### **PROBATIONERS' TRAINING COURSE (PTC)**

27<sup>TH</sup> BATCH

**SYLLABUS** 



NATIONAL INSTITUTE OF FINANCIAL MANAGEMENT (An Autonomous Institution of Ministry of Finance, Government of India) Sector 48, Pali road Faridabad-121001 Haryana

## **SYLLABUS**

# Detailed curriculum for 27<sup>th</sup> Batch of PTC (2020)

Module I (13 weeks)				
<u>Paper</u> <u>Code</u>	Paper Name	No. of Sessions / hours	Subject coordinator	
101	Accounting for Managers	40	Dr. A. M. Sherry	
102	Data Analytics and use of ICT in Government	40	Dr. Namrata Agrawal	
104	Financial Management	40	Dr. K. P. Kaushik	
107	Governance and Administration, Institutions, Legal and Regulatory Framework	40	Ms. Yashashri Shukla	
109	Government Accounting and Audit	40	Sh. Sangeet	

#### **DETAILED SYLLABUS**

#### Paper Code: 101

#### **Accounting for Managers**

#### **Total Sessions - 40**

#### **OBJECTIVE**

To provide the officers a thorough grounding of Commercial Accounting Concepts and Financial Statements with analysis of Financial Statements.

#### Unit – I

#### 1. Conceptual framework of Accounting

- Accounting Concepts and Conventions
- Qualitative Characteristics of Financial Statements
- Cash vs Accrual Accounting
- Financial Statements of Profit Making and Not-for Profit making Enterprises

#### 2. Accounting Records and Systems

- Rules of Debit and Credit- Accounting Equation
- Journal, Cash Book, Ledger, Trial Balance
- Bank Reconciliation Statement
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#### Unit – II

#### **3. Corporate Financial Statements:**

- Legal Requirement relating to preparation of Financial Statements of Companies
- a. Profit &Loss Account
- Features of Profit and Loss Account and its preparation
- Understanding the various items of Profit and Loss Account and their treatment

#### **b.** Balance Sheet

- Features of Balance Sheet and its preparation
- Understanding the various items of Balance Sheet and their treatment;
- Notes to Accounts and Accounting Policies.
- c. Cash Flow Statement
- Understanding, Construction and interpretation of Cash Flow Statement.

#### 4. Analysis and Interpretation of Financial Statements

Common-size Financial Statement

- Ratio Analysis; Liquidity Ratios, Solvency Ratios, Activity Ratios & Profitability Ratios
- Du-Pont Analysis
- Altman's Z score

#### Unit – III

#### 6. Inventory Valuation

- Definition, General principles
- Inventory Cost
- Accounting Standards: Valuation of Inventories (AS-2)

#### 7. Revenue Recognition

- Introduction
- Accounting Standard on Revenue Recognition (AS-9)

#### 8. Asset Accounting

- Depreciation Accounting
- Fixed Assets Accounting (including a brief introduction to Impairment)
- Accounting Standards on Depreciation Accounting (AS-6)
- Accounting Standards on Accounting for Fixed Assets (AS-10)

#### Unit – IV

#### **10. Measurement of Cost Elements**

- Cost Concepts
- Management Accounting: Differences from Financial Accounting
- Material Cost, Labour Cost and Overhead Cost

#### Unit – V

#### **11. Profit Planning and Decision Making**

- Marginal costing and break-even analysis: Marginal costing nature and scope, Marginal cost determination, Cost-volume profit relationship, Marginal cost equations and break even analysis, Marginal costing versus absorption costing (income effects of alternative inventory costing method), Uses and applications of Break Even Analysis.
- Decision Making : Introduction, Pricing techniques and strategies, Own or Lease, Sell or Scrap; Retain or replace and repair or renovate, Sell or further process, Incremental reasoning in pricing; product pricing; new product pricing, Product decisions - product modification decision; product elimination decision, product mix decision; product distribution decision. Relevant costs and irrelevant costs Incremental analysis / differential costing as a tool of decision making: Pricing, Product Decisions.

