



CARMEL VIDYA BHAVAN TRUST'S

# CHRIST COLLEGE-PUNE

(Affiliated to Savitribai Phule Pune University)

## CRITERIA I Curricular Aspects

**1.2.1 Number of Certificate/Value added courses offered and online courses of MOOCs, SWAYAM, NPTEL etc(Where the students of the institution have enrolled and successfully completed during the last five years)**

LEARNING  
OUTCOMES

**NOTICE**

SYLLABUS

**BROCHURES,  
NOTICES,  
MODULES  
& OUTCOMES**



**CARMEL VIDYA BHAVAN TRUST'S**  
**CHRIST COLLEGE-PUNE**  
(Affiliated to Savitribai Phule Pune University)  
Accredited by NAAC with 'B+' Grade

## **1.2 ACADEMIC FLEXIBILITY**

**1.2.1 Notice/Brochure/Modules with  
Outcomes of Certificate/Value Added  
Course(2022-23)**



## INDEX

Sr. No	Title
	<b>Objective and Outcomes</b>
1.	Cloud Computing <ul style="list-style-type: none"><li>• Brochure</li><li>• Notice</li><li>• Module</li></ul>
2.	Bussiness Communication Skills <ul style="list-style-type: none"><li>• Brochure</li><li>• Notice</li><li>• Module</li></ul>
3.	Object Oriented Programming and Project Management <ul style="list-style-type: none"><li>• Brochure</li><li>• Notice</li><li>• Module</li></ul>
4.	Financial Modeling <ul style="list-style-type: none"><li>• Brochure</li><li>• Notice</li><li>• Module</li></ul>
5.	Advanced Data Analytics <ul style="list-style-type: none"><li>• Brochure</li><li>• Notice</li><li>• Module</li></ul>



6.	<b>Financial Statement Analysis</b> <ul style="list-style-type: none"> <li>• Brochure</li> <li>• Notice</li> <li>• Module</li> </ul>
7.	<b>Professional Accounting</b> <ul style="list-style-type: none"> <li>• Brochure</li> <li>• Notice</li> <li>• Module</li> </ul>
8.	<b>Stock Market</b> <ul style="list-style-type: none"> <li>• Brochure</li> <li>• Notice</li> <li>• Module</li> </ul>
9.	<b>GST Basic to Advance</b> <ul style="list-style-type: none"> <li>• Brochure</li> <li>• Notice</li> <li>• Module</li> </ul>
10.	<b>Introduction to SPSS</b> <ul style="list-style-type: none"> <li>• Brochure</li> <li>• Notice</li> <li>• Module</li> </ul>
11.	<b>Introduction to Statistical Concepts in Economics</b> <ul style="list-style-type: none"> <li>• Brochure</li> <li>• Notice</li> <li>• Module</li> </ul>
12.	<b>Introduction to Google Workspace</b> <ul style="list-style-type: none"> <li>• Brochure</li> <li>• Notice</li> <li>• Module</li> </ul>







## CHRIST COLLEGE - PUNE

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Course Objectives & Course Outcomes

Year 2022 - 23			
Sr.NO	Name of Certificate/ Value added Add on course offered	Course Objectives	Course Outcome
1	Cloud Computing	Provide students with a foundational understanding of cloud computing concepts, history, and its significance in modern technology. Teach students how to manage cloud resources and orchestrate workflows efficiently.	Develop a strong foundation in cloud computing concepts, terminology, and principles. Gain familiarity with major cloud service providers and their core offerings.
		Explain the various cloud service models, including Infrastructure as a Service (IaaS), Platform as a Service (PaaS), and Software as a Service (SaaS).	Implement security measures to protect data and applications in the cloud. Effectively manage cloud resources, optimize costs, and automate tasks.
		Introduce serverless architecture and its advantages for building scalable and cost-effective applications. Discuss strategies and tools for migrating on-premises systems to the cloud and integrating cloud services.	Plan and execute cloud migrations and integrate cloud services with existing systems. Prepare for careers in cloud architecture, cloud administration, cloud development, and related roles.
2	Business Communication Skills	Provide students with a foundational understanding of communication principles and their importance in business. Teach students how to plan, design, and deliver compelling business presentations.	Communicate effectively in written and verbal forms in various business situations. Write clear, concise, and well-structured business documents with proper grammar and formatting.
		Develop proficiency in writing business documents, such as emails, memos, reports, and business letters. Foster effective communication within teams, emphasizing collaboration and synergy.	Listen attentively, ask clarifying questions, and respond empathetically in business conversations. Resolve conflicts and disputes constructively, fostering a harmonious work environment.
		Enhance active listening skills to understand others and respond appropriately in business conversations. Provide strategies for negotiation and persuasion in business dealings.	Enhance employability and career prospects through strong communication skills. Develop leadership and management capabilities by mastering communication in leadership roles.

3	Object Oriented Programming and Project Management	Introduce students to the foundational concepts of OOP, including classes, objects, encapsulation, inheritance, and polymorphism. Teach a specific programming language (e.g., Java, C++, Python)	Develop proficiency in OOP concepts, including class design, inheritance, and polymorphism. Create reusable code components and libraries for efficient software development.
		Develop problem-solving skills by applying OOP concepts to real-world programming challenges. Teach project planning techniques, such as creating project schedules, budgets, and resource allocation.	Apply OOP to solve complex programming problems and design efficient solutions. Effectively manage project teams, monitor progress, and address issues and risks.
		Explain project closure activities, including documentation, client handover, and lessons learned. Emphasize effective communication and collaboration within project teams.	Demonstrate leadership skills in managing software development projects. Apply OOP principles in the context of software project development, aligning coding practices with project management objectives.
4	Financial Modeling	Introduce students to the basic concepts, principles, and techniques of financial modeling. Develop proficiency in using Microsoft Excel as the primary tool for financial modeling.	Develop the ability to create, modify, and analyze financial models for various purposes. Become proficient in using Microsoft Excel for complex financial modeling tasks.
		Introduce various valuation models, such as discounted cash flow (DCF) and relative valuation, for asset and company valuation. Discuss risk assessment and sensitivity analysis to understand the uncertainties in financial models.	Perform scenario analysis to evaluate the impact of different scenarios on financial outcomes. Assess and mitigate financial risks through sensitivity analysis and stress testing.
		Enhance skills in interpreting financial data and using it to make informed decisions. Prepare students to use financial models to support business decisions, such as investment proposals and pricing strategies.	Communicate complex financial modeling results to stakeholders clearly and persuasively. Apply financial modeling skills to real-world financial scenarios and business cases.
5	Advanced Data Analytics	Teach advanced data preprocessing techniques, including handling missing data, outlier detection, and data imputation. Cover advanced statistical methods such as multivariate analysis, hypothesis testing, and regression analysis	Ability to clean, preprocess, and transform complex datasets for analysis. Apply advanced statistical methods to gain insights from complex data.
		Introduce advanced machine learning algorithms for classification, regression, clustering, and recommendation systems. Introduce technologies and tools for analyzing large-scale datasets	Create compelling visualizations to convey complex insights clearly. Understand and address ethical considerations in data analytics. Apply advanced analytics techniques to real-world business challenges.
		Advanced data visualization techniques for effectively communicating complex insights to stakeholders. Apply advanced data analytics techniques to real-world business problems and case studies.	Support data-driven decision-making in various domains and industries. Prepare for research and innovation in the field of advanced data analytics.

