Course Contents General Courses 2023-24

Sl.No.	Course Name	Modules/Topic Covered	Preferred Participant Profile	Duration
1.	**Financial Attest Audit**	Introduction to FAA, Audit Mandate, etc. Element and broad principles of accounting and basics of financial management in the entity Understanding the entity and the IT environment of the entity Role of Internal control and Internal audit in the entity with discussion on Case Studies. Audit Planning, Audit Planning Memorandum Identification of significant and non-significant audit areas with discussion on Case Studies Materiality and Risk assessment with discussion on Case Studies Audit Programme-Function and importance of audit programme Audit sampling and Analytical techniques with Case Studies Supervision and control- Standards and structure of supervision and methods of review and assurance required from the review of audit work. Auditing Standards of the CAG of India in particular and INTOSAI Standards Field work- Manner in which field audit is carried out and audit evidence is collected Auditing Standards of documentation and filing system and procedures Accounting Standards and disclosure requirementsMajor accounting standards of ICAI and awareness about the existence of others Principal of reporting-Reporting requirement and how to improve audit reporting with case study Drafting, summarization, conclusion and overview with case study	**SAOs/AAOs**	**05 days**
2.	**Audit Reporting**	1 Introduction to Audit Reporting: Covers key aspects of audit reporting as detailed in Level 2 and Level 3 of ISSAIs 2 Components of an audit paragraph: Focuses on following components of a paragraph in a report- Audit Criteria Condition (Evidence) Cause Effect Audit Conclusion Recommendation Case Study 3 Link between Report, Audit Objectives and Working Paper: Emphasis is on the linkage between	**SAOs/AAOs**	**03 days**

| | | audit objectives identified at the planning stage and the audit report. Covers:
Audit Objectives & Issue Analysis
Reporting against audit objective
Working Papers
Linkage between report, audit objective and working papers Case Study

4   Balanced and Fair Reporting: Focus is on:
Characteristics of Audit evidence
Balanced and Fair reporting
Consideration of audited agencies' response and views
5   Compliance Audit Reports: Focus on compliance audit reporting requirements as envisaged in ISSAI 4100. Case Study.
6   Audit Report – Language and Structure: This covers:
Audit Memos, Inspection Reports and Audit Reports sequencing audit findings and structuring an audit paragraph common pitfalls in the language used in audit reports 7 Style Guide: Focus is on the key requirements of the Style Guide issued by the Headquarters. | | |
| 3. | **Seminar on Right to Information Act** | Purpose and perspective effects of 'Right to Information Act (RTI)'. Transparency and accountability in administration.
Salient features of the RTI Act. Procedure regarding when & how to use the Act.
Exclusion under RTI Act, Information exempted from disclosure under the Act, areas out purview of the Act.
Appeal provisions in the Act. Constitution, powers and function of Central and State Information Commission.
Penalty provisions of the Act.
Case study with an example. | SAOs/AAOs | 02 days |

4.	**Performance Audit Guidelines**	I An Introduction to Performance Audit. Issues of Economy, Efficiency and Effectiveness. Objective of Performance Audit. Elements of Performance Audit. Assurance and Confidence in Performance Auditing. Outcomes of performance audits. General outlay of Performance Auditing Guidelines. Case Study. (Chapter-I of Performance Auditing Guidelines 2014) Mandate and General Principles for Performance Audit. General Principles, Ethics and Independence, Audit Approach, Audit Criteria, Audit Risk. Communication.	SAOs/AAOs	05 days

		Skills, Professional judgement, due care and scepticism. Quality Control, Materiality, Documentation. Case Study. (Chapter-II of Performance Auditing Guidelines 2014) Strategic Audit Planning and Selection of Audit Topics. Strategic Audit Planning, Objective of strategic Audit planning, Strategic Audit Planning Process. Annual Audit Planning Process, Selection of Audit Topics. Interaction with audited entities and other stakeholders. Periodic updating of the date and the risk profile. Case study. (Chapter-III of Performance Auditing Guidelines 2014) Planning Individual performance audits Understanding the entity/programme Defining Audit Objectives Scope of Audit Determining the Audit Criteria Deciding Audit Approach and Methods. Case Study. Developing Audit Questions Assess audit team skills Utilisation of outside expertise. Audit Design Matrix Establish the timetable and resources Intimation of Audit Refinement or narrowing of objective and criteria. Flexibility in the Audit programme. Case Study / Group Discussion. (Chapter-IV of Performance Auditing Guidelines 2014) Implementing the Performance Audit Entry Conference, Issuance of Engagement letter, Field audit process, Entry Meeting, Data Collecting & Analysis. Developing audit findings and conclusions, Developing recommendations, Audit Finding Matrix, Exit Meeting, and Supervision. Case Study / Group Discussion (Chapter-V of Performance Auditing Guidelines 2014) Evidence and Documentation C&AG of India's auditing standards, Competence, Relevance, Sufficiency, Factors affecting the evidence,		

		Types of Evidence, Sources of Evidence, Documentation, Working papers, Audit File		

