

## Semester 5

### Quantitative Aptitude (CMP332)

#### Course Objectives:

- To enhance the problem solving skills, to improve the basic mathematical skills and to help students who are preparing for any type of competitive examinations.
- Communication Goal: Students will be able to interpret and communicate quantitative information and mathematical and statistical concepts using language appropriate to the context and intended audience.
- Problem Solving Goal: Students will be able to make sense of problems, develop strategies to find solutions, and persevere in solving them.
- Reasoning Goal: Students will be able to reason, model, and draw conclusions or make decisions with mathematical, statistical, and quantitative information.
- Evaluation Goal: Students will be able to critique and evaluate quantitative arguments that utilize mathematical, statistical, and quantitative information.
- Technology Goal: Students will be able to use appropriate technology in a given context.

#### Learning Outcomes:

On successful completion of the course the students will be able to:

- Understand the basic concepts of QUANTITATIVE ABILITY
- Understand the basic concepts of LOGICAL REASONING Skills
- Acquire satisfactory competency in use of VERBAL REASONING
- Solve campus placements aptitude papers covering Quantitative Ability, Logical Reasoning and Verbal Ability
- Solve real-life problems requiring interpretation and comparison of complex numeric summaries which extend beyond simple measures of centre.
- Distinguish between proportional and non proportional situations and, when appropriate, apply proportional reasoning.
- Students will apply probabilistic reasoning to draw conclusions, to make decisions, and to evaluate outcomes of decisions.
- Students will draw conclusions or make decisions and communicate their rationale based on understanding, analysis, and critique of self-created or reported statistical information and statistical summaries.
- Compete in various competitive exams like CAT, CMAT, GATE, GRE, GATE, UPSC, GPSC etc.

Unit No. and Name	Details	Counseling Sessions	Weightage
Unit 1 : Number System Basics	<ul style="list-style-type: none"><li>• Number system</li><li>• Divisibility</li><li>• Factors</li><li>• HCF and LCM</li></ul>		
Unit 2: Averages and Problems on Ages	<ul style="list-style-type: none"><li>• Arithmetic Mean</li><li>• Geometric Mean</li><li>• Harmonic Mean</li><li>• Mean, Median and Mode</li></ul>		

Unit 3 : Percentages, Profit and Loss	<ul style="list-style-type: none"> <li>• Basic Concepts of Percentages</li> <li>• Successive Discounts</li> <li>• Percentage Error</li> <li>• Increase and Decrease in Percentage</li> <li>• Basics of Profit and Loss</li> <li>• Formulas to calculate Profit &amp; Loss</li> <li>• Profit Percentage</li> </ul>		
Unit 4 : Ratio and Proportion, Partnership, Mixtures and Allegations, Simple Interest and Compound Interest	<ul style="list-style-type: none"> <li>• Basics of Ratio and Proportion</li> <li>• Continued Proportion</li> <li>• Comparison of Ratios</li> <li>• Variations</li> <li>• Understanding of Simple and Compound Interest</li> <li>• EMI Calculation</li> </ul>		
Unit 5 : Work and Time and Geometry and Trigonometry	<ul style="list-style-type: none"> <li>• Basics on Work</li> <li>• Time and Work Formula and Application</li> <li>• Pipes and Cisterns</li> <li>• Chain Rule</li> <li>• Basics on Geometry and Trigonometry</li> <li>• <u>Types, methodologies, and terminologies of geometry.</u></li> <li>• Formulas of functions of Trigonometry</li> </ul>		
Unit 6 : Speed, Distance and Time	<ul style="list-style-type: none"> <li>• Basics of Speed Distance and Time</li> <li>• Average Speed</li> <li>• Relative Speed</li> <li>• Problems on Trains Boats and Streams</li> <li>• Problems on Boats</li> </ul>		
Unit 7 : Permutation and Combination, Probability	<ul style="list-style-type: none"> <li>• Basics of Permutation and Combination</li> <li>• Representation of Permutation and Combination</li> <li>• Problems on Permutation and Combination</li> <li>• Basics of Probability</li> <li>• Variables and Distributions</li> <li>• Problems on Permutation, Combination and Probability</li> </ul>		
Unit 8 : Introduction to Tables and Graph	<ul style="list-style-type: none"> <li>• Vertical Bar Charts.</li> <li>• Histogram.</li> <li>• Horizontal Bar.</li> <li>• Pie Charts.</li> <li>• Line Charts.</li> <li>• And other Graphs and Tables.</li> </ul>		

**Reference Books:**

1. Quantitative aptitude by R.S Agarwal
2. Arihant Publications - Fast Track Objective Arithmetic
3. R.D. Sharma - Mathematics Class 11th and 12th
4. Sarvesh K. Verma- Quantitative Aptitude

## E Commerce Technologies (CMP513)

### Course Objectives

- To develop an understanding of scope of E-Commerce.
- To develop an understanding of electronic market and market place.
- To develop an understanding of business models.
- Understanding payment systems used in E-commerce.
- To develop an understanding of legal issues, threats of E-Commerce.
- Understanding security challenges and solutions required for E-commerce
- Understanding the WAP model and its role in E-commerce.