#### Unit – VI

#### 12. Cost Control

- Budgetary Control: Budgets as Key to Planning & Control, Budgets, budgetary control, Budget preparation & monitoring procedures, Functional, Cash & Master Budget, Flexible Budgets.
- Standard costing and analysis of variances

#### **References/ Suggested Readings:**

#### S.No. Name of Book Name of author Publication Year

- 1. Financial Accounting by R L Gupta , V KGupta Publication Year : 2013
- 2. Company Accounts by R.K. Agarwal Publication Year : 2005
- 3. Disclosure in Company Accounts with Disclosure Che by R.K. Agarwal Publication Year : 2005
- 4. Elements of Auditing by Aruna Jha Publication Year : 2005
- 5. Students Guide to Accounting Standards CA/CMA Final by D S Rawat Publication Year : 2013
- 6. Accounting Made Easy by Rajesh Agarwal, R. Srinivasan Publication Year : 2011
- 7. Accounting Standards and Corporate Accounting Prac.... by T P Ghosh Publication Year : 2011
- 8. Corporate Mergers Amalgamations and Takeovers Conc.... by Dr J C Verma Publication Year : 2008
- 9. Corporate Financial Reporting Theory and Practice by Jawahar Lal Publication Year : 2009
- 10. Cost Accounting Principles and Practice by S.P. Jain , K.L Narang Publication Year : 2013
- 11. Indian Accounting Standards and GAAP A Problem and... by Dolphy D Souza Publication Year : 2009
- 12. Management Accounting and Financial Analysis S D Bala Publication Year : 2006
- 13. Fundamentals of Accounting by T P Ghosh Publication Year : 2004
- 14. Finance for Non-Finance Managers by B K Chatterjee Publication Year : 2005
- 15. Cost and Management Accounting by S N Maheshwari Publication Year : 2013
- 16. Modern and Accountancy Volume l and ll M. Hanif Publication Year : 2005
- 17. Cost and Management Accounting Text and Cases by Ravi M Kishore Publication Year : 2011
- 18. Finance For One and All by G P Jakhotiya , M G Jakhotiya Publication Year : 2007
- 19. Cost Accounting M Y Khan , P K Khan Publication Year : 2010
- 20. Financial Accounting For Business Managers Asish K Bhattacharyya Publication Year : 2007
- 21. Analysis of Financial Statements by Leopold A Berstein ,John J Wild Publication Year : 2008
- 22. Introduction to Accountancy T S Grewal , S C Gupta Publication Year : 2013 Taxmann Cost Accounting and Financial Management Kishore, Ravi M Taxmann, New Delhi.
- 23. Cost Accounting: Principles and Practice Dutta, Manash Pearson Education Asia,
- 24. Delhi.
- 25. Cost Accounting: A managerial emphasis Horngren, Charles T.; Dater and Foster, G.;
- 26. Pearson Education Asia, New Delhi.
- 27. Cost accounting Jawaharlal Tata McGraw Hill, New Delhi.
- 28. Cost accounting for Business Managers Bhattacharyya, Asish K Elsevier, New Delhi.
- 29. Cost Accounting: Principles and Practice Jain, S.P. and Narang, K.L Kalyani Publishers, Ludhiana.
- 30. Cost Accounting: Principles and Practice Arora, M.N Vikas, New Delhi.
- 31. Cost Accounting: A managerial emphasis Horngren, Charles T Pearson, Delhi.

- 32. Cost Accounting: Theory and Practice Gupta, Nirmal Sharma, Chhavi Ane Books, New Delhi.
- 33. Management and Cost accounting Drury, Colin Cengage, Australia.
- 34. Cost accounting: Theory and Problems Maheshwari, S.N and Mittal, S.N Mahavir Books, Delhi.
- 35. Modern Cost and Management accounting Hanif, Mohammed TMH, New Delhi.
- 36. Cost Accounting Jawaharlal and Srivastava, Seema McGraw-Hill, New Delhi.
- 37. Principles Of Cost accounting Derbeck, Edward J. Van South-Western, Australia.

#### **Reports, Journals, Bulletins and Periodicals:**

- 1. Annual Reports of the various selected Cement Units
- 2. Management Accountants, India
- 3. The Journal of Industries and Trade
- 4. Chartered Accountant, New Delhi
- 5. Productivity, New Delhi
- 6. The Indian Accounting Journal
- 7. Journal of Accounting & Finance
- 8. Accounting Review

#### Paper Code: 102

#### Data Analytics and use of ICT in Government

#### **Total Sessions - 40**

#### Objectives

We live in the Information Age where data is the lifeblood of organisations. Over the past two decades, the IT systems implemented by various Government organisations have accumulated huge volumes of data. While the systems themselves have led to improved transaction processing, the opportunity of mining this data through advanced data analytics for obtaining critical insights leading to radically improved service delivery and monitoring is yet to be realised. This course would give a firm grounding on fast developing field of Analytics and prepare the Officer Trainees for data-driven decision making capability.