		Case Study & Group Discussion		
		(Chapter-VI of Performance Auditing Guidelines 2014)		
		The Reporting Process		
		Reporting Process, Audit observation, Draft audit report, Response of the entity, Exit Conference, Third party consultations, Observations of the headquarters on draft report.		
		Draft Final Report, Final report, Characteristics of a good report, Structure of the report, Enhancing the presentation and readability of the reports, Audit implementation cycle, Timelines of Performance Audit.		
		Case study & Group Discussion.		
		(Chapter-VII of Performance Auditing Guidelines 2014)		
		Follow-up of performance audits.		
		Objective of the follow up programme, Assisting the Legislature, Effectiveness assessment, Continuous Improvement, Inventory of recommendations,		
		Annual follow-up programme		
		Case study & Group Discussion		
		(Chapter-VIII of Performance Auditing Guideline 2014).		
		Potential impacts of performance audit and		
		Thematic audit and quality assurance. Case study & Group Discussion		

| 5. | **Audit Evidence** | **Basic Concepts: Definition of Evidence/Audit Evidence**
ISA and ISSAIs on Audit Evidence in Financial Auditing,
ISSAIs on Audit Evidence in Performance and Compliance Auditing
Attributes of good Evidence
Introduction & Various Evidence Gathering Techniques
Case Studies/Illustrations
Evidence Gathering techniques in Compliance Audit
Comprehensive Case Study 1
Case Study 2
Audit Evidence in Financial Auditing- Basic Concepts: Definition of Audit Evidence
Key concepts on Audit Evidence in Financial Auditing,
Audit Evidence in Performance Auditing-
 Key Points
Competent, Relevant and sufficient Information.
Types of Evidence
Factors affecting Evidence
Procedures for obtaining evidence
Case Study and Exercises | SAOs/AAOs | 03 days |

| 6. | Goods and Service Tax (GST) | **Goods and Service Tax- An Introduction**
Limitations with the previous indirect tax structure
Importance and Benefits of GST
Constitutional Amendment Act and GST Council
Anti profiteering measure
Goods and Services Tax Registration: Law and Business Process.

Purpose & Advantages of Registration under GST
Statutory Provisions
Migration of existing registration to GST, Person liable to obtain registration, Procedure to obtain registration Compulsory Registration
Unique Identity Number (UIN)
Exemptions, Time Period for Registration, Surrender/ Cancellation of Registration
Main features of GST Law
Levy of/and Exemption From Tax

The power to levy tax – Authority of Law
The incidence of tax, The liability of being taxed
Composition Levy (a special category of tax liability)
E-commerce and its taxability
Exemptions from being taxed
Filing Of Returns &Matching Of Input Tax Credit

Statutory Provisions, Summery of Returns
Outward Supplies, Inward supplies, Monthly Return
Person with Composition scheme
TDS, ISD, Non resident Taxable Person, TCS
First Return, Annual Return, Final Return
Statement of person having UID
Input Tax Credit

Input tax credit (ITC) a key feature of GST, Understanding ITC
Pre-requisites for ITC, Allowance of ITC
Cross utilization of IGST & Fund Transfer, Apportionment of IGST
Overview of the IGST Act

Introduction to IGST, Overview Of IGST Act
Transitional provisions

Statutory provisions -Under the Act, Under the Rules
Migration of existing registered taxable persons
Transitional provisions - introduction
Transitional provisions relating to: Input Tax Credit, Continuance of existing procedures, All claims (pending as well as future) pertaining to existing laws
Meaning and Scope of Supply and Time and Valuation of Supply

Supply – Meaning and Scope, Time of Supply, Place of Supply
Classification of Goods and services, Valuation
Payment of tax | SAOs/AAOs | 05 day s |

		Introduction, Legal Provisions, Modes of Payment under GST		
		Maintenance of Taxpayer-wise Electronic Ledgers, Rules for Utilization of Amounts in Electronic Ledgers		
		ITC Utilization Rules, Rules for Discharging Liability		
		Provision of Interest on Delayed Payment of Tax, Provisions of TDS, Transitional Provisions w.r.t. Payment of Tax, GST Payment Process Overview		
		Frontend Business Process on GSTN Portal		
		Key Data-points, Structure of GSTN		
		IT Strategy, Rollout Strategy (Model-1 and Model-2 States)		
		Information Management		
		Demo of Registration, Payment and Return		
		Refund of Taxes		
		Statutory Provisions		
		Situation where refund would arise, Refund not admissible, Time Limit		
		Refund – General principles, Procedure for sanction, Refund claim by UN agencies, Consumer Welfare fund		
		Documents required		
		Assessment, Provisional Assessment & Audit		
		Self assessment, Provisional assessment		
		Scrutiny of Returns, Assessment of Non Filers of Return, Assessment of un- registered persons, Summery assessment		
		Audit by Department, Special Audit		
		Provision related to inspection, search, seizer, appeal and revision, arrest, offence, prosecution, penalty and compounding		
		Accounting Procedure under GST System		
		Taxes subsumed in GST, Challan under GST, Mode of Payment		
		Head of Accounts, Accounting procedure, Reconciliation & MOE		
		ITC utilization and Apportionment of IGST, IGST accounting		
		Year-end Accounting Adjustments **Role of CAG in GST Regime**		
		CAG's mandate to audit receipts		
		What is new and different, Challenges And Way Forward		
		What we have done so far, Audit of GST – Strategy for 2018-19		