### Course Outcomes:

Upon completion of this course, students will be able to:

- Demonstrate an understanding of the foundations and importance of E-commerce.
- Understand the business models and its working and how it affects the flow of ecommerce.
- Demonstrate an understanding of retailing in E-commerce by analyzing branding and pricing strategies, using and determining the effectiveness of market research, assessing the effects of disintermediation.
- Analyze the impact of E-commerce on business models and strategy.
- Describe Internet trading relationships including Business to Consumer, Business-to-Business, Intra-organizational. Describe the infrastructure for E-commerce.
- How to Assess and analyze electronic payment systems.
- Recognize and discuss global E-commerce issues

Unit No. & Name	Details	Counseling Sessions	Weightage
Unit 1 Introduction	<p style="text-align: center;"><b>Enabling Technologies of the World Wide Web</b></p> <ul style="list-style-type: none"> <li>• Internet Client/Server Applications</li> <li>• Networks and Internets</li> <li>• Internet Service Provider (ISP)</li> <li>• Broadband Technologies</li> </ul> <p style="text-align: center;"><b>History of E-Commerce</b></p> <ul style="list-style-type: none"> <li>• Early Business Information Exchange Efforts</li> <li>• Emergence of the Internet and World Wide Web</li> <li>• The Milestones</li> <li>• Advantages of E-Commerce</li> <li>• Online Extension of BAMModel</li> <li>• Transition to E-Commerce in India</li> <li>• The Information Technology Act 2000</li> </ul> <p style="text-align: center;"><b>Business Models for E-Commerce</b></p> <ul style="list-style-type: none"> <li>• based on Relationship of Transaction Parties</li> <li>• based on Relationship of Transaction Types</li> </ul>	4	10
Unit 2 Marketing	<ul style="list-style-type: none"> <li>• Traditional Marketing</li> <li>• Identifying Web Presence Goals</li> <li>• Online Marketing</li> <li>• Internet Marketing Trends</li> <li>• Target Markets</li> <li>• Marketing Strategies</li> </ul>	4	10

Unit 3 Security	<ul style="list-style-type: none"> <li>• Security on the Net</li> <li>• E-Business Risk Management Issues</li> </ul>	3	10
Unit 4 Payment Systems	<ul style="list-style-type: none"> <li>• Digital Payment Requirements</li> <li>• Digital Token-based</li> <li>• Classification of New Payment Systems</li> <li>• Properties of Electronic Cash (E-Cash)</li> <li>• Risk and E-Payment Systems</li> <li>• Digital Signature</li> </ul>	4	10
Unit 5 Customer Relationship Management	<ul style="list-style-type: none"> <li>• Customer Relationship Management</li> <li>• Typical Business Touch-Points</li> </ul>	3	10
Unit 6 Supply Chain Management	<ul style="list-style-type: none"> <li>• E-Supply Chain goals</li> <li>• E Supply advantages and benefits</li> <li>• E supply and value creation for customer</li> </ul>	4	10
Unit 7 Strategy	<ul style="list-style-type: none"> <li>• Information and Strategy</li> <li>• The Virtual Value Chain</li> <li>• Seven Dimensions of E-Commerce Strategy</li> <li>• Value Chain and E-Strategy</li> <li>• Strategies for Web Site Development</li> </ul>	4	10
Unit 8 Mobile Commerce	<ul style="list-style-type: none"> <li>• Origins of WAP</li> <li>• WAP Programming Model</li> <li>• Wireless Technologies</li> </ul>	4	10
		30	80

**Reference Books:**

1. Internet marketing and E-commerce by Ward Hanson & kirthi Kalyanam
2. E-Commerce Concepts, Models, & Strategies by G.S.V Murthy
3. E-Commerce Kamlesh K Bajaj and Debjani Nag
4. E-COMMERCE, Fifth Edition: AN INDIAN PERSPECTIVE by P.T. JOSEPH, S.J.

## Advance JAVA (CMP514)

Unit No. & Name	Details	Counseling Sessions	Weightage
Unit 1: <b>JDBC</b>	JDBC Architecture, Overview of Drivers, DBC Driver Manager, Steps for accessing database using JDBC API, Statements Prepared, Statement Callable, Statement Scrollable and Updatable ResultSet, ResultSetMetaData and DatabaseMetaData, Working with Rowset Interface.	4	10
Unit 2: <b>Servlet</b>	Introduction To Java Servlets, Servlet API, Servlet Life- Cycle, Working With Apache Tomcat, GenericServletsHttpServlet, HttpSession, Session Binding/Tracking, Inter-Servlet Communication.	4	10
Unit 3: <b>JSP</b>	JSP SYNTAX, Page Directive, Include Directive, Data Declaration and Method Definition, ScriptletsImplicit Objects, Custom Tags, Session Tracking in JSP, Page Context, Exception	3	10
Unit 4: <b>Hibernate</b>	Why Hibernate?, Understanding ORM, Objects and Persistence, Hibernate Architecture, Mapping Documents, Hibernate Database Connection, Creating Persistent Classes, Mapping Collection of Objects, Persistent Object Life Cycle, Hibernate with Servlets, HQL: Hibernate Query Language.	4	10
Unit 5: <b>Spring Core</b>	Introduction to Spring Framework, Inversion of Control and Dependency Injection, IOC Container, Bean Creation, Construction Injection, Setter Injection,	4	10
Unit 6: <b>Spring MVC</b>	Spring Web MVC, MVC Architecture, Front Controller and DispatcherServlet.	4	10
Unit 7: <b>Java Mail</b>	Introduction to Java API, Using Java Mail API to send mail using Java Codes, Sending Text Mail, Sending HTML Mail, Sending Mail with Attachments.	2	10
Unit 8: <b>Java with JSON</b>	JSON Syntax, DataTypes, Objects, Arrays in JSON, JSON Library in Java, Encoding a JSON Object in Java, Decoding a JSON Object in Java, Publishing a Service using JSON in JSP.	2	10
	<b>Revision and Practice</b>	3	
		30	80

### References:

- 1 .Title: Jdbc, Servlets, and Jsp Black Book, New Edition
2. The Complete Reference – JAVA Herbert Schildt
3. JavaMail API: Sending and Receiving Email with Java by Elliotte Harold, O'Reilly pub.