The course would cover crucial concepts of descriptive statistics and Data Visualisation with hands on training on leading Visual analytics tool – Tableau Desktop for data discovery and smart MIS. The program would also cover advanced analytics (Machine Learning / Data Mining) including building of predictive analytics models using R and RapidMiner, and provide an overview of Big Data technologies.

In addition, participants would be exposed to IT Governance and Management Framework, overview of Cyber Security, and recent developments in Banking Technology

#### Unit-1: Basics of Data and its Management

- Handling data , Data Cleaning and Transformation
- Understanding variables and Observations, Types of Variables, Central Tendency, Distribution of the Data, Confidence Intervals, and Hypothesis Tests.
- Use of MS Excel and MS Access for data management, basic data analysis, cleaning and transformation.

#### **Unit-2: Visual Analytics**

- Types of Data Visualisation
- Basics of Power BI
- Use of Tableau Desktop for Visual Analytics/Data Discovery and developing smart MIS using Dashboards.

#### **Unit-3: Machine Learning and Data Mining**

• Understanding Machine Learning and Data Mining algorithms relating to Classification, Regression, Clustering, Anomaly Detection, Time Series, Association Analysis

- Neural Network algorithms, Deep Learning and Reinforcement Learning
- Use of R and RapidMiner for predictive analytics.
- Overview of Big Data Technologies

# Unit-4: IT Governance and Management Frameworks, e Governance and Cyber Security overview

- ISO/IEC 38500:2015- Governance of IT for the organization, COBIT 5 , ISO/IEC 27001 Information security management
- E-Governance
- Cyber Security
- Developments in Banking Technology

#### **References/ Suggested Readings:**

- 1. Making Sense of Data (I & II), Second edition, Wiley, Glenn J. Myatt / Wayne P. Johnson
- 2. The Art of Data Science, Roger D. Peng and Elizabeth Matsui
- 3. The Elements of Data Analytic Style, Jeffrey Leek
- 4. Tableau Desktop User Guide
- 5. Predictive Analytics and Data Mining Concepts and Practice with RapidMiner, Elsevier, Vijay Kotu / Bala Deshpande
- 6. Relevant ISO Standards, COBIT 5

#### Paper Code: 104

#### **Financial Management**

**Total Sessions - 40** 

#### Unit – I

#### **Financial Management - An Overview:**

Finance and Related Disciplines; Scope of Financial Management; Objectives of Financial Management; Primary Objective of Corporate Management; Agency Problem; Organization of Finance Function; and Emerging role of Finance Managers in India.

#### **Time Value of Money:**

Rationale; Techniques; Practical Applications of Compounding; and Present Value Techniques.

#### **Risk and Return:**

Conceptual Framework of Risk and Return: Type of Risks; Risk and Return of a Single Asset; Risk and Return of Portfolio (only two asset portfolio); Portfolio Selection; and Capital Asset Pricing Model (CAPM).

#### **Capital Budgeting – Principles and Techniques:**

Nature of Capital Budgeting; Data Requirement; identifying Relevant Cash Flows; Evaluation Techniques; and Capital Budgeting Practices in India

#### **Capital Budgeting – Additional Aspects:**

Net Present Value; Internal Rate of Return; Profitability Index Methods – A Comparison; Project Selection Under Capital Rationing; and Inflation and Capital Budgeting; Payback method and efficient market hypothesis.

#### Analysis of Risk and Uncertainty in Capital Budgeting:

Description and Measurement of Risk; and Risk Evaluation Approaches.

**Project evaluation and management** :- Indian and international experience.

#### UNIT – II

#### **Concept and Measurement of Cost of Capital:**

Importance and concept; Measurement of Specific Costs; Computation of Overall Cost of Capital; and Cost of Capital Practices in India.