7.	**Audit of Procurement and Contract Management**	Important Provision of GFR related to Procurement of Goods and Services- Definition of Goods, Fundamental principles of public buying ,Different mode of Procurement Mode of Tendering for Procurement of Goods and Services	SAOs/AAOs	03 day s
		Contract Management- Standard conditions of contract including Post Contract Management Role of Internal Finance in Procurement cases Introduction to Delegation of Financial Power Rules 1978 An Overview of Important Provisions of Delegation of Financial Power of UP and MP State Process of e-procurement CVC Guidelines on Procurement and Contracts		
8.	**Audit PRIs/Uⵏ of including construction w in ULBs, Rece of ULBs**	Panchayat Raj Institution (PRI): Introduction, organisational set up, constitution of Gram Panchayats (GPs), functions of GPs, Monitoring of GPs, audit mandate and audit of Assets-Management and works executed by GPs. Constitution for establishment of Kshetra Panchayat (KP) and Zila Panchayat (ZP), duties and functions of KP and ZP. Urban Local Bodies (ULBs): Introduction, composition of three tier ULBs, 74th Constitutional Amendment Act., 1992 & devolution of Powers. Formats of Accounting prescribed by C&AG. Audit of GP accounts and other relevant records. Preparation of Budget & its approval in ULBs. Audit of monthly/Annual accounts of ULBs. Fund Flow: - Grants in Aid and Loans from Central/State Governments to PRIs through different sources and provisions or withdrawals of Funds. Audit of ZP & KP accounts, Audit of Works accounts of ZP & KP. Case Study. Auditing Mandate & Auditing standards for audit of ULBs. Audit of various Taxes/Charges/ Licence fees levied by ULBs. Procedures for execution of works in ULBs and audit trail. Guide lines of CAG for Technical Guidance and Supervision (TGS)./ Auction procedures in ULBs. Audit of Works Accounts:- procedures for execution of Works by PRIs, works records viz., Project Register, Works Register, Cash Book, Tender/Contract Bonds etc. Accounting system followed in ULBs, concept of accrual basis of accounting, preparation of Receipt & Payment/Income & Expenditure accounts, trial balance and Balance sheet including closing of accounts. Management of land, environmental issues in PRIs/ULBs works and receipts of PRIs. Case Study	SAOs/AAOs	05 days

9.	**Statistics and Sampling in Audit**	Descriptive Statistics: What is data? (Qualitative vs. Quantitative data):, What is an Attribute?, Frequency distribution of data. Concept of random variable. Measure of Central Tendency (Mean, median, and Mode): Concept, measure & applicability, Measure of Dispersion (Range, Standard Deviation & Coefficient of variation): Concept, measure &^ applicability	SAOs/AAOs	05 days

		Classical definition of probability : Concepts with examples, Probability distribution (Binomial, Poisson & Normal Distribution): Concept & applicability Practical: Using Excel /IDEA package demonstrate different statistics using live data and interpret the statistics to draw conclusions about the distribution of the data Statistical Sampling: What is statistical Sampling?, How it is different from judgmental and convenience sampling?, Advantage of statistical sampling. What is a Random Number Table? Its relevance in statistical sampling and concept of sampling frame. Different techniques of statistical sampling: Simple Random Sampling (SRS), Systematic Random Sampling, concept, definition and applicability. Methodology of drawing samples using SRS& systematic (both) Linear Systematic and Circular systematic) using a) Random Number Table & b) using IDEA package. Estimation formulae for estimation of population average, total and proportion of an attribute and corresponding estimation of standard errors: (only the formulae to be state, without proof) Demonstration with various examples is very important. Statistical Sampling (contd.): Probability Proportional to Size (PPS) sampling : concept, definition & applicability. Different techniques of drawing samples for PPS design (Cumulative Total method, Prof.Lahiri's method of drawing samples). PPS – Systematic sampling & its method of drawing samples. Demonstration may be given with examples Estimation formulae for estimation of population average, total and corresponding estimation of standard errors & concept of multiplier in sampling. (only the formulae to be stated without proof) Practical: Problems on selection of samples and evaluation of few characters of interest using SRSWR, SRSWOR, Systematic, PPS and PPS- systematic design. Statistical Sampling (contd.) Stratification in sampling Cluster Sampling. Stratification vs. Cluster Sampling Advantage of stratification. Estimation formulae under stratification Demonstrate with examples. Multistage Statistical Sampling, with particular reference to two-stage sampling: Concepts & applicability. Estimation formulae using two-stage design-		

		(a) 1st stage as PPSWR and 2nd stage as SRSWOR. (b) SRSWOR in both the stages Practical: Selection of samples under a two-stage stratified design from a given set of data and estimation of two characteristics of the population from the selected sample. Audit Sampling: What is Statistical Audit Sampling Its advantages in audit The risk of statistical sampling Attribute vs. Variable Sampling Attribute sampling plan, determination of optimum sample size alongwith concepts of confidence level, precision & population deviation rate. Variable Sampling plan determination of optimum sample size along with concepts of confidence level, precision & population standard deviation. Un-stratified Mean Per Unit. Stratified Mean Per Unit. Concept of alpha & beta risk & their relevance in audit hypothesis testing. Concept of tolerable misstatement & materiality in audit hypothesis testing. Compliance test vs. Substantive test in audit Monetary Unit Sampling (MUS) & Demonstration of planning and selection of samples using IDEA. Practical examples of selection of samples using IDEA-MUS. Risk assessment & sampling in audit Risk based analysis & the risk model in audit. Risk perception as input to statistical sampling Case Studies Discussion on risk assessment and statistical sampling with case studies		
10.	**Special Course on Railway Audit**	Compliance Audit Guidelines Internal Control Evaluation Manual Audit of PPP projects Environmental Auditing Audit Quality Management Framework (Course Module to be finalized by PDA, NCR, Allahabad) Audit of Procurement Audit of Contract Management Risk Analysis Statistics of Sampling Audit Reporting and drafting of Audit Report. (Course Module to be finalized by PDA, NCR, Allahabad)	**SAOs/AAOs**	06 days

