** Files and Stream, Stream classes, Reader Writer classes, File class Tests and Utilities, Serialization and deserialization.

**Books:**

- 1) Cay S Horstmann Gary Cornell, “Core JAVA 2 Vol -1, 2”, The Sun Micro Systems Press, New Delhi, ISBN- 978-0470105559
- 2) Peter Van der Liden, “Just Java”, The Sun Micro Systems Press, New Delhi, ISBN, 0130897930
- 3) E. Balguruswamy, “Programming with Java - A Primer”, The Sun Micro Systems Press, New Delhi, ISBN 81-265-0931-7

**References:**

- 1) Deitel and Deitel, “Java How to Program”, Prentice Hall Upper Saddle River, New Jersey 07458 (US). ISBN 0-13-034151-7
- 2) Jerry R Jackson Alan L, “Java by Example 1.2”, McClellan Publication

**M.C.M - II (SEMESTER – IV)**  
**PMCMT403.1**  
**ELECTIVE PAPER –III: VB.NET**

**[Max. Marks: 80**

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**UNIT –I : Introduction to .NET**

Introduction to .NET Framework, Basic Functionality of CLR, MSIL, About Platform Independence,

Language Interoperability, CTS and CLS, .NET Languages, Assemblies, Garbage Collection, Architecture of GC and Application Domain

**UNIT- II: Visual Studio.NET**

WPF Designer and Windows Form Integration, Multi-Framework Targeting, Better Intelligent Support, Refactoring and Enhancements, Visual Studio Split View, Debugging the .NET Source Code

**VB.NET Language:** Features of VB.Net, Writing Programs in VB.Net, Compiling and Execution from Command Prompt

**Data Types, Expressions and Operators:** Option Statements, Basic Element of Programming (Datatypes, Variable, Constant, Control Flow Statement), Type Casting, Boxing and Unboxing, Built-in Functions in VB.Net, Sub Programs and Working with Arrays

**UNIT- III: Object Oriented Programming with VB.Net**

Principles of OOP, Data Encapsulation, Data Abstraction, Properties, Method Overloading, Constructors, Inheritance, Overloading and Overriding, Shadowing, Abstract Classes and Sealed Class, Polymorphism, Delegate - Unicast and Multicast, Events, Collections, Directories, Strings, String Builders, Attributes, Namespaces and Generics

**Windows Applications:** Introduction to System.Windows.Forms.DLL, Basic Controls and Event Driven Programming, Programming with Advanced Controls. **Windows Control Library, Error Handling:** Structured Error Handling, Error Categories, Debug and Trace Classes.

**UNIT- IV :Data Access with ADO.NET**

Introduction to Access Libraries DAO,RDO,ADO, Limitation of ADO, ADO.Net Objects and Usage, ADO.Net Managed Providers, Data Reader, Data Adapter and DataSet, Data Relation and DataSet, Data Binding, Connected and Disconnected Environments, Connection Pooling, ADO.Net Exceptions, Using Stored Procedures, N-Tier Database Application, ADO.Net and XML. **Crystal Reports**

**Books:**

- 1) David I. Schneider, “An Introduction to Programming Using Visual Basic .Net”, PHI, ISBN 81-203-2159-6
- 2) ShirishChavan, “Visual Basic .NET”, Pearson, ISBN 81-317-1391-1
- 3) Mastering Crystal Report - BPB Publication, ISBN 13 9788176567091

**References:**

- 1) Jeffrey R. Shapiro, “The Complete Reference -Visual Basic .NET”, TMH, ISBN-0-07-049511-4
- 2) Anne Prince and Doug Lowe, “Murach’s VB.NET Database Programming with ADO.NET”.
- 3) Crystal Report – The Complete Reference, TMH

**M.C.M - II (SEMESTER – IV)**  
**PMCMT403.2**  
**ELECTIVE PAPER –III: ANDROID APPLICATION DEVELOPMENT**

**[Max. Marks: 80**

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**UNIT-I (Introduction to Open Source & Android)**

**Introduction to Open Source:** What is Open Source, License Issues (MPL, GPL, and LGPL) and Open Source Vs Traditional Development Methodologies.