4. Getting Started with Spring Framework by J Sharma, Ashish Sarin
5. Just Hibernate by Madhusudhan Konda, O'Reilly pub.

## Linux Administration (CMP515)

Unit No. & Name	Details	Counseling Sessions	Weightage
Unit 1 Introduction to Linux	<p><b>Introduction to Linux:</b> Open Source and Red Hat, Origins of Linux, GNU &amp; Linux Distributions, Versions of Linux, Architecture of Linux.</p> <p><b>Duties of the System Administrator:</b> The Linux System Administrator, Installing and Configuring Servers, Installing and Configuring Application Software, Creating and Maintaining User Accounts, Backing Up and Restoring Files, Monitoring and Tuning Performance, Configuring a Secure System, Using Tools to Monitor Security.</p>	3	10
Unit 2 Installation of Redhat Linux	Installation of Redhat Linux on Virtual Machine, Understanding Partitions of Linux, Booting and shutting down Linux, Understanding Boot loaders: GRUB & LILO, Bootstrapping, Init process, rc scripts, Enabling and disabling services. Different Run levels in Linux, Understanding Linux file system structure.	4	10
Unit 3 Using Command Line and Managing Software	<p><b>Command Line:</b> Working with the Bash Shell, Working with basic linux command, Working with advanced linux commands, Working with Directories, Piping and Redirection, Finding Files, Using Vi Editor</p> <p><b>Managing Software:</b> Understanding RPM, Understanding Meta Package Handlers, Creating Your Own Repositories, Managing Repositories, Installing Software with Yum, Querying Software, Extracting Files from RPM Packages.</p>	5	10
Unit 4 Working with Users, Groups and Permissions	Managing Users and Groups, Commands for User Management, Managing Passwords, Modifying and Deleting User Accounts, Configuration Files, Creating Groups, Using Graphical Tools for User, and Group Management, Using External Authentication Sources, the Authentication Process, sssd, nsswitch, Pluggable Authentication Modules, Managing Permissions, the Role of Ownership, Basic Permissions: Read, Write, and Execute, Advanced Permissions, Working with Access Control Lists, Setting Default Permissions with umask, Working with Attributes	2	10
Unit 5 TCP/IP Networking and Network File System	<p><b>TCP/IP Networking:</b> Understanding Network Classes, Setting Up a Network Interface Card (NIC), Understanding Subnetting, Working with Gateways and Routers, Configuring Dynamic Host Configuration Protocol, Configuring the Network Using the Network</p> <p><b>The Network File System:</b> NFS Overview, Planning an NFS Installation, Configuring an NFS Server, Configuring an NFS Client, Using Automount Services, Examining NFS</p>	4	10

	Security.		
Unit 6 Configuring DNS and DHCP	Introduction to DNS, The DNS Hierarchy, DNS Server Types, The DNS Lookup Process, DNS Zone Types, Setting Up a DNS Server, Setting Up a Cache-Only Name Server, Setting Up a Primary Name Server, Setting Up a Secondary Name Server, Understanding DHCP, Setting Up a DHCP Server	3	10
Unit 7 Connecting to Microsoft Networks and Setting up a Mail Server	Connecting to Microsoft Networks: Installing Samba, Configuring the Samba Server, Creating Samba Users 3, Starting the Samba Server, Connecting to a Samba Client, Connecting from a Windows PC to the Samba Server Setting up a Mail Server: Using the Message Transfer Agent, the Mail Delivery Agent, the Mail User Agent, Setting Up Postfix as an SMTP Server, Working with Mutt, Basic Configuration, Internet Configuration, Configuring Dovecot for POP and IMAP	3	10
Unit 8 Securing Server with iptables and Configuring Web Server	Securing Server with iptables: Understanding Firewalls, Setting Up a Firewall with system-config-firewall, Allowing Services, Trusted Interfaces, Masquerading, Configuration Files, Setting Up a Firewall with iptables, Tables, Chains, and Rules, Composition of Rule, Configuration Example, Advanced iptables Configuration, Configuring Logging, The Limit Module, Configuring NAT Configuring a Web Server: introducing Apache, Configuring Apache, Implementing SSI, Enabling CGI, Enabling PHP, Creating a Secure Server with SSL	3	10
	Revision and Practice	3	
		30	80

**Reference Books:**

1. Linux kernel by linux kernel
2. Red hat Linux Networking and System Administration, Terry Collings and Kurt Wall, wiley pub.
3. Unix the ultimate guide by sumitabha das.
4. Advanced programming in the Unix environments. W.R. Stevens, O'Reilly Media,



### Lab: E Commerce Technologies (CMP713)

Practical No.	Practical	Activities
1	Home page design	Design a Home page for a Business to Consumer website
2	Form validation (Ajax enabled)	Design a page to enter customer details such as name address phone number apply proper validation.
3	Customer payment System	Explain with diagram working of e Payment System (Debit, Credit Card, Smart Card)
4	Internet and Networking	Explain types of Network and Role of Internet in eCommerce.
5	Search Engines	Study any popular search engine and note down the features.
6	Access control mechanism of a e-Commerce website	Study session management feature of e Commerce website.
7	ISP	State the role of ISP.
8	Digital signature	State the Importance of Digital signature in online business.
9	Catalogue Design	Design a Catalogue using any web technologies.
10	Cookies	Explain cookies, write steps to create a cookie.
11	Case Study 1	M commerce
12	Case Study 2	Bitcoin
13	Case Study 3	Use of SMO and SEO
14	Case Study 4	B2B and B2C
15	Case Study 5	C2C and C2B