11.	**Compliance Auditing Guidelines & Risk Analysis**	General Principles for Compliance Audits Compliance Audit Plan Planning Compliance Audits Conducting Compliance Audits Reporting Compliance Audits	**SAOs/AAOs**	03 days
12.	**Workshop on Establishment and Administration**	Recruitment Rules, Procedure for direct recruitment and transfer on deputation. Reservation in recruitment and promotion. Maintenance of post based roster – L shape roster. Procedure for de-reservation of reserved points. Promotion policies. Departmental Promotion Committees. Selection and non-selection promotion. Sealed cover procedure. Maintenance of APAR. Reporting and Review of APARs. Custody of APARs. Communication of adverse remarks and Record Management Code of Conduct for Central Govt. servantsAnalytical exposition of the CCS (Conduct) Rules 1964 and various GOI decisions thereunder. Prevention of Corruption Act, 1988- Salient features, various orders and instructions issued by GOI/CCCBC/CAG on vigilance matters Suspension, Deemed Suspension and entitlements and regularization. Unauthorized absence FR 17&17 A Preliminary Inquiry/Show cause notices, Framing of Charge Sheet Disciplinary proceedings- Inquiry proceedings and Inquiry report. Major and Minor Penalties under CCS (CCA) Rules. Role of Inquiry and Presenting officer in inquiry proceedings. Examination and cross Examination of witness. Action on Inquiry report Discussion on Case studies and Case Laws Types of Personal claims, AC and DC bills- their processing and time limit. Record management- Preservation and Weeding out of old records Office Budgeting- Departmental Accounting System, General Financial Rules 2005,Delegation of Financial Powers Rules1978 Central Govt. Accounts (Receipts and Payments) Rules 1963, Preparation of R.E. & B.E. and Control over Expenditure. Staff proposal. Purchase Procedure- Procurement of goods and services, contracts, security deposits, power of HOD. Introduction to Code of Ethics, RTI Act.	SAOs/AAOs	06 days

13.	**Ind AS**	Introduction to IND-AS. ICAI & IA&AD initiative with IND-AS. GSR 111(E) dated 16 February 2015, G.S.R. 365 (E) dated 30th March, 2016, PIB notification IND‑AS Framework Ind ‑ AS conceptual framework, Presentation of Financial Statements (Ind ‑ AS 1) and Fair Value Presentation (Ind‑ AS 13). Non-current assets, agriculture and inventories Property, plant and equipment (Ind ‑ AS 16), Impairment of assets (Ind‑ AS 36), Government	**SAOs/AAOs**	05 days

		Grants (Ind_AS 20), Borrowing Costs (Ind_AS 23), Non-current Assets Held for Sale and Discontinued Operations (Ind-AS 105) Investment Property (Ind_AS 40), Intangible Assets (Ind-AS 38), Agriculture (Ind-AS 41), Inventories (Ind_AS 2) and Exploration for and Evaluation of Mineral Resources (Ind_AS 106) Foreign currency in individual financial statements The Effects of Changes in Foreign Exchange Rates (Ind_AS 21). Leases		
		Leases (Ind_AS 17) Related parties		
		Related Party Disclosures (Ind_AS 24) Employee Benefits		
		Employee Benefits ((Ind_AS 19) Accounting policies& estimate, Error, provisions, contingency and events after balance sheet date		
		Accounting Policies, Changes in Accounting Estimates and Errors (Ind_AS 8), Events after the Reporting Period (Ind_AS 10) Provisions, Contingent Liabilities and Contingent Assets (Ind_ AS 37)		
		Segment reporting		
		Operating Segments (Ind_AS 108) Share Based Payments		
		Share_based Payment (Ind_AS 102) Income Taxes		
		Income Taxes (Ind_AS 12). Financial Instruments		
		Financial Instruments: Disclosures (Ind _AS 107) Financial Instruments (Ind _ AS 109), Financial Instruments: Presentation (Ind_ AS 32) and Insurance Contracts (Ind-AS 104) Consolidated Financial Statements		
		Business Combinations (Ind-AS 103) , Consolidated Financial Statements (Ind_AS 110), Joint Arrangements (Ind_AS 111), Disclosure of Interest in Other Entities (Ind_AS 112), Separate Financial Statements(Ind-AS 27) and Investments in Associates and Joint Ventures (Ind_ AS 28)		

		First time adoption of Ind-AS First-time Adoption of Indian Accounting Standards (Ind_AS 101) Revenue Revenue from Contracts with Customers (Ind-AS 115) Regulatory Deferral Accounts (Ind-AS 114) Revenue (Ind-AS 18), Construction contracts (Ind-AS 11)		

		Residual Matters Statement of Cash Flows (Ind-AS 7), Earnings per Share (Ind-AS 33), Interim Financial reporting (IndAS 34) and Financial reporting in hyperinflationary economies (Ind AS 29)		
14.	**E-procurement (GeM) & CPPP**	Provision of GFR 2017, Creation of primary account of HOD, Creation of secondary account of buyer, consignee and DDO, Practical sessions	SAOs/AAOs	02 days
15.	**Audit of Autonomous Bodies(SAR)**	Legal Framework for Audit of Autonomous Bodies Preparation of Financial Statements Common Format of Accounts and Financial Statements Audit checks for certification of Annual Accounts of ABs. Accounting Standards prescribed for ABs. Format of SAR/Audit Certificate of ABs. Drafting and contents of draft SAR/Management letter Finalizations of SARs Case Study Evaluation of Internal Control Mechanism	SAOs/AAOs	05 days

16.	**Audit of Public Works and Projects including Irrigation Projects**	Public Works Department (PWD): Introduction, Works and Projects, functions, organizational set up, accounting system and submission of account records, audit by Accountants General- mandate and systems of audit. Initial records to be maintained in a PW office. Duties and power of Executive Engineer (EE), Assistant Engineer (AE), Junior Engineer (JE) and Divisional Accountant (DA). Works Execution: Administrative Approval and Financial Sanction, Planning, Preliminary Estimate, Detailed Estimate, Technical Sanction of Estimates. Important check points to be examined in the PW audit relating to works executed through Piece Works Agreement (PWA), Work Order, and Contract Agreements viz., comparative cost and variance analysis. Arbitration Law including procedures and provisions for dealing arbitration matters. Audit of PW: Central Audit- Audit notes, local inspection-Scrutiny of records- analysis of a specific work, issue of audit memo, Preparation of Audit Inspection Reports and their Submission to AG w.r.t. scheduled programme. Audit of Stores and Stock in light of various guidelines issued by the C&AG.	SAOs/AAOs	05 days