6	Financial Statement Analysis	Provide students with a comprehensive understanding of financial statements, including the income statement, balance sheet, and cash flow statement.	Gain a strong foundation in financial concepts, terminology, and reporting. Develop the skills to interpret and analyze financial statements accurately.
		Familiarize students with accounting principles and standards, such as Generally Accepted Accounting Principles (GAAP) or International Financial Reporting Standards (IFRS).	Analyze cash flow statements to evaluate a company's liquidity and cash management. Understand a company's asset and liability composition and the implications for its financial stability.
		Teach students how to assess the creditworthiness of companies and make informed lending or investment decisions. Discuss ethical issues related to financial reporting and analysis.	Understand the ethical considerations and responsibilities in financial statement analysis. Apply financial analysis skills to make informed investment decisions.
7	Professional Accounting	Introduce students to the fundamental principles and concepts of financial accounting, including the accounting equation, income statement, balance sheet, and cash flow statement.	Develop proficiency in financial and managerial accounting principles and practices. Prepare accurate and compliant financial statements for organizations.
		Familiarize students with auditing concepts, procedures, and standards, and the role of auditors in ensuring financial transparency and accuracy. Provide an overview of taxation principles, including income tax, etc.	Understand and apply auditing procedures and standards to assess the reliability of financial statements. Recognize and address ethical dilemmas and challenges in accounting practice.
		Teach students how to analyze financial statements to assess the financial health and performance of organizations and compliance requirements relevant to accounting and financial reporting.	Communicate financial information and analysis findings clearly and concisely to stakeholders. Prepare for careers in accounting, auditing, financial analysis, taxation, and related fields.
8	Stock Market	Provide students with a comprehensive understanding of what stock markets are and how they function. Introduce various investment instruments available in the stock market, including stocks, bonds, and derivatives.	Develop a strong foundation in stock market concepts, terminology, and operations. Understand different investment instruments and their characteristics. Evaluate and manage investment risk in stock market portfolios.
		Teach students how to analyze stock market trends, market indicators, and factors affecting stock prices. Cover different investment strategies, including value investing, growth investing, and dividend investing.	Analyze stock market trends, technical indicators, and economic factors influencing stock prices. Implement effective investment strategies aligned with financial goals and risk tolerance.
		Familiarize students with stock market regulations, ethical considerations, and investor protection. Conduct stock market simulations to provide hands-on experience in making investment decisions.	Understand ethical considerations and compliance with stock market regulations. Gain practical experience in making investment decisions through stock market simulations.

9	GST basic to advance	Provide students with an overview of the concept and significance of GST in taxation. Explain the GST structure, including CGST, SGST, and IGST, and their implications.	Gain a foundational understanding of GST concepts and its importance. Understand the GST registration process and its requirements. Utilize input tax credit effectively in GST calculations.
		Teach proper invoicing and documentation procedures to meet GST requirements. Introduce the E-way bill system and its relevance in the transportation of goods.	Classify goods and services correctly under GST tax slabs. Generate and manage E-way bills for the transportation of goods. Use GST accounting software for efficient compliance and reporting.
		Analyze the impact of GST on businesses, supply chains, and the economy. Cover GST implications for specific transactions, such as exports, imports, and reverse charge mechanisms.	Develop strategies for minimizing tax liabilities and optimizing GST management. Apply GST rules to special transactions like exports, imports, and reverse charge mechanisms.
10	Introduction to SPSS	Provide students with an overview of SPSS software, its interface, and its capabilities for data analysis. Teach students how to import data from various sources, such as Excel, CSV files, and databases, into SPSS.	Develop proficiency in using SPSS software for data analysis and manipulation. Import data into SPSS and prepare it for analysis, addressing issues like missing data and outliers.
		Introduce students to basic descriptive statistical methods, including measures of central tendency and dispersion. Explore data visualization techniques in SPSS, such as creating charts and graphs.	Create informative data visualizations and charts using SPSS. Perform hypothesis tests and interpret the results in SPSS. Understand and apply nonparametric tests in SPSS when parametric assumptions are not met.
		Discuss techniques for analyzing survey data and creating summary reports. Guide students in interpreting the results and output generated by SPSS analyses.	Use SPSS to support data-driven decision-making in research and analysis. Prepare for research projects and data analysis tasks that require SPSS skills. Create clear and concise reports of data analyses conducted in SPSS.
11	Introduction to Statistical Concepts in Economics	Develop a foundation in statistical concepts and terminology relevant to economics. Understand the sources of economic data and learn how to collect and organize economic data effectively.	Develop a strong foundation in statistical concepts and terminology relevant to economics. Collect, organize, and manage economic data effectively for analysis.
		Students will learn to create and interpret graphs and charts to visually represent economic data. Provide an introduction to probability theory and its application to economic events and outcomes.	Create and interpret graphical representations of economic data. Apply sampling methods to collect economic data and make inferences.
		Introduce basic econometric models for understanding and analyzing economic data. Teach students how to interpret economic data critically and draw meaningful conclusions.	Prepare students for economic research projects and data analysis tasks. Use statistical concepts to support data-driven decision-making in economic analysis.

12	Introduction to Google Workspace	Provide an overview of Google Workspace and its suite of productivity and collaboration tools. Introduce Google Docs for creating and editing text documents.	Develop proficiency in using Google Workspace tools effectively. Manage emails efficiently using Gmail's features for organization and communication. Create, format, and edit text documents in Google Docs.
		Explain how to use Google Drive for cloud-based file storage and sharing. Cover Google Calendar for scheduling and time management.	Design and deliver engaging presentations with Google Slides. Effectively store, organize, and share files in Google Drive. Collaborate with others in real time and share documents seamlessly.
		Introduce communication tools like Google Meet and Google Chat for video conferencing and instant messaging. Explain how to access Google Workspace tools on mobile devices for on-the-go productivity.	Access and work on Google Workspace documents and communications using mobile devices. Gain the skills needed for remote work and virtual collaboration using Google Workspace.



*Arun Antony*  
Dr (Fr) Arun Antony Chully, CMI  
(Principal/Director)





# **CLOUD COMPUTING**



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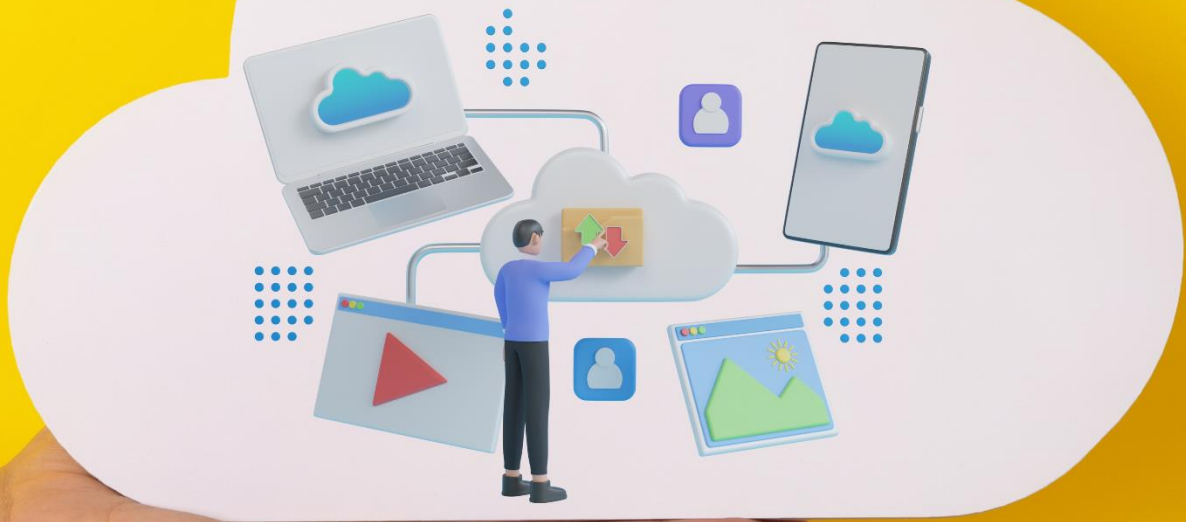
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26/4 A, Off Pune Nagar Road opposite weikfield IT Citi Info Park

Wadgaon Sheri, Pune, Maharashtra 411014 contact: +91 9823888322 / +91 9637115409

2022 - 2023

**DEPARTMENT OF SCIENCE**



**CLOUD COMPUTING**



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26/4A, Sainikwadi, Vadgaon Sheri, Pune 411 014.

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Ref. No. CCP/ 163/2023

Date: 20/02/2023

**NOTICE**

**DEPARTMENT OF SCIENCE**

All the students of TY Bsc (CS) are hereby informed that Department of Science, conducting Certificate Distribution Ceremony of "Cloud Computing" Add-on Course on 21<sup>st</sup> February 2023 for academic year 2022-23. Students are requested to Present in Smart room at 10:00 AM.