**Lab: Advance JAVA (CMP714)**

Practical No.	Practical	Activities							
1	Servlet -I	<ol style="list-style-type: none"> <li>1. Write a servlet to determine whether the number is prime or not.</li> <li>2. Write a servlet to determine whether the entered name from the html form is palindrome or not.</li> <li>3. Write a Servlet program to print all the even numbers between the two entered numbers by the user, let say user enters 5 and 500 , so print the even numbers between 5 and 500</li> </ol>							
2	Servlet -II	<ol style="list-style-type: none"> <li>1. Write a servlet program where user enters a name from a form and you send back the length of the name to him.</li> <li>2. Write aHttpServlet to accept the values for following table and insert into it. <table border="1" data-bbox="469 779 1302 846"> <tr> <td>id</td> <td>name</td> <td>actor</td> <td>actress</td> <td>director</td> <td>releaseDate</td> <td>ratepoint</td> </tr> </table> </li> <li>3. Write a servlet to fetch the movie at id 9.</li> <li>4. Write a servlet to fetch all the movies released between 3rd Jan 2015 and 3rd Jan 2016.</li> </ol>	id	name	actor	actress	director	releaseDate	ratepoint
id	name	actor	actress	director	releaseDate	ratepoint			
3	Servlet -III	<ol style="list-style-type: none"> <li>1. Write a servlet program to accept a number, if number is even redirect to purplesq.com if number is odd redirect to google.com</li> <li>2. Write a servlet program to redirect the request to another servlet which requires a String as the parameter and the other servlet converts the string to lower case.</li> <li>3. Write a Java program to get the name from a html form, put the name in session and redirect the flow to another servlet and the other servlet displays the name put into the session.</li> </ol>							
4	JSP - I	<ol style="list-style-type: none"> <li>4. Write a JSP code to accept a number and revert whether the number is prime or not.</li> <li>5. Write a servlet Program to accept a String and determine whether the String's length is greater than 6.</li> <li>6. Write a JSP Program to redirect to Google.com</li> </ol>							
5	JSP - II	<ol style="list-style-type: none"> <li>1. Write a Java Program to print the following. <pre> 1 1 1 2 2 2 2 3 3 3 4 4 5 </pre> </li> <li>2. Write a JSP Code to store the data from a form into a database table using JDBC. (Use the form and table of your choice)</li> <li>3. Make 2 JSP Pages, accept the username and password from first page, if the username is tom and password is tommy, login will be successful and redirect it to loggedin.jsp page and store the username in session from login and display it on loggedin.jsp.</li> </ol>							

6	JDBC	1. .Crete the database as given below. Enter the sample data						
		id	temp	city	precipitation	wind	humidity	date
		int	float	vvarchar	float	int	float	date
			25.5C	mumbai	3.0%	25 km/hr	20%	2016-04-18
		2. Show the highest temperature for the city of Mumbai for the month of January 2016. 3. List the temperatures for the city of Mumbai and Delhi in order of their humidity (from lowest to highest) 4. List the temperature for the city of Bangalore for the month of February 2016. 5. Show all the days where temperature was above 30°C, using Set. 6. List the temperatures for the city of Bangalore in order of their precipitation (from highest to lowest) 7. Sort the list of temperature according to the name of the cities.						
7	Java Email	1. Send a text email using Java code 2. Send a HTML Email using Java Code 3. Send an HTML with an attachment using Java Code						
8	Hibernate-I	Table (Employee: id int Primary key, name varchar(200), dept varchar(50), designation varchar(100),salary float, dateofjoin date) 1. Write an Hibernate API to add an employee in given table. 2. Write an Hibernate API to update the name of employee on id 1 3. Write an Hibernate API to delete an employee on id 3						
9	Hibernate-II	1. Write an Hibernate API to get all the employee working in IT department using Hibernate Query Language 2. Write a Hibernate API to get all the employee who joined after 2016-01-01 and work in HR department using Hibernate Criterion Query Language 3. Write a Hibernate API to find the maximum salary in IT department using Projection						
10	Spring- I	1. Write a Spring API using ApplicationContext to load a Bean by name Hello with property message and load the property using spring bean xml. 2. Write a Spring API to demonstrate Setter Dependency Injection 3. Write a Spring API to demonstrate Constructor Dependency Injection						
11	Spring- II	1. Write a Spring API to store value in backend table using HibernateTemplate 2. Write a Spring MVC API to accept two numbers and return their addition 3. Write a Spring MVC API to accept a string and determine if it is palindrome or not.						
12	JAVA with JSON-I	Define a web service method that returns the contents of a database in a JSON string. The contents should be displayed in a tabular format.						
13	JAVA with JSON-II	Write a JSP which accepts the parameter in JSON String and later convert that value and display on the screen.						

14	JAVA with JSON- III	<p>Convert following String into a JSON Object.</p> <pre> {   "colors":[     {       "color":"black",       "category":"hue",       "type":"primary",       "code":{         "rgba":[255,255,255,1],         "hex":"#000"       }     },     {       "color":"white",       "category":"value",       "code":{         "rgba":[0,0,0,1],         "hex":"#FFF"       }     },     {       "color":"red",       "category":"hue",       "type":"primary",       "code":{         "rgba":[255,0,0,1],         "hex":"#FF0"       }     },     {       "color":"blue",       "category":"hue",       "type":"primary",       "code":{         "rgba":[0,0,255,1],         "hex":"#00F"       }     },     {       "color":"yellow",       "category":"hue",       "type":"primary",       "code":{         "rgba":[255,255,0,1],         "hex":"#FF0"       }     }   ], }</pre>
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		<pre>{   "color": "green",   "category": "hue",   "type": "secondary",   "code": {     "rgba": [0, 255, 0, 1],     "hex": "#0F0"   } }, ]</pre>
15	JAVA with JSON- IV	Write a Java Code to print the String from a JSON Object

### Lab: Linux Administration (CMP715)

Practical No.	Practical	Activities
1		Installation of Redhat Linux Installation.
2		Working with Grub and init file
3		Basic Linux Commands
4		Advanced Linux Commands.
5		Working with Vi Editor.
6		Working with Users, Groups, and Permissions.
7		Setting NFS File Server.
8		Setting up DNS server.
9		Setting Samba Server.
10		Setting IP address and connecting to internet.
11		Understanding Firewall configuration through graphical and command mode.
12		Configuring ftp on linux.
13		Configure Apache Web server to support html & PHP file.
14		Install gcc compiler and execute sample C program.
15		Install g++ compiler and execute sample C++ program.
16		Install java compiler and execute sample java program.