#### **Capital Structure Cost of Capital and Valuation:**

Capital Structure Theories; Net Income Approach; Net Operating Income (NOI) Approach; Modigliani-Miller (MM) Approach; and Traditional Approach

#### Unit – III

#### Working Capital Management – An Overview:

Nature of Working Capital; Planning of Working Capital; Computation of Working Capital; and Management of Working Capital in India.

#### **Inventory Management:**

Objectives; and Techniques.

#### Working Capital Financing:

Trade Credit; Bank Credit; Commercial Papers; Certificate of Deposits (CDs); Financing.

#### Term Loans, Debentures / Bonds and Securitization:

Terms Loans; Debentures/Bonds/Notes; and Securitization.

#### **Hybrid Financing Instruments**:

Preference Share Capital; Convertible Debentures/ Bonds; Warrants; and Derivatives Options

**Lease Financing** 

Lease Financing

#### Financial Management of Public Sector Undertakings (PSUs):

Peculiarities of PSUs with Focus on Accounting and Finance; Financial Decisions in PSUs; Memorandum of Understanding (MoU) in PSUs; and Disinvestment in Public Sector Enterprises.

References/ Suggested Readings:					
S.No.	Title	Author	Publication	Edition	Year
1.	Strategic Financial	Gupta, J B;	Taxmann	4th	2013
	Management				
2.	Analysis for Financial	Higgins, Robert	McGraw-	10th	2013
	Management;	С;	Hill		
3.	Elements of Financial	Rustagi, R P;	Taxman		2013
	Management;				
4.	Essentials of financial	Pandey, I M;	Vikas	3rd	2012
	management				
5.	Financial Management	Srivastava, Rajiv	Oxford	2nd	2012
		and Misra, Anil;	University		
			Press		
6.	Cases in Financial	Pandey, I M and	ТМН	3rd	2012
	Management;	Bhat, Ramesh;			
7.	Basic Financial	Khan, M Y and	ТМН	3rd	2012
	Management;	Jain, P K;			
8.	Financial Management	Chandra,	Rawat		2012
	(Vittya Prabandh (Hindi);	Prakash;			
9.	Financial	Mathur, B L;	Arjun		2012
	Management=Vitiya				
	Prabandh (Hindi);				
10.	Financial Management:	Gupta, Shashi K	Kalyani	7th	2012
	Theory and Practice;	and Sharma, R			
		К;			
11.	Fundamentals of Financial	Sharan,	Pearson	3rd	2012

	Management;	Vyuptakesh;			
12.	Strategic Financial Management:	Kishore, Ravi M;	Taxman	2nd	2011
	Comprehensive Text Book with Case Studies;				
13.	Strategic Financial Management;	Sofat, Rajni and Hiro, Preeti;	PHI		2011
14.	Financial Management: Principles and Practice;	Lasher, William R.;	Cenage Learning	6th	2011
15.	Financial Management: Theory and Practice;	Chandra, Prasanna;	ТМН	8th	2011
16.	Financial Management: Text Problems and cases;	Khan, M Y and Jain, P K;	ТМН	6th	2011
17.	Financial Management	Pandey I M;	Vikas	10th	2010
18.	Financial Management: Concepts Simplified;	Mehra, Rishi;	ILEX		2009
19.	Financial Management: Principles and Practice;	Bhat, Sudhindra;	Excel Books		2009
20.	Financial Management: Tools and Techniques;	Sinha, Pradip Kumar;	Excel Books		2009
21.	Fundamentals of Financial Management;	Van Horne, James C and Wachowicz, John M;	PHI	13th	2009
22.	Issues in Financial Management	Agarwal, N P and Mishra, B K;	RBSA		2007

#### Paper Code 107

#### **Total Sessions - 40**

#### Governance and Administration, Institutions, Legal and regulatory framework

**Objective:** This paper envisages to introduce the concept and various dimensions of governance with particular reference to initiatives in good governance and challenges faced thereof. The paper will also cover the role of Institutions in delivering good governance as well as legal and regulatory framework governing public sector governance and introduction to several regulatory agencies in India.