Ms. Nilima Shingte

HOD

Dept. of Science





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**Hematite Infotech  
Private Ltd.**

2ndFloor Mathura Nagar Housing Society,  
Sr.no-47, Plot no-39, Near Janseva Sahakari  
Bank, Chandan Nagar, Kharadi-411014

Phone no: 91 - 8263926309/8999639478, Email: [contact@hematitecorp.com](mailto:contact@hematitecorp.com), Website: [www.hematitecorp.com](http://www.hematitecorp.com)

## **Basic Cloud Computing Syllabus**

### **Chapter-1**

#### **Overview of Computing Paradigms**

##### **1.1 Recent trends in Computing**

- a) Grid Computing
- b) Cluster Computing
- c) Distributed Computing
- d) Utility Computing

##### **1.2 Cloud Computing**

- a) Evolution of Cloud Computing
- b) Business driver for adopting cloud computing

### **Chapter-2**

#### **Introduction of Cloud Computing**

- **Cloud Computing (NIST Model)**

- a) Traditional Hosting
- b) Origin of Cloud computing
- c) Introduction to Cloud Computing
- d) Cloud service providers.

- **Properties, Benefits & Challenges**

- a) Characteristics
- b) Pros and Cons of Cloud Computing
- c) Benefits of Cloud Computing



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## Chapter-3

### Cloud Computing Architecture

- Cloud Architecture
  - a) Cloud computing stack
  - b) Front End Devices
  - c) Back End Services.
- Service Models (XaaS)
- Infrastructure as a Service (IaaS)
- Platform as a Service (PaaS)
- Software as a Service (SaaS).
- Deployment Models: Public cloud, Private cloud, Hybrid cloud, Community cloud

## Chapter-4

### Virtualization

- Introducing the Force.com Platform
- Understanding the basics of application with Standard Object
- Understanding Service cloud

## Chapter-5

### Object and Field Virtualization and Cloud Computing

- Need of virtualization
  - a) cost
  - b) administration
  - c) fast deployment
  - d) reduce infrastructure cost





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- **Hardware virtualization**

- a) Full virtualization-partial virtualization - para virtualization

- **Software Virtualization.**
- **Virtualization**
- **Service Oriented Architecture**
- **Grid Computing and Utility Computing**
- **Technologies behind Cloud**

## **Chapter-6**

### **Overview of Cloud Security**

- **Threats on Cloud Computing**

- a) Data Breaches, Data Loss, Account Hijacking, Insecure APIs, Denial of Service, Malicious Insiders, Abuse of Cloud Services, Insufficient Due Diligence, Shared Technology Issues.

- **Cloud Security Guidance**

- a) Critical Domains, Issues, Possible Solutions.

## **Chapter-7**

### **Multi Cloud and Business Cloud**

- **Multi Cloud Strategy**

- a) Concept, Need, Benefits and Challenges of Multi Cloud Environment.

- **Cloud Computing in Business**

- a) Benefits of Business over cloud
  - b) Business Intelligence
  - c) Big Data Analytics on Cloud
  - d) Cloud on Business Domains: Retail, HR, Finance, Education etc.



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## Chapter-8

### Future Direction and Case Study

- Future Technology trends in Cloud Computing with the focus on Service Models, Deployment Models
- Technology usage, Applications and security.
- Case Study on Open stack, IBM BLUEMIX AND AmazonEC2

### Activities:

- 1) Students created AWS A/c using their own credentials for conducting assignments and practical's.
- 2) Students now know how to create Instance on AWS platform and run with the help of local server.
- 3) Created O/S using Python with the help of Linux /Ubuntu.
- 4) Students created a Web page of Christ College image which was downloaded from the Google using HTML.
- 5) Students are now aware of AWS Global Infrastructure with the help of flow chart.
- 6) Students appeared for the final certification test on the <http://hematitecopr.com/onlineQuiz#/> in which exclusive voucher code M3FXYS was shared. The exam was conducted for 50 marks.



# CLOUD COMPUTING WORKSHOP FOR CHRIST

COLLEGE WADGAON SHERI PUNE - 410014

From 19<sup>th</sup> Oct 2022 to 7<sup>th</sup> Dec 2022

Date	Day	Hours	Topics Covered
19/10/2022	Saturday	2 hours	<p>1. 1 Recent trends in Computing</p> <ul style="list-style-type: none"><li>a) Grid Computing</li><li>b) Cluster Computing</li><li>c) Distributed Computing</li><li>d) Utility Computing</li></ul> <p>1.2 Cloud Computing</p> <ul style="list-style-type: none"><li>a) Evolution of Cloud Computing</li><li>b) Business driver for adopting cloud computing</li><li>c) Building block in cloud application</li><li>d) Types:<ul style="list-style-type: none"><li>* Server Model</li><li>* Deployment Model</li></ul></li><li>e) Different cloud services provider .</li></ul>
04/11/2022	Friday	2 hours	<ul style="list-style-type: none"><li>• <b>AWS Ec2: -</b><ul style="list-style-type: none"><li>Elb (Elastic load Blancing)</li><li>Elastic IP address</li><li>Elastic Block storage</li><li>Elastic Cloud Service</li><li>Connect, Putty, RDP</li></ul></li><li>• <b>Ec2 Instance Types: -</b><ul style="list-style-type: none"><li>e) General Purpose</li><li>f) Memory Optimized Instance</li><li>g) Compute Optimize Instances</li></ul></li></ul>





			h) Accelerated Compute Instances i) Storage Optimization  <ul style="list-style-type: none"> <li>Ec2 Pricing: -               <ul style="list-style-type: none"> <li>a) On Demand</li> <li>b) Ec2 Saving Plan</li> <li>c) Reserved Ec2</li> <li>d) Spot Instances</li> </ul> </li> </ul>
05/11/2022	Saturday	3 hours	<b>2.1 Cloud Computing (NIST Model): -</b>  a) Introduction b) Concepts and Diagram for NIST Model  <ul style="list-style-type: none"> <li><b>Communication Session: -</b> <ol style="list-style-type: none"> <li>Resume Building</li> <li>Introduction and presentation</li> <li>Explaining Interview question scenario.</li> </ol> </li> <li>Individual AWS A/c creation with student's credentials and Overview of AWS platform.</li> </ul>
16/ 11 /2022	Wednesday	3 hours	<b>Cloud Computing (NIST Model): -</b> c) Traditional Hosting d) Origin of Cloud Computing e) Cloud Service provider f) Properties benefits and Challenges g) Advantages & Disadvantages  <ul style="list-style-type: none"> <li>NIST Cloud Computing /Architecture (actors)               <ol style="list-style-type: none"> <li>Cloud consumer</li> <li>Cloud Producer</li> <li>Cloud Carrier</li> </ol> </li> </ul>



			4. Cloud Auditor 5. Cloud Broker
17/ 11 /2022	Thursday	2 hours	<ul style="list-style-type: none"> <li>• Revision of Cloud Computing Concepts.</li> <li>• Overview of AWS Platform and rectified the errors on A/c opening for AWS Platform on local server.</li> </ul>
21/11 /2022	Monday	3 hours	<b>4.1 Virtualization</b> 1. Introduction the Force.com Platform 2. Introduction of MVC Architecture 2.1 Model 2.2 View 2.3 Controller  4. Features <ul style="list-style-type: none"> <li>• Assignment of Webpage creation using HTML</li> </ul>
22/ 11/2022	Tuesday	2:30 hours	<b>5. Object and Field Virtualization and Cloud Computing</b> 5.1 Need of Virtualization a) Cost b) Administration c) Fast Deployment d) Reduce infrastructure cost 5.2 Hardware Virtualization a) Full Virtualization- partial virtualization- Para virtualization  5.3 AWS fundamentals a) Scalability