		Review Of Irrigation Projects: Introduction, definitions and follow up of Public Works Procedures including deviations from it, if any. Case Study-Irrigation Project.		
		Review of irrigation Projects cont'd.		
		Review of Large Projects (other than Irrigation): Introduction, definitions, methodology, audit findings and recommendations with a case study.		
		Audit of Central Government Sponsored SchemeIntroduction, methodology for audit and submission of Audit Report.		
		Case Study- Pradhan Mantri Gramin Sadak Yojna.		
		Manpower audit in PWD/or as decided by the Course Director.		
		Audit of PW Deposits and Transfer Entries (TE) including checking of fictitious TEs.		
		Works Analysis: Introduction, records related to the particular work, methodology, process and techniques.		
		Audit of Suspense and Remittance Balances in PWD, reconciliation of Divisional Transactions with Treasuries & Banks and scrutiny of Form-51 and Bank Reconciliation Statements.		
		Thrust areas in Audit of PW and Projects including Irrigation Projects to be explored for finding potential audit findings.		
		Salient features of Performance Audit of PWs and projects including Irrigation Projects.		
		Drafting and finalising of Performance Audit Report on Public Works and Projects including Irrigation Projects.		
17.	Disciplinary Proceedings, Conduct Rule, CCS (CCA) Rule and Vigilance Cases and Impact of different penalties, disposal of Complaint/Court Cases on Service matters.	Procedure for direct recruitment and deputation. Preparation of staff proposal Reservation in recruitment and promotion. Maintenance of post based roster – L shape roster	SAOs/AAOs	05 days
		Promotion policies. Departmental Promotion Committees. Selection and non-selection promotion. Sealed cover procedure.		
		Maintenance of APAR. Reporting and Review of APARs. Custody of APARs. Communication of adverse remarks and Record Management		
		Suspension, review of entitlements and regularization. Unauthorized absence FR 17&17 A, Prevention of corruption Act 1988-Salient features, provisions in CCS (Conduct) Rules relevant to vigilance matters & how to handle dilatory tactics.		
		Salient provisions of CCS (Conduct) Rules. Inquiry proceedings and Inquiry report. Major and Minor Penalties under CCS(CCA)Rules		
		Role of Inquiry and Presenting officer in inquiry proceedings. Examination and cross Examination of witness.		
		Disciplinary proceedings. Procedure for drafting the charge sheet, Case study & Valediction		

18.	Auditing Standards (ISSAIs)	Introduction to ISSAIs Level Two ISSAIs Level Two ISSAIs ISSAIs on Performance Audit ISSAIs on Performance Audit ISSAIs on Financial Attest Audit ISSAIs on Financial Attest Audit ISSAIs on Compliance Audit ISSAIs on Compliance Audit INTOSAI GOV 9100 9199 INTOSAI GOV 9100 9199	SAOs/AAOs	03 days

19	**MCTP Level-2**	Concept of Values and its Characteristics; The impact of personal values and community values on individual and society; Concept, Definition, Need and Forms of communication; game play and communication process; Barriers of communication; Absence of clarity; Effective communication; Social skills and etiquettes; Active Listening Skills; CAG's media policy; Discussion on Group Dynamics its concept, function, different theories etc; Explaining the importance of Motivation, Different theories; Improving work performance by Motivation;	AAOs/ SAOs having coming completed 07 years of service	06 days
		Financial Market and Capital Market; Concept of Public Finance, views and opinions of some economists about Public Finance; Importance of Public Finance its nature, components and impact; Differences between Public and Private Finance; Principles of Public Finance; Union Budget and its components		
		Addressing Personalities; **Addressing specific morale issues**;		
		What is Big data? Big data dimensions. Adopting Big data approach in auditing. IAAD Big Data Policy and guidelines;		
		What is IT System? Risks associated with IT Systems. Cyber security, different kind of cyber-attacks and protective measures; IT Act 2000: It's components, structure, applicability, different players and major		

		provisions. CERT-In, Leveraging the entity's IT System and data in audit.		
		Personal Ethics, Professional Ethics; Code of Ethics Gender Sensitization; Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act 2013		
		Basics of Environment and Sustainable Development; SDG: our commitments; Introduction to the 2030 agenda for Sustainable Development and the Sustainable Development Goals (SDGs); Niti Ayog's role in SDG		
20	**MCTP Level-3**	Brief introduction and presentation on overview of communication, communication with Superiors, Peers, Team Members & Internal Audit Teams, Audited organisations, State Government offices, General Public & Media; salient features of Communication Policy, to improve presentation skills, to prepare for meetings and how to draft written correspondences; Analytical thinking	AAOs/ SAOs having coming completed 12 years of service	06 days
		How to improve analytical thinking skills; Identifying a problem, Barriers to problem solving, Attitude that kills creative ideas, What should one do when a problem is encountered, PDCA model of methodical problem solving; Time and time management; What is Stress ? Symptoms of Stress, Causes of Stress and recognizing stress levels, Handling Stress – Steps to combat stress;		
		e-Governance, National IT Policy 2012, National e-governance plan, Major Core infrastructure components of e-governance, Key benefits of e-governance, Mission Mode Projects -Central MMPs, State MMPs, Integrated MMPs; Introduction to eoffice, Role of e-office in e-governance, Components of e-office : File Management		