## SEMESTER 6

### Personality and Career Skills (OPN273)

#### Course Objective:

- To study the personality development of individuals in the micro perspective.
- To provide employability skills
- To know the process of Interview Techniques & Group discussion.
- To understand the needs and benefits of written communication.
- To understand stress and time management and to achieve work life balance  
To equip students with the necessary soft skills to enhance their competitive edge in the job market
- To imbibe in students positive attitude towards life and work
- To help students excel in their individual and professional lives using the soft skills
- Additional knowledge of sources of leadership, creativity, innovation etc.

#### Learning Outcomes:

On completion of the course, learner will be able to:

- Make use of techniques for self-awareness and self-development.
- Apply the conceptual understanding of communication into everyday Practice.
- Understand the importance of teamwork and group discussions skills.
- Develop time management and stress management skills.
- Apply business etiquette skills effectively an engineer requires.
- Application of gained knowledge for Decision Making, coordinating, stress management, time management.

Unit No	Detailed Syllabus of the Unit	Counseling Session	Weightage
01	<p><b>Soft Skills:</b> What are soft skills? Importance of soft skills, Selling your soft skills, Attributes regarded as soft skill, Soft skills, Social soft skills, Thinking soft skills, Negotiating, Exhibiting your soft skill, Identifying your soft skills, Improving your soft skills, Train yourself, Top 60 soft skills, Practicing soft skills, Measuring attitude</p> <p><b>Self-Discovery:</b> Introduction, Importance of knowing yourself, Process of knowing yourself, SWOT analysis, Benefits of SWOT analysis, Using SWOT analysis, SWOT analysis grid, Questions to complete the grid</p> <p><b>Developing Positive Attitude:</b> Introduction, Meaning, Features of attitudes, Attitude and behavior, Formation of attitudes, Change of attitudes, What can you do to change attitude? Ways of changing attitude in a person, Attitude in a workplace, The power of positive attitude, Developing positive attitude, Obstacles in developing positive attitude, Staying positive, Examples of positive attitudes, Positive attitude and its results, Staying negative, Examples of negative attitude, Overcoming negative attitude, Negative attitude and its results</p> <p><b>Forming Values:</b> Introduction, Meaning, What is a value? A core of values, Values relating to education, Values relating to self and others, Values relating to civic responsibilities, Values and attitudes, Importance of values, Formation of values, Types of values, Terminal and instrumental values, Power of values, Personal values, Cultural values, Social values, Values some examples</p>	07	10
02	<p><b>Improving Perception:</b> Introduction, Meaning, Factors influencing perception, Perceptual process, Improving perception, Perception and its application in organizations</p> <p><b>Career Planning:</b> Introduction, Benefits of career planning, Guidelines for choosing a career, Myths about choosing a career, Tips for successful career planning, Developing career goals, Final thoughts on career planning</p> <p><b>The Art of Writing E-mail:</b> Introduction, The mail magic, Use appropriate salutations, Make the subject matter significant, Keep a dictionary close by, Use commas, Use smileys, When in doubt, preface – include previous message, Shorten the file attachments, Reread before pressing the “send” button, Be polite and reciprocate good deeds, Anticipate, empathize, understand</p> <p><b>Body Language:</b> Introduction, Body talk, Voluntary and involuntary body language, Forms of body language, Parts of body language, Origin of body language, Uses of body language, Body language in building industrial relations, Reasons to study body language, Improving your body language, Types of body language, Gender differences, Female interest and body language, Shaking hands with women, Interpreting body language</p>	07	10



03	<p>Etiquette and Manners: Etiquette introduction, Modern etiquette, Benefits of etiquette, Classification of etiquette, Accompanying women, Taboo topics, Proposing the toast. Manners Introduction, Poor manners noticed in youth, Why should you practice good manners? Practicing good manners, Manners at the wheel: driving, Manners in the flight, Respecting the sacred, Visiting holy places, Dealing with the challenged, Attending funeral, Professional manners, Social Skills or manners, Getting along with people, Manners to get respect from others</p> <p><b>Team Building and Teamwork:</b> Introduction, Meaning, Aspects of team building, Skills needed for teamwork, A model of team building, Team vs group, Characteristics of effective team, Role of a team Leader, Role of Team Members, Nine persons a successful team should have, Inter–group collaboration, Advantages of inter–group collaboration, Difficulties faced in inter–group collaboration, Factors shaping inter– group collaboration</p> <p><b>Group Discussion:</b> Introduction, Meaning of GD, Why group discussion? Characters tested in a GD, Tips on GD, Types of GD, Skills required in a GD, Consequences of GD, Behavior in GD, Essential elements of GD, Different characters in GD, Traits tested in GD, GD etiquette, Areas to be concentrated while preparing for a GD, Initiating a GD, Techniques to initiate a GD, Non–verbal communication in GD, Movement and gestures to avoided in a GD, Topics for GD</p>	07	10
04	<p><b>Preparing Resume:</b> Introduction, Meaning, The terms, The purpose of Resume writing, Types of resumes, Interesting facts about resume, Resume writing tips, Resume preparation-the dos, Resume preparation-the don'ts, Resume checkup, Design of a Resume, The content of the resume, Electronic resume tips, References, Power words, Common resume blunders, Key skills that can be mentioned in the resume, Cover letters, Cover letter tips</p> <p><b>Interview Skills:</b> Introduction, Why an interview? Types of interview, Interview panel, Types of questions asked, Reasons for selecting a candidate, Reasons for rejecting a candidate, On the day of interview, On to the interview table, Attending job fair, Common mistakes to avoid, Post–interview etiquette, How does one follow up? Telephonic interview, Dress code at interview, Typical questions asked, Interview mistakes, Quick tips, How to present well in interview, Job interview – basic tips, How to search for job effectively, Quotes to remember about interview</p> <p><b>Time Management:</b> Introduction, The 80:20 rule, Take a good look at the people around you, Examine your work, Sense of time management, Time is money, Features of time, Three secrets of time management, Time management matrix, Analysis of time matrix, Effective scheduling, Grouping of activities, Five steps to successful time management, Difficulties in time management, Evils of not planning, Interesting facts about time, Ideal way of spending a day, Time wasters, Time savers, Realizing the value of time, Time circle planner</p> <p><b>Stress Management:</b> Introduction, Meaning, At one level stress may be a positive aid to performance, At one stress may be a negative aid to performance, Effects of stress, Kinds of stress, Sources of stress, Few other common sources of stress, Case study, Behavior Identified with stress, Assessing the existence of stress, What are the signs of stress? Spotting stress in you, Stress management tips</p>	07	10