			<p>b) Availability c) Vertical Scalability d) Horizontal Scalability e) High Availability</p> <p>Load Balancing, Types of Load Balancing, Load Balancer on AWS, Types of Load Balancers, Application of Load Balancer.</p> <p>5.4 AWS RDS Overview: - Advantages, RDS security encryption, RDS Operation, Summary.</p>
23/ 11/2022	Wednesday	2 hours	<p><b>6. Overview of Cloud Security</b></p> <p>6.1 Data Breaches, Data Loss, Account Hijacking, Insecure APIs, Denial services, Malicious insiders, Shared Technology issues.</p> <p>6.2 Cloud Security Guidance</p> <p>a) Critical Domains b) Issues c) Possible Solutions</p> <ul style="list-style-type: none"> <li>• Assignment done on creation of free operating systems ( Linux 1 / Ubuntu ) using access install python in machine and write simple program.</li> </ul>
02/ 12 /2022	Friday	3 hours	<p><b>7. Multi Cloud and Business Cloud</b></p> <ul style="list-style-type: none"> <li>• Concepts</li> <li>• Need</li> </ul>



			<ul style="list-style-type: none"> <li>• Benefits</li> <li>• Challenges of Multi Cloud Environment</li> </ul> <p>7.1 AWS Global Infrastructure</p> <ol style="list-style-type: none"> <li>a) AWS Regions</li> <li>b) AWS Availability Zones</li> <li>c) AWS Datacenters</li> <li>d) AWS Edge Locations</li> <li>e) Points of Presence.</li> </ol> <ul style="list-style-type: none"> <li>• Created AWS Global Infrastructure with the help of flow chart ( Diagram)</li> </ul>
05/12 /2022	Monday	2 hours	<p>8. Future Direction and Case Study</p> <p>8.1 Future Technology trends in cloud Computing with the focus on Service models, Deployment Models.</p> <p>8.2 IAM Section</p> <ol style="list-style-type: none"> <li>a) I Am user and groups</li> <li>b) I AM permissions</li> <li>c) I AM policies inheritance</li> <li>d) I Am policy structure using program ITive way</li> <li>e) Case study on Amazon Ec2/ IBM</li> </ol> <p>8.3 MFA (Multi Factor Authentication)</p> <ul style="list-style-type: none"> <li>• Assignment on I AM User Creation Process by AWS</li> </ul>
06/12 /2022	Tuesday	3 hours	<ul style="list-style-type: none"> <li>• Short Notes on AWS, EC2, ELB, Elastic IP address, EBS, what is cloud Computing and its types,</li> <li>• NIST Diagrams</li> <li>• Revision for final Test on all the topic covered during the sessions.</li> </ul>



07/12 /2022	Wednesday	3 hours	Created Individual User ID using personal email address and shared exam link and voucher code for each individual.
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# **BUSINESS COMMUNICATION SKILLS**





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26/4 A, Off Pune Nagar Road opposite weikdiel IT Citi Info Park  
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2022 - 2023

**DEPARTMENT OF SCIENCE**



**BUSINESS  
COMMUNICATION SKILL**





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26/4A, Sainikwadi, Vadgaon Sheri, Pune 411 014

Accredited by NAAC with 'B+' Grade

Ref. No. CCP/

Date: 13 / 10 / 2022

**NOTICE**

**DEPARTMENT OF SCIENCE**

All the TYBSC (CS) students are hereby informed that Department of science organizing Add-On course on Business Communication Skills from 17<sup>th</sup> October 2022

Mrs. Nilima Shingate  
HOD (Dept. of Science)

Dr (Fr) Arun Antony Chully (CMI)

Principal / Director  
Carmel Vidya Bhavan Trust's  
Christ College  
Pune- 411014.



**Module Title:** Business Communication Skills

**Duration:** 30 hours (10 sessions of 3 hours each)

**Module Description:**

This module is designed to enhance your business communication skills, both written and verbal, to excel in professional settings. You will learn the fundamentals of effective communication, including interpersonal skills, presentation techniques, and business writing.

**Session 1:** Introduction to Business Communication (3 hours)

- Importance of effective communication in the business world
- Types of business communication
- Communication barriers and how to overcome them

**Session 2:** Verbal Communication (3 hours)

- Active listening skills
- Non-verbal communication cues
- Effective speaking and voice modulation

**Session 3:** Written Communication (3 hours)

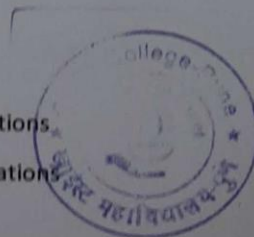
- Business writing fundamentals
- Email etiquette and best practices
- Writing professional memos and letters

**Session 4:** Interpersonal Communication (3 hours)

- Building and maintaining professional relationships
- Conflict resolution and negotiation skills
- Empathy and understanding diverse perspectives

**Session 5:** Presentation Skills (3 hours)

- Planning and structuring effective presentations
- Using visual aids and technology in presentations



Handling questions and feedback

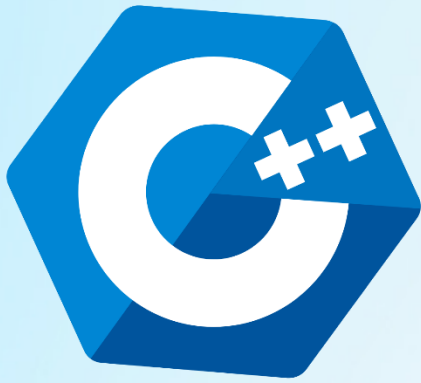
**Session 6: Effective Meetings (3 hours)**

Preparing for meetings and setting agendas

Leading and participating in meetings

Taking meeting minutes and follow-up





OBJECT ORIENTED  
PROGRAMMING &  
PROJECT  
MANAGEMENT





CARMEL VIDYA BHAVAN TRUST'S

# CHRIST COLLEGE - PUNE

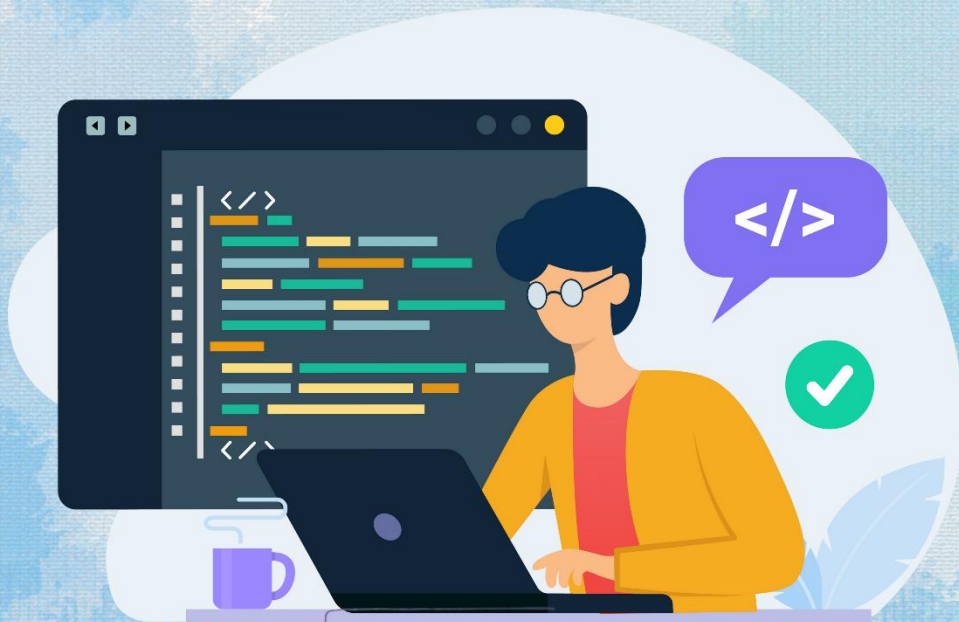
Affiliated to Savitribai Phule Pune University

Accredited by NAAC with B+ Grade

26/4 A, Off Pune Nagar Road opposite weikdiel IT Citi Info Park  
Wadgaon Sheri, Pune, Maharashtra 411014 contact: +91 9823888322 / +91 9637115409

2022 - 2023

## DEPARTMENT OF SCIENCE



# OBJECT ORIENTED PROGRAMMING AND PROJECT MANAGEMENT





CARMEL VIDYA BHAVAN TRUST'S  
**CHRIST COLLEGE - PUNE**

(Affiliated to the Savitribai Phule Pune University)

ID-No. PU/PN/ASC/269/2007, College Code-829

26/4A, Sainikwadi, Vadgaon Sheri, Pune 411 014.