		System, e-Leave, e-Tour, SPARROW, KMS etc.,e-HRMS (Manav Sampada)-Features, benefits;		
		Role change management - Setting the mindset on Change and its acceptance in our Personal and Professional life, Introduction to the role of Change agents and their impact; Relationship of Change and Change Agents in Personal and Professional Live; Professional Requirement: Roles and Challenges of C&AG Organization, Actual duties and responsibilities to be taken up and adapt oneself with the sense of acceptance to the New Role in the Organization;		
		General introduction to concepts of Management of Government finances – fiscal health of union and states; Government accounts; Government finances- sources of revenue and types of expenditure, Financial position of Central and state governments; Features of Fiscal policy.		
		The increased volume of data due to digitalisation initiative of the governments, opportunities and challenges to the auditors in conducting audits; the need for data analysis and its methodology; conducting audits in the present pandemic situations and the new emerging trends in remote audits; Auditing in IT environment concepts; opportunities and challenges in conducting audits when the data is increasingly available in electronic form instead of annual form; CAAT tools available for audit; Constraints in conducting audits in the present pandemic situation; concepts of remote audit; opportunities and challenges in conducting the audit remotely;		
		Concept of Teams and Team Dynamics, the process of Team Development, the features and strategies to build High-Performance Teams, the process of effective brainstorming, the importance of consensus		

		building in teams, Team Conflicts and types of conflicts, Steps for Conflict Resolution, Thomas Kilman Model of Conflict Management, Apply the above concepts in a simulated group activity		
		Audit Quality Management Framework: Importance of Stakeholder engagement, Good practices to meet Stakeholders' expectations, Accessibility to records, Relationship with the PAC/COPU		
		Introduction to GRC, Governance, Risk Management, risk identification, risk analysis, risk assessment and response to risk, Risk management in IAAD, Audit Risk and its types, Audit Risk Model, Importance of Risk Based Audit, Stages of Risk Based Audit; CAG's Internal Control Evaluation Manual, Limitations of Internal Control, Fraud and Forensic Audit; Public Expenditure and Causes and Growth of Public Expenditure, Composition of Public Expenditure, Principles Governing Public Expenditure, Fiscal Responsibility and Budget Management Act and its objectives, Important Definitions forming the basis for understanding the FRBM Act, Salient Features of the FRBM Act, Kelkar Committee, Strong points and limitations of the Act.		
		Define Revenue, the history of revenue system in India, Tax and non-tax revenue and Direct and Indirect taxes, Union Taxes and their types, State Taxes and their types, Characteristics of a Good Tax System; The meaning of environmental crisis, Environmental issues, Effects of Environmental issues, Measures to prevent environmental crisis; Meaning of Environment and Environmental governance; Importance of Environmental governance; Evolution of Regulatory framework for Environmental protection and different levels of authority; Salient		

| | | features of Important acts and policies; Importance of Environment and meaning of Environmental pollution, Management of different kinds of pollution: Air Pollution – Meaning, Source, Effect, and measures, Water Pollution – Meaning, Source, Effect, and measures, Waste Management – Meaning, Source, Effect, and measures; Conservation of forests – Importance, causes and measures | | |

| 21 | **MCTP Level-4** | Government to Business (G2B) and Government to Customer (G2C) initiatives in e-Governance–National e-Governance Policy (NEGP), MMPs, Critical view of the important e-Governance Projects with reference to Audit Reports; Future of Auditing & Cyber Security –Remote Audit, Artificial Intelligence(AI), Internet of Things (IoT); Gender mainstreaming in Government policy and programme; Effective Communication –Communication skills on technical issues, constructive engagement with the client organisation; Funding three levels of government– distribution of revenues among Union, States and Local Bodies, impact of Finance Commission recommendations and Goods and Services Tax(GST) Council decisions; Leadership–Types of leadership-Characteristics/traits of effective leadership in the context of administrative, audit and accounting functions; Central Policies and Guidelines on IT Projects–Ministry of Electronics and Information Technology (MeitY) guidelines regarding IT Projects and Web Portals, Government of India guidelines in use of Open Source applications, overview of Integrated Financial Management System(IFMS) & Public Financial Management System(PFMS)and using its data in Audit; Leadership and ethics– ethical aspects of leadership, emotional intelligence in context of leadership roles, roles of managers and | AAOs/ SAOs having coming completed 17 years of service | 06 days |

| | | leaders, power authority, accountability and delegation of authority; Environmental Challenges in India; SDGs-the India story – National Strategy for achieving SDGs; SDGs and the challenge of Gender equality –gender budgeting, GoI schemes like 'Beti Bachao Beti Padhao'; Public Debt–Classes and purpose of public debt, effect of public debt on the economy; Performance Management Methods of performance management–counselling, mentoring and coaching Talent management–nurturing and continuous learning Performance feedback and reviews, identifying performance problems, the negative effects of criticism and importance of positive reinforcement; Understanding Enterprise Resource Planning(ERP)Systems – Advantages and Risks in ERP systems implementation, various ERP systems in vogue in Public Sector Enterprises(PSEs)and Autonomous Bodies(ABs); Cloud computing–Advantages, security issues, the various service models of cloud | | |