#### Unit I

- 1. Broad contours of governance in India
- 2. Good governance initiatives adopted by Central and State governments in India
- 3. Various approaches to good governance: e-governance, Citizen centric approach, Right to Information and Corporate Social Responsibility
- 4. Initiatives in Public Private Partnership: Success stories
- 5. Challenges in governance in areas including: Human rights, Security, Environment, Health, Education, Disaster management

#### Unit II

- 1. International Institutions and Global governance,
- 2. Transparency and accountability: Good governance and the Fight against Corruption, Prevention of Corruption Act,
- 3. Values and ethics and Institutional framework: Role of CBI, CVC, CVO
- 4. Role of Judiciary, Media and Civil society in governance.
- 5. Institutions for welfare of vulnerable sections

#### Unit III

- 1. Companies Act
- 2. Law of Contract
- 3. Law of Negotiable Instruments
- 4. Legislation pertaining to Environment
- 5. Competition Act and Competition Commission
- 6. Information Technology Act
- 7. Workmen's Compensation Act
- 8. Overview of International Trade with reference to the World Trade Organization
- 9. Consumer Protection Act
- 10. Torts
- 11. Regulatory framework in India

#### Unit IV

- 1. Leadership skills and team building
- 2. Conduct rules

#### **References/ Suggested Readings**

- 1. E Vayunandan, Good governance initiatives in India
- 2. APJ Abdul Kalam, Governance for Growth in India
- 3. TSR Subramanian, India at turning point: The road to good governance
- 4. B. Chakrabarty and M. Bhattacharya, (eds.) *The Governance Discourse.* New Delhi: Oxford University Press, 1998
- *5.* Surendra Munshi and Biju Paul Abraham [eds.] , *Good Governance, Democratic Societies And Globalisation*, Sage Publishers, 2004
- 6. United Nation Development Programme , *Reconceptualising Governance*, New York, 1997
- 7. Carlos Santiso, *Good Governance and Aid Effectiveness: The World Bank and Conditionality* Johns Hopkins University, The Georgetown Public Policy Review ,Volume VII, No.1, 2001
- 8. Vasudha Chotray and Gery Stroker , Governance Theory: A Cross Disciplinary Approach ,Palgrave Macmillan ,2008
- 9. B. Nayar (ed.), *Globalization and Politics in India*. Delhi: Oxford University Press, 2007 pp.218-240.
- 10. Smita Mishra Panda , Engendering Governance Institutions: State, Market And Civil Society, Sage Publications, 2008
- 11. Nalini Juneja, *Primary Education for All in the City of Mumbai: The Challenge Set By Local Actors'*, International Institute For Educational Planning, UNESCO : Paris, 2001
- 12. Jugal Kishore, National Health Programs of India: National Policies and Legislations, Century Publications, 2005
- 13. Jean Drèze and Amartya Sen, *India, Economic Development and Social Opportunity*, Oxford University Press, 1995
- 14. Marmar Mukhopadhyay and Madhu Parhar (eds.) *Education in India: Dynamics of Development,* Shipra Publications, 2007
- 15. K. Vijaya Kumar, *Right to Education Act 2009: Its Implementation as to Social Development in India*, Akansha Publishers, 2012
- 16. Amartya Sen and Jean Dreze, Omnibus: Poverty and Famines, Hunger and Public Action, India- Economic Development and Social Opportunity, Oxford University Press, 1998
- 17. D. Crowther, *Corporate Social Responsibility*, Deep and Deep Publishers, 2008 Sanjay K. Agarwal, *Corporate Social Responsibility in India*, Sage Publishers, 2008
- 18. Pushpa Sundar, Business & Community: The Story of Corporate Social Responsibility in India, New Delhi: Sage Publications, 2013

- 20. Elements of Company Law Avtar Singh
- 21. Principles of Company Law M.C. Shukla
- 22. Elements of Mercantile Law by N.D.Kapoor (Sultan Chand publication)