**Introduction to Android:** Introducing Android, History of Mobile Software Development, Open Handset Alliance, The Android Platform, Layers of Android, Android SDK, Kinds of Android Components, Building a Sample Android Application.

**Unit-II: (Android Application Design Essentials)**

Anatomy of an Android Applications, Android Terminologies, Application Context, Activities, Services, Intents, Receiving and Broadcasting Intents, Android Manifest File and its common settings, Using Intent Filter, Permissions, Managing Application resources in a hierarchy, Working with different types of resources.

**Unit-III: (Android User Interface Design Essentials)**

User Interface Screen Elements, Designing User Interfaces with Layouts, Drawing and Working with Animation.

**Unit-IV: (Using Common Android APIs)**

Using Android Data and Storage APIs, Managing data using SQLite, Sharing Data Between Applications with Content Providers, Using Android Networking APIs, Using Android Web APIs, Using Android Telephony APIs.

**Text Book:**

1. Lauren Darcey and Shane Conder, “Android Wireless Application Development”, Pearson Education, 2<sup>nd</sup> Edition, 2011.
2. W. Frank Ableson, Robi Sen, Chris King, “Android in Action”, 2<sup>nd</sup> Edition, Manning Publications Co., 2011, ISBN 978-1-935182-72-6.
3. Chris Haseman, “Android Essentials”, Apress Publications, 2008, ISBN-13: 978-1-4302-1064-1.
4. James Steele, Nelson To, “The Android Developer’s Cookbook-Building Applications with the Android SDK”, Addison-Wesley Publications, 2011, ISBN-13: 978-0-321-74123-3.

**Reference Books:**

1. Lucas Jordan, Pieter Greyling, “Practical Android Projects”, Apress Publications, 2011, ISBN-13: 978-1-4302-3243-8.
2. Reto Meier, “Professional Android 2 Application Development”, Wiley India Pvt. Ltd., 2011.
3. Mark L Murphy, “Beginning Android”, Wiley India Pvt Ltd, 2009.
4. ZigurdMednieks, Laird Dornin, G. Blake Meike& Masumi Nakamura, “Programming Android”, O’Reilly Publications, 2011.
5. Sayed Y Hashimi and Satya Komatineni, “Pro Android”, Wiley India Pvt Ltd, 2009.

**M.C.M - II (SEMESTER – IV)**  
**PMCMT404**  
**Project**

**[Max. Marks: 80**

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**Instruction:**

Towards the end of the second semester of study, a student will be examined in the Course “Project Work”.

- a. Project Work may be done individually or in groups (Maximum 2 students) in case of bigger projects. However if project is done in groups, each student must be given a responsibility for a distinct module and care should be taken to monitor the progress of individual student.
- b. The Project Work should be done using the tools covered in M.C.M
- c. The Project Work should be of such a nature that it could prove useful or be relevant from the System-oriented/Application/commercial / management angle.
- d. The project work will carry 100 marks.
- e. The external viva-voce examination for Project Work would be held as per the Examination Time Table of the second year of study, by a panel of one external and one Internal examiner.
- f. Head/Co-ordinator of Computer Dept. must reject any project title which was already carried out in any computer course in the college. He must maintain a Record that lists the projects along with other detail (like Guide, Session, and Number of students working on project etc) that was carried out so far and must be shown to external examiner at the time of examination.

**Types of Project**

As majority of the students are expected to work out a project in some industry/research and development laboratories/educational institutions/software export companies, it is suggested that the project is to be chosen which should have some direct relevance in day-to-day activities of the candidates in his/her institution. The Applications Areas of project - Financial/Marketing/Database Management System/ Relational Database Management System/E-Commerce /Internet/ Manufacturing/ web Designing/Hardware and Software interaction based etc.

**Project Proposal (Synopsis)**

The project proposal should be prepared in consultation with the guide. The Project Guide may alter the sequence as given below depending upon the nature of project. The project guide must be a person having minimum Qualification M.C.M / M.Sc. (Computer Science)/ MCA. The project proposal should clearly state the objectives and environment of the proposed project to be undertaken. It should have full details in the following form:

**Title of the project**

Objectives and Hypothesis of the Project

Project Category (DBMS/RDBMS/OOPS/Web Designing/Internet etc.)