Course Contents
IT Courses 2023-24

Sl. No.	Course Name	Modules/Topic Covered	Preferred Participant Profile	Duration

1.	**Audit in IT Environment**	Ice Breaking Session Entry Knowledge Test (EKT) Understanding IT environment- Challenges and opportunities Importance of controls with specific reference to Application Controls Introduction to CAATs – IDEA and Excel Excel as data analytic tool- Features of Excel (we intend to cover the aspects relating to following underlining the purpose for which these are used as Audit Tool) Conditional formatting Filter including Advanced filter Pivot Table Excel functions – User defined functions Numeric Text Conditional Date and time Financial Aggregation Creating Projects – Managed and External, Import of data from diverse formats –Excel, Access, csv, text ; understanding data using the field statistics, Checking validity of data through Control totals, creating current documentation of tasks performed using the history property, Project Overview. Importing of PDF/PRN Data, Importing data using ODBC, Indexing of Data – Quick Index, Composite Index, Sorting Data. Field Manipulation in IDEA – Append, Remove, Modify columns – Data types – Virtual, Non Virtual, Editable, Enabling/Disabling deletion of non-virtual fields Analysis Basic data analysis in IDEA – Duplicate Key Detection/Exclusion, Gap Detection, Summarization. Data Extraction – Direct Extraction, Key value extraction, Top/Bottom Records extraction, Indexed Extraction Working with multiple databases – Join, Visual Connector, Append, Compare. Commonly used @ Functions in IDEA, introduction to #functions Stratification of Data, Aging analysis, Sampling Exporting Data from IDEA to other formats, Creating and Printing Reports in IDEA Way Forward – Overview of Qlikview Way Forward -Overview of Tableau	(For AAOs/ SAOs. only)	06 days

2.	**Advance Course On MS Access (Level-II Course)**	1. Introduction to DBMS and RDBMS. Concept of Database & Table. 2. Overview of Access, creating database, Objects of MS Access, Creating table in design, datasheet view, define field type, modifying, editing field, define field properties, applying validation in a field. 3. Primary key concept & indexes. Data entry through input mask, Validation, Adding, Editing &deleting Records, Hiding column Freezing columns. 4. Creating Relationship between Tables, Adding OLE objects Fields to a Table. Importing & Exporting data between other programs – dbase IV Text files, MS Excel. Data Entry Shortcuts. 5. Creating Relationship between Tables, Adding OLE objects Fields to a Table. Importing & Exporting data between other programs – dbase IV Text files, MS Excel. Data Entry Shortcuts. 6. Creating Queries through Design and datasheet view, Simple Query wizard Sorting. Query Criteria. Query properties & Field Properties. Queries using SQL commands and functions cross tab query and duplicate query. 7. Form Design using Auto form – Columnar / Tabular / Datasheet view. Form Design through form wizard, Form Design without Form wizards Adding &Editing labels. 8. Bound Unbound and Calculated Controls in Forms. Text Box Controls, Combo box, List Box Controls. Creating a single Column Report & Group Data Report through Report Wizard, creation of switchboard.. 9. Creating a Report and Adding Controls, Sorting & Grouping through Design view Report Header, Page Header, Detail Footer etc. Adding Graphs to reports. 10. What is Macro, Creating a simple macro, Use of functions in Access. Page ins etc. 11. Database security viz user and group permission, password etc. 12. Demonstration of some sample database software.	For those who have undergone training in MS Office or have basic knowledge of Computer	08 days

3.	**Advance Course on MS Excel (Level-II Course)**	1. Features of MS Excel, Starting MS-Excel, Creating/Opening Workbooks, Moving around in a Work Sheets & Work Book, Saving and closing a workbook, Finding a workbook, Moving around a sheet, Inserting & deleting sheets, Renaming sheets, Moving & Copying sheets, Page Setup, Print Preview, Printer setup, Various printing commands. 2. Data Entry Techniques, Entering Text/ Numbers/Date & Time, Creating a series, Customizing Auto Fill, Editing a worksheets, Checking spelling, hiding and Un-hiding columns, rows and gridlines, Finding & Replacing Text/ Numbers, Checking Spellings, Header/Footer, Page	For those who have undergone training in MS Office or have basic knowledge of Computer	06 days

		No., Footnotes, Inserting line, Boxes, Auto-shapes, objects, WordArt etc. on Worksheet. 3. Cell Referencing, Ranges, creating formulae, Copying and Moving Formulas. Applying formulas and functions in Excel sheet, Protecting, hiding and Un-hiding worksheet / Cells/ Columns/ranges and its content ,Sorting and filtering work, Sorting data in list, Filtering a list Using Auto Filter, Copying Filtered data to another location, Working with filtered list, Automatic subtotals sorting Subtotalled list. Preparing a Subtotalled list as a report. 4. Linking of worksheets, Controlling calculations, Aligning worksheet data, Formatting worksheets, Formatting Fonts, Applying Borders, Patterns and colours, Number, date and time Format, Copying Formats, Using styles to save and apply format combinations, Apply format automatically, Importing worksheet in MS-Word . 5. Creating, modifying and formatting chart, Enhancing Charts, Saving Custom Chart Formats. 6. Understanding Lists & Databases: Defining Lists, Records & Fields, Working with databases, formatting labels, Creating a database, Entering data using data entry form, Data validation parameters, Error messages, Importing and exporting data to/from MS Excel.		

4.	**DATA Analytics**	Introduction to Data Analytics: Basic Concepts: Data, types of data: String, numeric, date; types of analytics; Descriptive Analytics: Statistical Approaches in Analytics: Central Tendencies (Mean, Median , Mode)	For those who have undergone training in Level-II or have basic knowledge of Computer	05 days
		KNIME: A Broad overview; Build a basic workflow; Data downloading sorting errors; Property tax data Statistical Approaches in Analytics: Spread and Shape of Distribution: Range, Skewness, Kurtosis, Standard Deviation, Variance, Interquartile range, Box plots		
		Exposure to and Application of multivariate Statistical concepts: Correlation; Regression Analysis Application of Statistical concepts in Knime using Property Tax Data; Deriving insights from Property Tax data.		
		Exercise/Case study using KNIME: Defence Pension Case study: Data import, Manipulating, Data type conversion (Data preparation), Treating Missing values, Statistical Analysis and deriving insights about the dataset;		
		Text Processing and Other features in KNIME: Report Generation; Repeatability; Database connectivity; Distribution of workflows; Text Processing in KNIME;		
		Tableau: Data downloading; Database Connectivity; Manipulation; Visualisation, Calculated fields; Filters; Hierarchy, Dashboards		
		Other features in Tableau: Story, Distribution of workbooks		
		Tableau Exercise/ Case Study: Analysing data, Deriving Insights; Identifying risk areas, building dashboards.		
		Principles of Visualisation		
		Consolidation of Concepts; Data Analytic Principles and Approaches		