<sup>19.</sup> Bare Acts

- 23. A Ramaiya's Guide to the Companies Act Cumulative Supplement (2012) by A Ramaiya (Revised by S. Balasubramanian)
- 24. Guide to Company Law Procedures (2009) by M C Bhandari
- 25. Datta on the company Law: Box-2 (2009) by C R Datta
- 26. Company Meeting Law, Practice and Procedures (2009) by K R Chandratre
- 27. Guide to Company Precedents Agreements Deeds and Documentations with Practice Notes (2009) by M C Bhandari
- 28. Corporate Laws 2013 (2013) Palm top Edition
- 29. Grt. Gajria's Law Relating to Building and Engineering contracts in India (2000) by Kishore Gajaria
- 30. Pollock and Mulla: Mulla The Indian Partnership Act (2011) by Pollock & Sir Dinshaw Fardunji Mulla
- 31. MLJ: Law of Contract and Specific Relief (2009) by Editorial Team
- 32. Law Relating to Infrastructure Projects (2003) by Piyush Joshi
- 33. Limited Liability Partnership Law and Practice (2009) by Dr. Sanjiv Agarwal & Rohini Aggarwal
- 34. Cyber Laws (2012) by Yatindra Singh Justice
- 35. Labour Legislation by R.J. Reddy
- 36. Public Utility Services Under the Consumer Protection Act by M. Rao
- 37. Law of tort: Including Compensation Under the Consumer Protection Act by S.P. Singh
- 38. Basic Tort Law: Cases, Statutes, and Problems by Arthur Best, David W. Barnes
- 39. Concept Paper on Public Private Partnership in Healthcare by Planning Commission
- 40. MCAs for roads and ports in India: <u>http://infrastructure.gov.in/mca.html</u>
- 41. PPP provision in South Africa: http://www.ppp.gov.za/StandPPProv.html

#### Paper Code: 109 Government Accounting System

#### **Total Sessions - 40**

#### **OBJECTIVE**

To provide theoretical and practical knowledge about Government Accounting and Accounting for Non-Profit Organizations :

#### <u>Unit-I</u>

#### **Overview of Government Accounting**

- 1. Accounting in Govt. Origin, development & departmentalization of accounts, Features of Government Accounts, Structure and form of Government Accounts
- 2. Functions expected from and Accounts Officer (Accounting, Finance and Auditing)
- 3. Budgeting in India,
- 4. Classification of government accounts.
- 5. Important Accounting Concepts
- 6. Compilation of Accounts
- 7. Finance and Appropriation accounts purpose, use, compilation and consolidation, Combined finance and appropriation accounts

#### Unit II

#### **Government Accounting Standards**

- 1. Role of GASAB
- 2. IGAS
- 3. IGFRS
- 4. Accrual Accounting in Government in India

#### Unit III

#### Internal Auditing

- 1. Importance of internal audit
- 2. Types of audit
- 3. Standards of auditing

#### Unit IV

#### Financing Issues in Government : (Specific issues to be taken up)

- 1. Telecom Licensing
- 2. Raising of extra budgetary resources (IRFC, JVs, etc)

#### **References/ Suggested Readings:**

#### **Government Accounts**

1.	Civil Accounts Manual	Govt. publication
2.	List of Major and Minor Heads	Govt. publication
3.	Central Government Accounts (Receipt & Payment) Rules	Govt. publication
4.	Government Accounting Rules	Govt. publication
5.	Constitution of India	Govt. publication
6.	Appropriation Accounts - Central (Civil)	Govt. publication
7.	Union Government Finance Accounts	Govt. publication
8.	Govt. Accounts Principles and Practices	R. Ramanathan
9.	Effective Government Accounting	A. Premchand
1(	). IGAS and IGFRS	Govt. publication

#### <u>Audit</u>

- 1. Kamal Gupta, Contemporary Auditing, Tata McGraw Hill Publishing Co. Ltd., New Delhi
- 2. Kamal Gupta, Arora A, Fundamentals of Auditing, Tata McGraw Hill Publishing Co. Ltd., New Delhi
- 3. Saxena, RG, Auditing Himalya Publishing House, Bombay
- 4. Tandon, BN, Practical Auditing, S.Chand and Co., New Delhi
- 5. Manual of Standing Order (Technical) C&AG of India
- 6. CAG DPC 1971 C&AG
- 7. Auditing Standards C&AG
- 8. Y. Krishna : Audit in India's Democracy
- 9. Government Auditing by T. N. Chaturvedi
- 10. Public Audit, Good Governance & Accountability : Edited by Dr. B.P. Mathur, Institute of Public Auditors, Publications.
- 11. Compendium of Standards on Internal Audit (As on July 1, 2013), Fifth Edition, ICAI
- 12. General Guidelines on Internal Audit, Second Edition , ICAI
- 13. Auditing Principles and Practice by Ravinder Kumar and Virender Sharma, PHI Learning Pvt. Ltd.
- 14. Guide on Risk based internal Audit ICAI
- 15. www.iia.org