**Reference books:**

1. **Emotional Intelligence: Why It Can Matter More Than IQ** by **Daniel Goleman**, Bloomsbury Publishing; 1<sup>st</sup> edition (20 July 2009)
2. **Critical Thinking Skills: Developing Effective Analysis and Argument** by **Stella Cottrell**, Palgrave Macmillan publication; Second edition (20 May 2011)
3. **The 7 Habits of Highly Effective People: Powerful Lessons in Personal Change** by **Stephen R. Covey**, Mango publishing (1 January 2016)
4. **PERSONALITY DEVELOPMENT** by **Elizabeth Hurlock**, McGraw Hill Education; New edition (1 July 2017)
5. **Personality Development and Soft Skills** (Old Edition) by **Barun K Mitra**.
6. **Soft Skills Training: A Workbook to Develop Skills for Employment** by **Frederick H Wentz**

# Android Programming (CMP516)

## Course Objective

- To understand the fundamentals involved in technologies of Mobile computing
- To introduce Android & understand the basic of Android.
- Design the home screen using UI screen elements.
- Describe the platforms upon which the Android operating system will run.
- To understand android terminologies & resources
- Create an application that uses user interface elements under the Android operating system
- Access and work with databases under the Android operating system
- To share data with another application.

## Course Outcomes:

- Students will be able to understand fundamentals of mobility computing.
- Students will be able to understand working of Android architectures and their applications.
- Students will be able understand the user interface elements and learn the database tools for developing applications on mobile platforms like Android.
- Student will be able to gain the knowledge of deployment of application in actual android device.

Unit No and Name	Title	Counseling Sessions	Weightage
Unit 1: Introduction to Mobile Development	<ul style="list-style-type: none"> <li>❖ Mobile Computing</li> <li>❖ Historical of Mobile Environments</li> <li>❖ Early Mobile Phones to Smartphone's</li> <li>❖ Tablets</li> <li>❖ Mobile Computing Architecture</li> <li>❖ Mobile Generation                             <ul style="list-style-type: none"> <li>○ Devices for 1G, 2G, 2.5G, 3G</li> <li>○ Applications for 1G, 2G, 2.5G, 3G</li> </ul> </li> <li>❖ Handoff</li> <li>❖ Roaming</li> <li>❖ GSM &amp; GSM Architecture</li> </ul>	3	10
Unit 2: Introduction to Android	<ul style="list-style-type: none"> <li>❖ Android                             <ul style="list-style-type: none"> <li>○ 2.1.1 What is Android</li> <li>○ 2.1.2 History and Version</li> <li>○ 2.1.3 Android Architecture</li> <li>○ 2.1.4 Hello Android example</li> </ul> </li> <li>❖ Dalvik VM</li> <li>❖ Software Stack</li> <li>❖ R.java file</li> <li>❖ Screen Orientation</li> <li>❖ Android Operating System                             <ul style="list-style-type: none"> <li>○ Introduction</li> <li>○ Android Versions with Features</li> </ul> </li> </ul>	3	10
Unit 3: User Interface Screen Elements	<ul style="list-style-type: none"> <li>❖ Toast &amp; Snack Bar</li> <li>❖ Custom Toast</li> <li>❖ Button                             <ul style="list-style-type: none"> <li>○ Toggle Button</li> <li>○ Switch Button</li> </ul> </li> </ul>	4	10