Accredited by NAAC with 'B+' Grade

Ref. No. CCP/

Date: 13 / 10 / 2022

**NOTICE**

**DEPARTMENT OF SCIENCE**

All the TYBSC (CS) students are hereby informed that Department of science organizing Add-On course on Project Management and Object Oriented Programming using C++ from 17<sup>th</sup> October 2022

Mrs. Nilima Shingate  
HOD (Dept. of Science)

Dr (Fr) Arin Antony Chully (CMI)

Principal / Director  
Carmel Vidya Bhavan Trust's  
Christ College  
Pune- 411014.



## C++ syllabus

### 1. Object Oriented concept & Introduction to C++ (Part 1) [4 hrs → 4 days]

1.1. Object-oriented concept	Day 1
1.2. Features, advantages, and Application of OOPS	
1.3. Data types, new operations, and keywords using namespace concepts	Day 2
1.4. Simple C++ program	

### 2. Introduction to C++ (Part 2) [8 hrs → 8 days]

2.1. Classes and Objects	Day 3
2.2. Access specifiers	
2.3. Defining data members and member functions with inline functions	
2.4. Type of constructors	
2.5. Memory allocation (new and delete keywords)	Day 4
2.6. Destructors	
2.7. Introduction to the reference variable	
2.8. Usage of 'this' pointer	Day 5
2.9. Array of objects	

### 3. Function in C++ [8 hrs → 8 days]

3.1. Call by reference, return by reference	Day 6
3.2. Function overloading and default arguments	
3.3. Static class members	Day 7
3.4. Friend classes and Friend functions	

### 4. Operator overloading [8 hrs → 8 days]

4.1. Overloading unary and binary operators	Day 8
4.2. Overloading using the friend function	Day 9
4.3. Type casting and type conversion	Day 10

### 5. Inheritance [8 hrs → 8 days]

5.1. Types of inheritances with examples	Day 11
5.2. Constructor and destructor in derived classes	
5.3. Virtual base classes, Virtual functions, and pure virtual functions	Day 12
5.4. Abstract base classes	
5.5. Polymorphism (only introductions)	Day 13

### 6. Managing I/O using C++ [4 hrs → 4 days]

6.1. Managing console I/O	Day 14
6.2. C++ stream classes	
6.3. Formatted and unformatted console I/O	Day 15
6.4. Usage of manipulators	





## C++ syllabus

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6.4. Usage of manipulators	



## C++ syllabus

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### 7. Working with files [6 hrs → 6 days]

7.1. File operation – Text files and Binary files	Day 16
7.2. File stream classes and methods	
7.3. File updation with random access	Day 17
7.4. Overloading insertion and extraction operator	

### 8. Exception Handling in C++ [2 hrs → 2 days]

8.1. Try, catch, and throw primitives with examples	Day 18
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A collage of financial-related items: a spiral-bound notebook, a black calculator, and several US dollar bills (one-dollar, five-dollar, and ten-dollar bills) are scattered on a light-colored surface. A semi-transparent orange rectangle is overlaid in the center, containing the text "FINANCIAL MODELLING" in blue, bold, sans-serif capital letters.

# FINANCIAL MODELLING





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**CHRIST COLLEGE - PUNE**

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2022 - 2023

**DEPARTMENT OF MANAGEMENT**



**FINANCIAL  
MODELING**







CARMEL VIDYA BHAVAN TRUST'S  
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26/4A, Sainikwadi, Vadgaon Sheri, Pune 411 014

Accredited by NAAC with 'B+' Grade

Ref No. CCP/

Date: 04 / 02 /2023

**NOTICE**

The Department of Management is conducting a 30-hour Add-On Course on Financial Modeling from 6th February 2023. This course will be held in the college premises after 1.30 p.m. on Mondays, Tuesdays, and Wednesdays.

It is mandatory for the students to appear for an assessment test to get certified.



Head of the Department

Tel : Reception - 7823839456 Office - 7447727242 / 7447727243  
Email director@christcollegepune.org Web www.christcollegepune.org

Email director@christcollegepune.org

**CHRIST COLLEGE PUNE**  
**Department of Management**  
**Financial Modeling**

**Course Description:**

This course introduces students to the fundamentals of financial modeling, enabling them to build and analyze financial models commonly used in business and finance. It is designed for first-year undergraduate students with no prior modeling experience.

**Unit 1: Introduction to Financial Modeling**

**(10 hours)**

- What is Financial Modeling?
- The Role of Financial Models in Decision-Making
- Building a Financial Model Framework
- Excel Basics for Financial Modeling
- Best Practices in Financial Modeling

**Unit 2: Building Financial Models**

**(10 hours)**

- Forecasting Techniques and Assumptions
- Creating Income Statement Projections
- Building a Cash Flow Statement
- Developing a Balance Sheet Projection
- Sensitivity Analysis and Scenario Planning

**Unit 3: Advanced Financial Modeling and Applications**

**(10 hours)**

- Time Value of Money (TVM) in Financial Modeling
- Valuation Models: Discounted Cash Flow (DCF)
- Equity and Debt Financing Models
- Investment Analysis using Financial Models
- Real-World Applications and Case Studies

**Assessment Methods:**

- Class Participation and Engagement
- Model-building Exercises
- Midterm Assessment
- Group Project: Building a Financial Model
- Final Examination (Comprehensive)



**Grading:**

- Class Participation: 10%
- Model-building Exercises: 20%
- Midterm Assessment: 20%
- Group Project: 30%
- Final Examination: 20%

**Course Policies:**

- Regular attendance is required.
- Late submissions may result in grade deductions.
- Academic integrity is expected, and plagiarism is strictly prohibited.
- Students are encouraged to seek clarification during office hours or via email for any course-related questions.

**Instructor Details:**

Name : Mr Blesson James

Mail ID : [blesson.james@christuniversity.in](mailto:blesson.james@christuniversity.in)





**Hematite Infotech  
Private Ltd.**

2nd Floor Mathura Nagar Housing Society,  
Sr.no-47, Plot no-39, Near Janseva Sahakari  
Bank, Chandan Nagar, Kharadi-411014

Phone no: 91 - 8263926309/8999639478, Email: [contact@hematitecorp.com](mailto:contact@hematitecorp.com), Website: [www.hematitecorp.com](http://www.hematitecorp.com)

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## **Syllabus of Data Analytics**

### **Chapter 1:**

#### **Introduction to Data Analytics**

- Introduction to Data Analytics
- What is Power BI
- What is Power BI Desktop
- Installing Power BI Desktop
- Microsoft 365 Setup
- Exploring Microsoft 365
- Add users to Microsoft 365


### **Chapter 2:**

#### **Power BI Overview**

- Exploring Power BI Interface
- Power BI Overview: Part 1
- Power BI Overview: Part 2
- Power BI Overview: Part 3
- Components of Power BI
- Building blocks of Power BI
- Exploring Power BI Service
- Power BI Apps







# ADVANCED DATA ANALYTICS



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2022 - 2023

**DEPARTMENT OF MANAGEMENT**



**ADVANCED DATA  
ANALYTICS**





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Ref No CCP/

Date: 04 / 02 /2023

**NOTICE**

The Department of Management is conducting a 30-hour Add-On Course on Data Analytics from 9th February 2023. This course will be held in the college premises after 1.30 p.m on Wednesdays, Thursdays, and Fridays.

It is mandatory for the students to appear for an assessment test to get certified.