#### Paper Code: 110 Statistics for management

#### **Total Sessions - 40**

The objective of the course is to enable the Officer Trainees to have a clear understanding of the core statistical concepts which enable informed decision making, and provide an exposure to econometrics, and how it differs from the approach taken by Data Analytics. The participants would also learn popular Statistical techniques used for Program evaluation

The topics to be covered include:

- Nature and role of statistics for management.
- Types of data, data measurement scales, Descriptive Statistics: Measures of Central Tendency, Measures of Dispersion.
- Introduction to probability theory. Basic Theorems and rules for dependent/independent events, Random Variable, Probability distributions.
- Bayes Theory and its application in decision making
- Sampling Techniques, Sampling distributions. Hypothesis testing: Z-test, t-test, ANOVA, Chi-square tests, Correlation and regression analysis.
- Introduction to Econometrics, Simple linear regression model. Multiple linear regression model, Analysis Time Series data.
- Program evaluation, Importance of Causality in Public Policy sphere, Causal inference, importance of Counterfactuals, basic evaluation techniques Randomised Assignment, Instrumental Variables, Regression Discontinuity Design, Difference in Difference.

#### **Reference Books:**

- 1. Statistics for Business and Economics, 12<sup>th</sup> Edition by Anderson, Sweeney
- 2. Introductory Econometrics, 6<sup>th</sup> Edition, Wooldridge
- 3. Impact Evaluation in Practice, 2<sup>nd</sup> Edition, World Bank

#### KNOW YOUR FACULTY

#### Name: Sherry Alok Mohan (Dr.)

**Designation:** Professor

Subject coordinator: Paper Code 101 (Accounting for Managers)

Email Id: amsherry@nifm.ac.in

Education: M.Com, PhD

**Experience:** He has over 26 years of experience in Teaching, Research and Consulting in Public Financial Management, Government Accounting, Direct & Indirect Taxes and Capital Markets.



#### Name: Kaushik Kamal Prakash (Dr.)

**Designation:** Professor

Subject coordinator: Paper Code 104 (Financial Management)

Email id: <u>kpkaushik@nifm.ac.in</u>

Education: M. Com, Ph.D(Com.)

**Experience:** Dr. Kaushik is Professor (Finance & Accounts) at NIFM. He is a member of All India Commerce Association. He is having 24 years of teaching experience. At NIFM, the areas which he has been covering include Accounting, Auditing, Financial Management, Security Analysis and Portfolio Management and International Finance.



#### Name: Agrawal Namrata (Dr.)

**Designation:** Professor

Subject Coordinator: Paper Code 102 (Data Analytics and use of ICT in Government)

Email id: <u>nagrawal@nifm.ac.in</u>

Education: Ph.D.(Computer Science & Engg.)

**Experience:** Dr. Agrawal has more than 20 years of teaching, research & amp; consultancy experience in the field of Information Technology. She has published 20 research papers in refereed National and International journals and has authored best selling books under Wiley Publication. She has been actively associated with various consultancy assignments.

Name: Sangeet

**Designation:** Associate Professor (SG)

Subject Coordinator: Paper Code 109 (Government Accounting and Audit)

Email id: sangeetsingla@nifm.ac.in

**Education:** MBA, BA (Hons. in Geography) UGC NET (Management)

**Experience:** Mr. Sangeet, an Indian Defence Accounts Service Officer of .... Batch. Has worked in different capacities in Office of the CGDA, Indian Armed Forces, DRDO, National Academy of Defence Financial Management (NADFM), Ministry of Defence handling HR Management, Accounting and Audit of Procurement Expenditure and Pay Management. His international Experience includes assignment as Finance Officer for Indian Armed Forces at UN Peacekeeping Mission at Sudan.





#### Name: Shukla Yashashri

**Designation:** Professor

Subject coordinator: Paper Code 107 (Governance and Administration, Institutions, Legal and Regulatory Framework)

Email id: yashashri@nifm.ac.in

**Education:** Msc. Tech Mass Communications (Specialisation in S&T), Msc. Botany, Lucknow University, MA in Public Policy and Sustainable Development, TERI School of Advanced Studies. Also Chevening Scholar 2006

**Experience:** An Indian Post and Telecom Account and Finance Service Officer of 1996 batch. Has worked in different capacities in Ministry of Home Affairs, Ministry of Finance, Department of Telecommunications, Seventh Central Pay Commission.