	<ul style="list-style-type: none"> <li>○ Image Button</li> <li>○ Radio Button</li> <li>❖ Text View and EditText, CheckBox</li> <li>❖ Alert Dialog and Button Sheets</li> <li>❖ Spinner</li> <li>❖ Date Picker and Time Picker</li> <li>❖ Rating Bar and Progress Bar</li> <li>❖ File Download</li> </ul>		
Unit 4: Android Development Elements	<ul style="list-style-type: none"> <li>❖ Installing the Java Development Kit</li> <li>❖ Installing Android Studio</li> <li>❖ Set up Android Studio</li> <li>❖ Start a new Android Studio project</li> <li>❖ Update your Android Studio software often</li> </ul>	4	10
Unit 5: Android Terminologies and Resource Handling	<ul style="list-style-type: none"> <li>❖ 5.1 Terminologies <ul style="list-style-type: none"> <li>○ Context</li> <li>○ Activity</li> <li>○ Intent</li> <li>○ Linking Activity using Intent</li> <li>○ Calling Build-In Application using Intent</li> </ul> </li> <li>❖ Notifications Service</li> <li>❖ Broadcast</li> <li>❖ Adapter Resources <ul style="list-style-type: none"> <li>○ Working with different types of Resources</li> </ul> </li> </ul>	4	10
Unit 6: Android User Interface Elements	<ul style="list-style-type: none"> <li>❖ Layouts <ul style="list-style-type: none"> <li>○ Linear Layout</li> <li>○ Absolute Layout</li> <li>○ Frame Layout</li> <li>○ Relative Layout</li> <li>○ Table Layout</li> <li>○ Creation of Layout Programmatically</li> </ul> </li> <li>❖ View <ul style="list-style-type: none"> <li>○ ListView</li> <li>○ GridView</li> <li>○ RecyclerView</li> <li>○ ScrollView</li> <li>○ WebView</li> </ul> </li> </ul>	4	10
Unit 7: Data Storage and Introduction to SQLITE	<ul style="list-style-type: none"> <li>❖ File system in android</li> <li>❖ Internal and external storage</li> <li>❖ Creating SQLite database</li> <li>❖ Editing Tasks with SQLite</li> <li>❖ Cursors and content values</li> <li>❖ Working with Android database</li> <li>❖ Publish Android Application in Android Market</li> </ul>	4	10
Unit 8: Providers and Receivers	<ul style="list-style-type: none"> <li>❖ Content Provider <ul style="list-style-type: none"> <li>○ Content Provider Fundamental</li> <li>○ Contact Content Provider</li> <li>○ Other Built-in Content Providers</li> <li>○ Creating Custom Content Provider</li> <li>○ Understanding Content URI</li> </ul> </li> </ul>	4	10

	<ul style="list-style-type: none"> <li>○ ContentResolver</li> <li>○ Sharing Information from custom content provider</li> <li>❖ Broadcast Receivers <ul style="list-style-type: none"> <li>○ Broadcast receiver usage patterns</li> <li>○ When and why to use them</li> <li>○ Implementing a broadcast receiver</li> <li>○ Registering a broadcast receiver via the manifest file and Programmatically</li> <li>○ Call State BroadcastReceiver</li> </ul> </li> </ul>		
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**Text Books:**

1. **Wireless and Mobile Network Architectures** by Yi Bang Lin, Wiley Publications
2. **Hello Android: Introducing Google’s Mobile Development** by Ed Burnette, 3rd Ed., 2010, The Pragmatic Programmers
3. **Mobile and Personal Communication System and Services** by Raj Pandya, Prentice Hall, Eastren Economy Edition

**Reference Books**

1. **Android Wireless Application Development** by Lauren Darcey and Shane Conder, Pearson Education, 2nd Edition
2. **Professional Android 4 Application Development** by Reto Meier, John Wiley & Sons
3. **Android User Interface Design: Turning Ideas and Sketches into Beautifully Designed Apps** by Ian G. Clifton

# PHP Programming (CMP517)

## Course Objective

- To understand the fundamentals involved in technologies of Mobile computing
- To introduce Android & understand the basic of Android.
- Design the home screen using UI screen elements.
- Describe the platforms upon which the Android operating system will run.
- To understand android terminologies & resources
- Create an application that uses user interface elements under the Android operating system
- Access and work with databases under the Android operating system
- To share data with another application.

## Learning Outcomes:

- Students will be able to understand fundamentals of mobility computing.
- Students will be able to understand working of Android architectures and their applications.
- Students will be able understand the user interface elements and learn the database tools for developing applications on mobile platforms like Android.
- Student will be able to gain the knowledge of deployment of application in actual android device.

Unit No and Name	Title		
Unit 1: Basics of PHP	<ul style="list-style-type: none"> <li>❖ Introduction                             <ul style="list-style-type: none"> <li>○ Getting started with PHP</li> </ul> </li> <li>❖ Syntax</li> <li>❖ Echo / Print</li> <li>❖ Variables &amp; Constants</li> <li>❖ Data Types</li> <li>❖ Comments</li> <li>❖ Attributes</li> <li>❖ Operators</li> <li>❖ Decision Making &amp; Loops</li> <li>❖ Predefined Functions</li> <li>❖ Date and Time</li> </ul>	❖	❖
Unit 2: PHP Form Handling	<ul style="list-style-type: none"> <li>❖ Strings</li> <li>❖ Arrays</li> <li>❖ GET ,POST and REQUEST methods</li> <li>❖ Reading fields from HTML</li> <li>❖ PHP Validations</li> </ul>	❖	❖
Unit 3: File Handling, Session, Cookies in PHP	<ul style="list-style-type: none"> <li>❖ File Open/Read</li> <li>❖ File Create/Write</li> <li>❖ File Deletion</li> <li>❖ File Upload</li> <li>❖ Cookies</li> <li>❖ Sessions</li> <li>❖ Filters</li> </ul>	❖	❖
Unit 4: Errors and Exception Handling in PHP	<ul style="list-style-type: none"> <li>❖ Compilation of Errors and Warning                             <ul style="list-style-type: none"> <li>○ Parse error</li> <li>○ syntax error</li> </ul> </li> </ul>	❖	❖