Tools/Platform, Languages to be used

**A complete Structure of the program:**

- i. Analysis.

- ii. Numbers of Modules.
- iii. Data Structures or Tables
- iv. Process Logic.
- v. Types of Report Generation.
- Scope of future Application.

Project Report Formulation.

- 1. Title Page.
  - 2. Certificate Page.
  - 3. Declaration Page.
  - 4. Acknowledgment Page.
  - 5. Index or Content Page.
  - 6. Documentation.
    - i. Introduction/Objectives.
      - ii. Preliminary System Analysis.
        - Identification of Need.
        - Preliminary Investigation.
        - Feasibility Study.
        - Need of New System.
        - Flaws in Present System.
      - iii. Project Category.
      - iv. Software Requirement Specification.
      - v. Detailed System Analysis.
        - Data Flow Diagram.
        - Numbers of Modules and Process Logic. Data Structures and Tables.
        - Entity-Relationship Diagram.
      - vi. System Design.
        - Source Code.
        - Input screen & Output Screen.
      - Vii Validation Checks.
      - Viii Implementation, Evaluation and Maintenance.
      - Ix Security Measures taken.
      - X Future Scope of the project.
      - Xi Bibliography
- Appendix
- Survey Questionnaire

**M.C.M. - II (SEMESTER – III)**  
**Paper Code : PMCMT405**  
**Lab Based on PMCMT401 & PMCMT402**

**[Max. Marks: 100]**

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**Practical List on E-Commerce and Web Designing**

**PRACTICAL –I BASED ON WEB DESIGNING & JAVA**

**Web designing**

- 1) Demonstrate of Logical Format Tag.
- 2) Demonstrate of Physical (Formatting) style tag
- 3) Demonstration of Level of Headings
- 4) Demonstration of Block Alignment
- 5) Demonstration of ADDRESS tag.
- 6) Demonstrate the Font Face, Color and Size.
- 7) Demonstrate the <HR> Tag
- 8) Demonstrate the Alignment
- 9) Demonstrate the Scrolling tab using Mercury.
- 10) Demonstrate of Order List
- 11) DEMONSTRATE FOR INTERNAL LINKING

GONDWANA UNIVERSITY, GADCHIROLI

COURSES OFFERED

- [ARTS](#)
- [COMMERCE](#)
- [SCIENCE](#)

ARTS

1. ENGLISH
2. MARATHI
3. HINDI

COMMERCE

1. ECONOMICS
2. STATISTICS
3. ACCOUNTS

SCIENCE

1. PHYSICS
2. CHEMISTRY
3. MATHEMATICS

12) DEMONSTRATE THE USE OF TABLE

COLLEGE

COLLEGE					
FYJC			SYJC		
ARTS	COMMERCE	SCIENCE	ARTS	COMMERCE	SCIENCE
58	150	90	75	200	100

13) DEMONSTRATION OF BROWSING BY  
CATEGORY BROWSE BY CATEGORY

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• <a href="#">WINDOWS</a>	• <a href="#">OFFICE</a>	• <a href="#">DEVELOPER</a>
• <a href="#">IT PROFESSIONALS</a>	• <a href="#">BUSINESS USER</a>	• <a href="#">HOME USER</a>
• <a href="#">HARDWARE</a>	• <a href="#">GAMES AND XBOX</a>	• <a href="#">TRIAL SOFTWARE</a>

4) [ALL PRODUCTS](#)

14) PROGRAM FOR DESIGNING A SIMPLE FORM

NAME

ADDRESS

DOB

HOBBIES  SPORT  
 CHESS

- 15) Demonstrate the Master page to link another page.
- 16) Demonstrate link to website.
- 17) Demonstrate to compose mail.
- 18) Demonstrate to show or load inline image say sunset.jpeg
- 19) Demonstrate of Image Hyperlink
- 20) Demonstrate of Basic table.
- 21) Demonstration of cell padding attributes
- 22) Demonstration of Link in the page.
- 23) A HTML Program to show static linking the web page should contain Title, green background and a link which taken you to another page.