Head of the Department



## **Chapter 3:**

### **Connecting Power BI to Data Source**

- Connecting to web based data
- Clean and transform data: Part 1
- Clean and transform data: Part 2
- Combining Data Source

## **Chapter 4:**

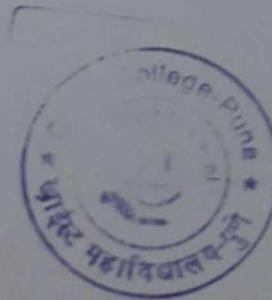
### **Creating Visualizations and Dashboard with Power BI**

- Creating Visualizations: Part 1
- Creating Visualizations: Part 2
- Publish report and create dashboards

## **Chapter 5:**

### **Transforming Data with Power BI and Power Query**

- Connecting to Data Source
- Power Query Editor and Queries
- Creating and managing query groups
- Renaming Queries
- Splitting Columns
- Changing Data Types
- Removing and Reordering Columns
- Duplicating and Adding Columns
- Creating Conditional Columns
- Connecting to files in a folder
- Appending Queries
- Merge Queries
- Query Dependency View
- Transform less structured data
- Create Tables
- Query Parameters





## **Chapter 6:**

### **Data Modelling with Power BI**

- What is Data Modelling
- Creating and managing Data Relationships
- Creating Calculated Columns
- Optimizing Models for Reporting
- Time Intelligence
- Applying Filters to Visuals

## **Chapter 7:**

### **Tableau Setup**

- What is Tableau
- Tableau Public Desktop
- Tableau Public Desktop Overview: Part 1
- Tableau Public Desktop Overview: Part 2
- Tableau Online
- Tableau Data Sources
- Tableau File Types
- Tableau Interface

## **Chapter 8:**

### **Data Analysis and Visualization with Tableau**

- Connecting to data source
- Join related data sources
- Join data sources with inconsistent fields
- Cleaning data
- Reordering Visualization
- Change Summary
- Split text into multiple columns
- Presenting data using stories



## **Chapter 9:**

### **Case Studies and Assignments**







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2022 - 2023

**DEPARTMENT OF MANAGEMENT**

COMMENCEMENT DATE -  
**6 FEB 2023**



**FINANCIAL STATEMENT ANALYSIS**







CARMEL VIDYA BHAVAN TRUST'S  
**CHRIST COLLEGE - PUNE**

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26/4A, Sainikwadi, Vadgaon Sheri, Pune 411 014  
Accredited by NAAC with 'B+' Grade

Ref No CCP/


Date: 04 / 02 /2023

**NOTICE**

The Department of Management is conducting a 30-hour Add-On Course on Financial Statement Analysis from 6th February 2023. This course will be held in the college premises after 1.30 p.m on Mondays, Tuesdays, and Wednesdays.

It is mandatory for the students to appear for an assessment test to get certified.



  
Head of the Department

**CHRIST COLLEGE PUNE**  
**Department of Management**  
**Financial Statement Analysis**

**Course Description:**

This course introduces fundamental concepts of financial statement analysis, aimed at equipping first-year undergraduate students with the knowledge and skills to interpret and analyze financial statements for decision-making purposes.

**Unit 1: Introduction to Financial Statements** (10 hours)

- Understanding Financial Statements: Income Statement, Balance Sheet, Cash Flow Statement
- The Purpose and Importance of Financial Statement Analysis
- Users of Financial Statements
- Basic Accounting Principles
- Financial Reporting Standards

**Unit 2: Analyzing Financial Statements** (10 hours)

- Analyzing the Income Statement:
  - Revenue Recognition
  - Expenses and Net Income
  - Earnings per Share (EPS)
- Analyzing the Balance Sheet:
  - Assets, Liabilities, and Equity
  - Current and Non-current Assets
  - Long-term Debt and Equity
- Basic Ratios: Liquidity, Profitability, Solvency

**Unit 3: Financial Statement Interpretation and Decision-Making** (10 hours)

- Vertical and Horizontal Analysis
- Common-Size Statements
- Trend Analysis
- Introduction to Cash Flow Statement
- Using Ratios for Decision-Making
- Practical Application and Case Studies

**Assessment Methods:**

- Class Participation and Engagement
- Short Quizzes
- Group Presentation or Project
- Final Examination (Comprehensive)



**Grading:**

- Class Participation: 10%
- Short Quizzes: 20%
- Group Presentation or Project: 30%
- Final Examination: 40%

**Course Policies**

- Attendance is required for all sessions.
- Late submissions may result in grade deductions.
- Academic integrity is expected, and plagiarism is strictly prohibited.
- Students are encouraged to seek clarification during office hours or via email for any course-related questions.

**Instructor Details:**

Name : Dr Maninder Kaur

Mail ID : [maninder.kaur@christcollegepune.org](mailto:maninder.kaur@christcollegepune.org)





A professional accountant in a brown suit is holding a black pen with silver accents, poised to write on a financial report. The report features a bar chart titled 'BUDGET VS. ACTUAL' with orange bars. The chart has a legend with 'Actual' in red and 'Budget' in blue. The text 'By Category Table Below' is visible at the top left of the report. The background is a blurred office setting with another person in a blue shirt visible at the bottom.

# PROFESSIONAL ACCOUNTING



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2022 - 2023

**DEPARTMENT OF COMMERCE**



**PROFESSIONAL  
ACCOUNTING**





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Ref. No. CCP/

Date: 12<sup>th</sup> October 2022

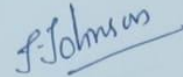
**NOTICE**

-All the students are hereby informed that Professional accounting Course Registrations have started and the last date of registration is 18<sup>th</sup> October 2022.

  
Mr. Bitto Benny

Course Coordinator

Department of Commerce



Dr. Jiji Johnson

(HOD, Department of Commerce)





# Course on Professional Accounting

## Introduction

Tally is an accounts software used for maintaining business accounts and personal accounts. Tally's software is mainly used for vouchers, financial statements, and taxation in many industries, and has specialized packages for retail businesses. It is a way of computerizing your accounts.

## Syllabus subjects and objectives

- a. Basics of Accounting in Tally
- b. Principles and concepts of Accounting
- c. Double Entry System of Accounting
- d. Financial Statements
- e. Fundamentals of Tally.ERP 9
- f. Salient Features of Tally.ERP 9
- g. Key Components of Tally.ERP 9
- h. How to start and exit Tally.ERP 9
- i. Setting up a company in Tally.ERP 9
- j. Working with companies in Tally.ERP 9
- k. Creating Accounting Masters in Tally.ERP 9
- l. The basic functions of Tally.ERP 9
- m. F11: Features & F12: Configurations
- n. Creating and Maintaining Chart of Accounts
- o. Entering the opening balances for Ledgers
- p. Voucher Entry in Tally.ERP 9
- q. Describe the purpose of the Tally.ERP 9 Accounting Vouchers
- r. Create and alter Accounting Vouchers
- s. Use vouchers to enter accounting transactions
- t. Describe the use of Non-Accounting Vouchers
- u. Advanced Accounting in Tally.ERP 9
- v. Use of final statements
- w. Use of shortcut keys
- x. Finalization of accounts

## Objectives -:

1. To impart the knowledge of various accounting concepts
2. To instill the knowledge about accounting procedures, methods and techniques.
3. To acquaint them with practical approach to accounts writing by using software package. (Tally and MS Office Excel and Word)

## Course outcomes

Students will be able to

1. Gain knowledge in maintaining the books of accounts of daily transactions.
2. Enable the students to learn about the technology-oriented recording of accounting transactions
3. Discover, nourish and to explore the practical oriented learning techniques.



# STOCK MARKET







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2022 - 2023

**DEPARTMENT OF COMMERCE**



**STOCK MARKET**







CARMEL VIDYA BHAVAN TRUST'S  
**CHRIST COLLEGE - PUNE**

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Accredited by NAAC with 'B+' Grade

Ref. No. CCP/

Date: 12<sup>th</sup> October 2022

**NOTICE**

All the students are hereby informed that Stock Market Course Registrations have started and the last date of registration is 18<sup>th</sup> October 2022.

Mr. Bitto Benny

Course Coordinator

Department of Commerce

Dr. Jiji Johnson

(HOD, Department of Commerce)



## **Stock Market Course**

### **Introduction**

Students of commerce have a lot of theoretical knowledge on stock market, investments and other financial matters. They lack practical aspect of the financial markets and institutions as well as importance of investments as an aspect of personal financial management. In addition, very few students seek employment in this field. In this context giving them a practical approach to stock market and investments becomes necessary and handhold them for employment and personal financial management is the purpose of this course.