	<ul style="list-style-type: none"> <li>○ Undefined index</li> <li>❖ Error Reporting</li> <li>❖ Exception Handling</li> </ul>		
Unit 5: PHP MySQLi	<ul style="list-style-type: none"> <li>❖ MySQLi connect</li> <li>❖ Loop through MySQLi results</li> <li>❖ Prepared statements in MySQLi</li> <li>❖ Escaping Strings</li> <li>❖ Debugging SQL in MySQLi</li> <li>❖ MySQLi query</li> <li>❖ How to get data from a prepared statement</li> <li>❖ MySQLi Insert ID</li> <li>❖ Close connection</li> <li>❖ Joins</li> </ul>	❖	❖
Unit 6: Object Oriented Programming	<ul style="list-style-type: none"> <li>❖ Defining PHP classes</li> <li>❖ Creating objects in PHP</li> <li>❖ Calling Member Functions.</li> <li>❖ Constructor functions</li> <li>❖ Destructor</li> <li>❖ Inheritance</li> <li>❖ Function Overriding</li> <li>❖ Access Specifiers</li> <li>❖ Interfaces</li> <li>❖ Abstract Classes</li> <li>❖ Static and Final Keywords</li> <li>❖ Calling Parent Constructors</li> <li>❖ Namespaces</li> <li>❖ Functions</li> </ul>	❖	❖
Unit 7: PHP Frameworks and Laravel	<ul style="list-style-type: none"> <li>❖ Introduction to Framework <ul style="list-style-type: none"> <li>○ Laravel</li> <li>○ CodeIgniter</li> <li>○ CakePHP</li> </ul> </li> <li>❖ Yii</li> <li>❖ MVC(Model View controller) Introduction</li> <li>❖ Laravel Installation</li> <li>❖ Laravel Database Connectivity</li> </ul>	❖	❖
Unit 8: Content Management system and WordPress	<ul style="list-style-type: none"> <li>❖ Introduction to CMS <ul style="list-style-type: none"> <li>○ WordPress</li> <li>○ Joomla</li> <li>○ Drupal</li> <li>○ Magento</li> </ul> </li> <li>❖ WordPress <ul style="list-style-type: none"> <li>○ Home</li> <li>○ Overview</li> <li>○ Installation</li> <li>○ Dashboard</li> <li>○ Add, Delete, Publish Post</li> <li>○ Media Library</li> <li>○ Add, Delete, Publish Page</li> </ul> </li> </ul>	❖	❖

**Reference Books:**

1. **Php: The Complete Reference** by steven holzner, Publisher: Mcgraw Hill, Latest edition

2. **Learning PHP, MySQL & JavaScript:** With jQuery, CSS & HTML5 (Learning PHP, MYSQL, Javascript, CSS & HTML5) by Robin Nixon, O'Reilly Media, 5<sup>th</sup> edition (2018).
3. **The Joy of PHP Programming:** A Beginner's Guide to Programming Interactive Web Applications with PHP and MySQL, Author –Alan Forbes, Latest Edition – Fifth Edition, Publisher – Plum Island Publishing LLC.
4. **Code Smart: The Laravel Framework** Version 5 for Beginners by Dayle Rees.
5. **Building Web Apps with WordPress:** WordPress As An Application Framework by Brian Messenlehner and Jason Coleman Foreword by Brad Williams.
6. **PHP Cookbook: Solutions & Examples For PHP Programmers** by Adam Trachtenberg and David Sklar

### Lab: Android Programming (CMP716)

Practical No.	Practical	Activities
1	Introduction to Android and My first android application	Create an application with following functionalities: Print and show a simple message e.g. Hello Word
2	Android button & Toggle button	Android button & Toggle button from this create application
3	Use of Toast & Custom Toast	Use of Toast & Custom Toast creates android application.
4	Check Box & Alert Dialog Box	Create Android application using CheckBox & AlertDialogBox
5	Spinner & Auto complete test view	Create Android application using Spinner & Auto complete test view
6	Calculator	Create an application with following functionalities: Calculator for Basic mathematical operations.
7	Rating Bar, Web view, Seek Bar	Create Android application using Rating Bar, Web view, Seek Bar
8	Android UI Design	Design an android application for "Registration Form" using different layout such as table layout, linear layout etc. Use Drawable Resources, option menu, List Views and Adapters.
9	Date picker & Time Picker	Create Android application using Date picker & Time Picker
10	Progress Bar, Implicit Intend	Create Android application using Progress Bar, Implicit Intend
11	Progress Bar, Explicit Intend	Create Android application using Progress Bar, Explicit Intend
12	Fragments	Create Android application using fragments
13	SQLite Database for an Android Application	Design and Implement a Registration Form using SQLite Database.
14	Notification/Working in background	Design and Implement a Timetable application with lecture and practical alert notifications.
15	Mini Project	Design and Implement an android application using android studio or eclipse adt bundle such as Simple MP3 Player with Play, Stop, Pause options, Torch application etc.



## Lab: PHP Programming (CMP717)

Practical No.	Practical	Activities
1		Installation of XAMPP Server and print "hello world" in PHP.
2		Write a PHP program to print sum of digits.
3		Write a PHP program to check prime number.
4		Write a PHP program to print factorial of a number.
5		Write a PHP program to sort elements in an array in ascending order.
6		Create a PHP program in which two values submitted using form and calculate its addition, subtraction, multiplication, modulation, average and division on the same page. Find the greatest number between them and square of each of them using PHP function
7		Write a PHP program to change background color based on hour of a day.
8		Write a PHP Program to create a simple Registration form.
9		Write a PHP program to Insert and display records to the table in Database.
10		Write a PHP Program to perform various string operations.
11		Write a program for creating a user login and logout system with PHP and MySQLi.
12		Write a program to merge 2 arrays with and without using predefined functions.
13		Write a program to create a file in write mode.
14		Write a program to read and display the contents of file.
15		Write a PHP script to display string, values, within a table.
16		Write a PHP Script to get Last occurred error.
17		Installation of Lavarel.
18		Installation of WordPress(Online/Offline).
19		Miniproject – Design a WordPress website.