### **Practical List of Java**

- 1) Write a java program to find largest among three numbers.
- 2) Write a java program to check whether seller made or loss, if sales price and purchase price is inputted through keyboard.
- 3) Write a java program to print following output.
  - i. A
  - ii. A B
  - iii. A B C
  - iv. A B C D
- b. B C D E
- 4) Write a java program to no. of evens and no. odd numbers in an array of size 10. Also calculate sum of evens and sum of odds.
- 5) Write a java program to find sum of prime numbers ranges from 1 to 100.
- 6) Write a java program to create a class “ Student” with rollno,sub1,sub2,sub3 as data members and get Data() and print Data() as member functions.
- 7) Write a java program to create a class “ Box” with width, height and length as data members and get Box() and print Box() as member functions.
- 8) Write a java program to design a Box Class with overloaded constructor
- 9) Default constructor
- 10) Constructor with one argument.
- 11) Constructor with three arguments.
- 12) Design a package “ My Package” and write two class MyClass1 and MyClass2 with appropriate members and add these classes to My Package Package.
- 13) Design a Interface “ MyInter” and add two methods sum() and mult() for two integers in it.
- 14) Write a java program to demonstrate the try...catch mechanism.



- 15) Write a java program to show use of throw, throws and finally keyword.
- 16) Write a java program to demonstrate Threads using Thread class and also with Runnable interface.
- 17) Write a java program which shows the use of synchronization.
- 18) Design a user interface using applet to accept two values and calculate sum of these numbers.
- 19) Design a user interface using applet which accepts a number and program will calculate square and cube of given number and also display in respective textbox.
- 20) Write a java program to which read a data from a file and print contents of a file on VDU.
- 21) Write a java program to read the contents of a one file and copied to another.
- 22) Write a java program to read the contents from given URL.
- 23) Write a java program to create Client and Server program to communicate each other.

**M.C.M. - II (SEMESTER – III)**  
**Paper Code : PMCMT406**  
**Lab Based on PMCMT403.1or PMCMT403.2**

**[Max. Marks: 100**

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**Practical Based (Elective Paper VB. Net )**

1. A console application to print star in triangular format.
2. A console application to convert a number into string.
3. Write a program for Binary Search.
4. Write a program to merge two different arrays.
5. Write a program add the graphics in given form.
6. Write a program to count character A to Z from given text.
7. Write a program to handle interaction of two forms.
8. Write a program to store two lists of names and merge them into third list.
9. Write a program to create histogram, a file should hold years and values.
10. Write a program to find the currency of selected country using database connectivity.
11. Write a program to save and load the table using database connectivity.
12. Write a program to handle three files at a time by differentiating using password.
13. Write a program to change the dimension of one array into another using Re Dim statement.
14. Write a program to insert Menu strip.
15. Write a program to access the data from the given database to the current working window using data grid.
16. Write a program to handle text file info in the given window.

## **Practical List Based (Elective Paper Android Application Development)**

1. Testing your android development environment perform following operations.
  - a. Add the sample application to a project in your eclipse workspace.
  - b. Create an Android Virtual Device (AVD) for your sample project.
  - c. Create a launch configuration for your sample project.
  - d. Run your sample application in Android Emulator.
2. Write a program to build your first Android Application “Hello World” with common activity.
3. Write a program which will implement Sub menu in android application.
4. Write a program which will implement Context menu (Floating List of Menu Items) in android application.
5. Write a program to displays the use of Relative Layout Views with different attributes.
6. Write a program to displays the use of Linear Layout Views with different attributes.
7. Write a program to implement a menu which uses check-able items in Menu.
8. Write a program to implement a Custom Button and handle the displayed message on button press.
9. Write a program to implement the Table layout in View Group that displays child View elements in rows and columns.
10. Write a program to implement the List View in your android application.
11. Write a program to implement tween animation and rotate the text in your android application.
12. Write a sample program to create a progress bar for your android applications.
13. Write a program to show how to use Date picker control of ADK in your android applications.
14. Write a program which enables you to draw an image using bitmap class object.
15. Write a program which shows you how to handle any type of interruption in your android application.
16. Write a program which allows you to set an image as wallpaper.
17. Write a program which allows you to get image from web and displayed them using the Image View.
18. Write a program which shows you how to create a scroll view when text is not visible on one page.
19. Write a program which will shows you how to run any video file.