### **Objectives of the Course:**

1. To learn about investment and stock market
2. To know terminologies and functioning of stock market
3. To train and equip participants to operate independently in the stock market
4. To independently analyze financial investment and its prospects

### **Outcomes of the Course:**

1. The students will be able to:
2. Learn essential aspects of stock market operations.
3. Train them to open a demat and trading account by themselves and operate independently in the market.
4. Equip themselves to find out the market sentiments and evaluate performance of financial investment for oneself and for others.
5. Seek employment in financial markets as stock market operators, consultants of stocks, mutual funds and other financial investments.





# **GST BASIC TO ADVANCE**





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2022 - 2023

**DEPARTMENT OF COMMERCE**



**GST**  
**BASIC TO ADVANCE**





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Date: 12<sup>th</sup> October 2022

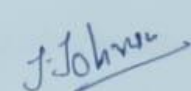
**NOTICE**

All the students are hereby informed that GST Basics to Advanced Course Registrations have started and the last date of registration is 18<sup>th</sup> October, 2022.

  
Mr. Bitto Benny

Course Coordinator

Department of Commerce

  
Dr. Jiji Johnson

(HOD, Department of Commerce)



## **Certificate Course on Goods and Service Tax – Basic to Advanced**

### **INTRODUCTION**

The Government has carry out indirect tax reform i.e. Goods and Services Tax from 1<sup>st</sup> July 2017. The SPPU as part of graduation program implemented additional credit for students. Taking this opportunity, the course is designed to help students to understand the essentials of this new law on GST basic to advance. The objective of this Course is to enhance the knowledge and understanding on GST laws, registration, filing of GST etc from a practical point of view.

### **OBJECTIVE OF THE COURSE**

To give overall understanding of GST from basics to advanced level  
To identify components of GST in purchase and sales  
To understand filing of GST returns and file returns

### **COURSE OUTCOMES**

1. To demonstrate comprehensive and understanding of the areas and the concept of the goods and services tax.
2. To understand the origin and history about the tax.
3. To analyse and to discuss the various legal and regulatory rules about the payment of tax
4. To discuss and to apply the practical implication of filing gst.

### **ELIGIBILITY**

Whoever would like to know and understand GST.  
An additional online credit course for graduate students

### **COURSE DURATION**

60 hours (offline and online)

### **COURSE CONTENT**

GST basic to advanced level of learning (Detailed syllabus is attached)

### **RESOURCES**

Published documents of ICAI and other official bodies  
Published and reviewed videos channels of you tube  
Newspapers and journals  
Expert training

### **MODE OF DELIVERY**

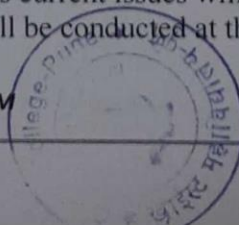
Face to Face training and Online recorded classes with support by the faculty  
Evaluation

After attending each module for at least 60% of materials, a quiz will be opened to test the level of understanding which will be marked for assessment

At least two assignments based on the practical aspects of GST is given to know practical understanding of GST

Participation in the discussion forum on various current issues will be assessed

A comprehensive multiple choice questions will be conducted at the end of the course





## DETAILED MODULE

1. Introduction to GST in India
2. Supply under GST
3. Charges and Types of GST
4. Exemptions from GST
5. Time of supply and value of supply
6. Input Tax credit
7. GST Registration
8. Tax credit and Debit and E Way bill
9. Payment of Tax: methodology, Central and state transfer procedure
10. Filing of returns and provisions

## COURSE COORDINATOR AND DEVELOPER

CA Pratik Neve – Chattered Accountant and Faculty

Dr. Gilbi John – A faculty of St. Vincent College of Commerce, Pune





# INTRODUCTION TO SPSS

WWAZ	111.85	▲	99.31
TVRZ	107.21	▲	87.69
TTAW	187.14	▲	67.54
CCAD	131.94	▲	121.49
BAEW	174.68	▼	67.23
JJAS	156.71	▲	61.41
RIVAP	179.1	▼	99.39



Carmel Vidya Bhavan Trust's



# CHRIST COLLEGE- PUNE

Affiliated to Savitribai Phule Pune University

## ADD ON COURSE OFFERED DURING THE ACADEMIC YEAR 2022-23

### DEPARTMENT OF ARTS

## INTRODUCTION TO SPSS





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Accredited by NAAC with 'B+' Grade

Ref. No. CCPI/1302A/2022

Date: 03.09.22

**Notice**

We are excited to introduce an add-on course on "Introduction to SPSS" for the students of TYBA. The primary aim is to equip you with a foundational understanding of SPSS, enabling you to apply statistical analysis effectively in research and analytics. The course duration will be for 30 hours which will be conducted from 1:30pm to 3:30pm. Certificate will be awarded after successful completion of the course. Interested students should register themselves online through google form before 17<sup>th</sup> September 2022.

Classes will commence from 22 September 2022

Biju Sebastian

HoD of Arts

Dr (Fr) Arun A. Chully CMI

Principal / Director  
Carmel Vidya Bhavan Trust's  
Christ College  
Pune- 411014.

## ADD-ON COURSE ON "INTRODUCTION TO SPSS"

### Course Description:

This course is designed to provide participants with a comprehensive introduction to IBM SPSS (Statistical Package for the Social Sciences). SPSS is a powerful software tool used for statistical analysis and data management. Through a combination of hands-on exercises and theoretical concepts, participants will learn how to navigate the SPSS interface, import and manipulate data, perform basic statistical analyses, and generate visualizations.

### Course Objectives:

1. Familiarize participants with the SPSS interface and basic functionalities.
2. Teach participants how to import data into SPSS from various sources.
3. Enable participants to clean and prepare data for analysis.
4. Introduce participants to fundamental statistical concepts.
5. Instruct participants in conducting common statistical analyses using SPSS.
6. Guide participants in creating informative visualizations and charts.
7. Develop participants' ability to interpret and communicate results effectively.

### Course Outline:

#### **\*\*Session 1: Introduction to SPSS\*\***

- Overview of SPSS and its applications
- SPSS interface and workspace
- Data types and variable properties

#### **\*\*Session 2: Data Import and Data Management\*\***

- Importing data into SPSS
- Data cleaning and data transformation



- Variable recoding and transformation

**\*\*Session 3: Descriptive Statistics\*\***

- Measures of central tendency
- Measures of dispersion
- Frequency distributions and histograms

**\*\*Session 4: Inferential Statistics (Part 1)\*\***

- Hypothesis testing fundamentals
- t-tests (independent and paired)
- Chi-square tests

**\*\*Session 5: Inferential Statistics (Part 2)\*\***

- Analysis of variance (ANOVA)
- Correlation analysis
- Regression analysis (simple linear regression)

**\*\*Session 6: Data Visualization in SPSS\*\***

- Creating various types of charts and graphs
- Customizing visualizations for clarity
- Exporting visualizations for reports

**\*\*Session 7: Advanced Analysis Techniques\*\***

- Multiple regression analysis
- Logistic regression analysis
- Factor analysis





**\*\*Session 8: Data Output and Interpretation\*\***

- Interpreting SPSS output
- Communicating results effectively
- Avoiding common pitfalls in data interpretation

**\*\*Session 9: Advanced SPSS Features\*\***

- Introduction to syntax in SPSS
- Automating tasks using syntax
- Data aggregation and restructuring

**\*\*Session 10: Final Projects and Review\*\***

- Participants will work on real-world datasets to apply what they've learned
- Presentation and discussion of participants' projects
- Course review and Q&A





# **INTRODUCTION TO STATISTICAL CONCEPTS IN ECONOMICS**





Carmel Vidya Bhavan Trust's



# CHRIST COLLEGE- PUNE

Affiliated to Savitribai Phule Pune University

**ADD ON COURSE OFFERED DURING THE  
ACADEMIC YEAR 2022-23**

**DEPARTMENT  
OF  
ARTS**

**INTRODUCTION TO  
STATISTICAL CONCEPTS  
IN ECONOMICS**





CARMEL VIDYA BHAVAN TRUST'S  
**CHRIST COLLEGE - PUNE**

(Affiliated to the Savitribai Phule Pune University)

ID-No. PU/PH/ASC/269/2007, College Code-829

26/4A, Sainikwadi, Vadgaon Sheri, Pune 411 014

Accredited by NAAC with 'B+' Grade

Ref. No. CCP/1274A/2022

Date: 14/08/2022

**Notice**

We are excited to introduce an add-on course on "Introduction to Statistical Concepts in Economics" for the students of SYBA. This course offers foundational knowledge in statistics tailored to economics, enhancing your data analysis and decision-making skills. The course duration will be for 30 hours which will be conducted from 1:30pm to 3:30pm. Certificate will be awarded after successful completion of the course. Interested students should register themselves online through google form before 17<sup>th</sup> August 2022.

Classes will commence from 23 August 2022.

Biju Sebastian

HoD of Arts

Dr (Fr) Arun A. Chully CMI

Principal / Director  
Carmel Vidya Bhavan Trust's  
Christ College  
Pune- 411014.

## ADD-ON COURSE ON "INTRODUCTION TO STATISTICAL CONCEPTS IN ECONOMICS"

Course Duration: 30 hours

Course Duration: 30 hours

### Course Description:

This course is designed to provide students with a foundational understanding of statistical concepts and their applications in the field of economics. Through a combination of lectures, practical exercises, and real-world examples, students will develop the skills necessary to analyze economic data, make informed decisions, and communicate their findings effectively.

### Course Objectives:

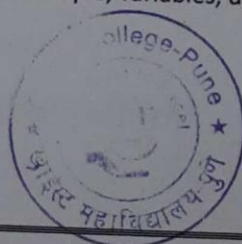
By the end of this course, students should be able to:

1. Understand fundamental statistical concepts and their relevance to economics.
2. Apply statistical techniques to analyze economic data.
3. Interpret and communicate the results of statistical analysis.
4. Make informed economic decisions based on data-driven insights.

### Course Outline:

#### **\*\*Week 1: Introduction to Statistics in Economics (4 hours)\*\***

- Overview of the course and its importance in economics
- Basic concepts of statistics: population vs. sample, variables, data types
- Descriptive vs. inferential statistics



- Data collection methods in economics

**\*\*Week 2: Data Presentation and Descriptive Statistics (6 hours)\*\***

- Data visualization techniques: graphs, charts, and tables
- Measures of central tendency: mean, median, mode
- Measures of dispersion: range, variance, standard deviation
- Skewness and kurtosis
- Interpreting economic data

**\*\*Week 3: Probability and Probability Distributions (7 hours)\*\***

- Probability concepts in economics
- Probability distributions: discrete and continuous
- The normal distribution and its importance in economics
- Applications of probability in economics

**\*\*Week 4: Sampling and Estimation (7 hours)\*\***

- Random sampling techniques
- Sampling distribution of the sample mean
- Confidence intervals for population parameters
- Estimation in economic research

**\*\*Week 5: Hypothesis Testing (5 hours)\*\***

- Null and alternative hypotheses
- Types of errors in hypothesis testing
- t-tests and chi-square tests in economics
- Practical applications of hypothesis testing in economics





- Data collection methods in economics

**\*\*Week 2: Data Presentation and Descriptive Statistics (6 hours)\*\***

- Data visualization techniques: graphs, charts, and tables
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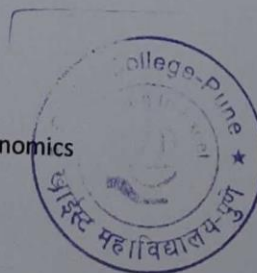
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- Confidence intervals for population parameters
- Estimation in economic research

**\*\*Week 5: Hypothesis Testing (5 hours)\*\***

- Null and alternative hypotheses
- Types of errors in hypothesis testing
- t-tests and chi-square tests in economics
- Practical applications of hypothesis testing in economics



**\*\*Week 6: Regression Analysis and Correlation (5 hours)\*\***

- Linear regression analysis in economics
- Correlation and causation
- Interpretation of regression results
- Real-world economic examples of regression analysis



A close-up photograph of a person's hands typing on a laptop keyboard. The laptop screen displays the Google homepage, showing the search bar and the Google logo. The browser's address bar shows the URL 'https://www.google.com'. The Mac OS X dock is visible at the bottom of the screen, featuring various application icons. The person is wearing a blue long-sleeved shirt. A semi-transparent grey rectangular box is overlaid on the lower half of the image, containing the title text.

# **INTRODUCTION TO GOOGLE WORKSPACE**



Carmel Vidya Bhavan Trust's



# CHRIST COLLEGE- PUNE

Affiliated to Savitribai Phule Pune University

**ADD ON COURSE OFFERED DURING THE  
ACADEMIC YEAR 2022-23**

**DEPARTMENT  
OF  
ARTS**

**INTRODUCTION TO  
GOOGLE WORKSPACE**



CARMEL VIDYA BHAVAN TRUST'S  
**CHRIST COLLEGE - PUNE**

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ID-No. PU/PN/ASC/269/2007, College Code-829

26/4A, Sainikwadi, Vadgaon Sheri, Pune 411 014.

Accredited by NAAC with 'B+' Grade

Ref. No. CCP/1426A/2022

Date: 15/11/2022

**Notice**

We are excited to inform you about an upcoming and highly beneficial addition to our academic offerings—An Add-on Course on "Introduction to Google Workspace" for the students of FYBA. In today's digital age, proficiency with online productivity tools is a valuable skill, and Google Workspace (formerly known as G Suite) is at the forefront of these tools, widely used for collaboration, communication, and productivity. Enhance your digital literacy, streamline your academic tasks, improve your collaboration skills and be better prepared for the digital demands of the modern workplace.

The course duration will be for 30 hours which will be conducted from 1:30pm to 3:30pm.

Certificate will be awarded after successful completion of the course.

Interested students should register themselves online through google form before 22 November 2022.

Classes will commence from 28 November 2022.

Biju Sebastian

HOD, Department of Arts

Dr (Fr) Arun Antony Chully CMI

Principal / Director  
Carmel Vidya Bhavan Trust's  
Christ College  
Pune- 411014.

## **ADD-ON COURSE ON "INTRODUCTION TO GOOGLE WORKSPACE"**

Course Duration: 30 hours

### **Course Description:**

This course provides an in-depth introduction to Google Workspace, a suite of productivity and collaboration tools designed for individuals and businesses. Participants will learn how to effectively use Google Workspace applications for communication, document creation, data storage, and collaboration.

### **Course Outline:**

#### **Module 1: Introduction to Google Workspace (2 hours)**

- Understanding Google Workspace and its applications
- Creating a Google Workspace account
- Navigating the Google Workspace interface

#### **Module 2: Gmail and Google Calendar (4 hours)**

- Setting up and managing Gmail
- Using labels and filters
- Scheduling events and meetings with Google Calendar
- Integrating Gmail and Calendar for productivity





**Module 3: Google Drive and Google Docs (6 hours)**

- Organizing files and folders in Google Drive
- Creating, editing, and formatting documents in Google Docs
- Collaborative editing and sharing
- Version control and revision history

**Module 4: Google Sheets and Google Forms (6 hours)**

- Creating and managing spreadsheets in Google Sheets
- Data analysis and visualization
- Building forms and surveys with Google Forms
- Collecting and analyzing form responses

**Module 5: Google Slides and Google Drawings (4 hours)**

- Designing presentations with Google Slides
- Creating diagrams and visuals with Google Drawings
- Incorporating multimedia elements

**Module 6: Google Meet and Google Chat (4 hours)**

- Conducting virtual meetings with Google Meet
- Chatting and collaborating in real-time with Google Chat
- Integrating Meet and Chat with other Google Workspace apps

**Module 7: Google Workspace Administration (5 hours)**

- Managing users and access permissions
- Security and privacy settings



- Troubleshooting common issues
- Best practices for Google Workspace administration

Module 8: Integration and Advanced Tips (5 hours)

- Integrating third-party apps with Google Workspace
- Advanced tips and shortcuts for productivity
- Customizing Google Workspace for specific needs