6.	**Workshop on IT Audit & IDEA (level-III course)**	1. Overview of Windows O.S. and its use. 2. SYSTEM DEVELOPMENT LIFE CYCLE and its audit 3. Various General IT Controls and Application Controls, Audit points. 4. Performance Audit in IT Environment. 5. Overview of IDEA, various features and functions of IDEA. 6. Downloading, including exercise 1,Use of IDEA features followed by Exercise to practice analysis function for checking duplicates, indexing, summarizing and checking field statistics. (Exercise 2), 7. Using @ Functions in IDEA 8. Exercise related with downloading of MS ACCESS database file, creation of virtual fields, duplicate records' detection and record extraction. (Exercise 3) 9. Exercise to practice IDEA features useful in conduct of Financial Audit. (Exercise 4). 10. Exercise 5: Use of IDEA in Financial Audit. 11. Exercise 6: Use of IDEA in Value For Money Audit. 12. Exercise 7: Use of IDEA in Accounts Receivable Audit, downloading of prn file in idea. 13. Exercise 8: Use of IDEA in Accounts Payable Audit and Fraud Investigation. 15. Exercise 9 : Use of IDEA in Inventory Audit. 16. Import of data applying ODBC for database maintained in ORACLE, MS ACCESS, MS EXCEL etc. 17. IS security guidelines of headquarters.	Those who have undergone training in Level-II or have good knowledge of computer.	10 Days
7.	**IT Concepts, MS-Office & Internet (Level-II course)**	1. Significance of Information Technology In Audit & Accounts. 2. Concepts of Information, Computer and its components, Computer Classifications, Different components of a Digital Computer, Stand alone Systems and Multiuser Systems, Various peripherals used with Computers, Storage concepts in computer, Organization of files in computer. 3. Concepts of Software, Types of Software, Computer Languages, Operating System Concepts, Task of Operating Systems, Difference of Operating Systems in Single & Multi User Systems, Brief idea about various OS viz. DOS, Unix, Windows etc... 4. Definition of GUI. Windows an overview. Components of Windows;	Group 'B' Officers	08 days

		5. Overview of Ms-Word: Word processing, preparing documents and its editing. Formatting page, paragraph and Character etc.		
		6. Creating and formatting table, Printing documents, Header & Footer, Mail Merge,		
		7. Page numbering, page break, bullets and numbering, Borders and Shading		
		8. Creating and formatting Worksheet, Formatting Cells, Applying simple formulas		
		9. Overview of Database Management Systems, Difference between RDBMS & DBMS, Overview of MS-Access- Creating database, Table, Primary key, Validations checks etc,		
		10. Creation of Queries, Forms and generation of reports in MS- Access.		
		11. Overview of MS-PowerPoint : Creation of slides, formatting of slides, setting animations etc		
		12. Computer communication need for data transmission over distances. Networking of computer, LANs its need and advantages, sharing resources (computer files & equipment). Inter user communication, cost, training, upkeep and security. Types of LANs and Transmission media. Introduction on WAN, definition and uses.		
		13. Introduction to the Internet, Internet facilities (email, world wide web 'www', and e-commerce) and Web Browsers connecting Internet and Surfing the Net etc.		
		14. Creation of Email Account, Sending and Receiving Mails with some practice		
		15. IT Security and its importance. & the Security Policy of IA & AD.		
8.	**IDEA & Tableau (Level-III)**	1. Basics of Data structures, IDEA: An Overview, What's on the IDEA Screen, Application windows and toolbars Getting started: Essential of data Downloading, including exercise 1, 2. Use of IDEA features followed by Exercise to practice analysis function for checking duplicates, indexing, summarizing and checking field statistics. (Exercise 2), 3. Exercise related with downloading of MS ACCESS database file, creation of virtual fields, duplicate records' detection and record extraction. (Exercise 3) 4. Use of IDEA features followed by Exercise to practice IDEA features useful in conduct of Financial Audit. 5. Using @ Functions in IDEA 6. Exercise 6: Use of IDEA in Value for Money Audit. 7. Exercise 7: Use of IDEA in Accounts Receivable Audit 8. Exercise 8: Use of IDEA in Accounts Payable	For those who have undergone training in MS Office or have basic knowledge of Computer	5 days

		Audit and Fraud Investigation 9. ODBC Connectivity using IDEA Software		

		10. Exercise : 9 – Use of IDEA in detailed Inventory System Audit and detect outdated stocks and missing inventory items Tableau: Data downloading; Database Connectivity; Manipulation; Visualisation, Calculated fields; Filters; Hierarchy, Dashboards Other features in Tableau: Story, Distribution of workbooks Tableau Exercise/ Case Study: Analysing data, Deriving Insights; Identifying risk areas, building dashboards.		

| 9. | MS Word an Power Point (Level-II Course) | 1.   Introduction to Computers, Overview of Windows O.S. and its application.
2.   MS Word (creating new documents, opening an existing documents, entering text, Saving a document), Check spelling, editing text and formatting characters. MS Word (Formatting paragraphs, Formatting pages, formatting sections including Page Break, creating columns,).
3.   Navigation in Word (Using Find & Replace, Using Go TO), Word Automatic functions (Auto Correct, Auto Format as you Type, Auto text, Auto Format,
Auto Summarize),
4.   Bullets & Numbering including multiple layer of bullets, Border & Shading, Paragraph and character styles, saving style information, Applying style with tool bar, Applying style with key board shortcut, removing style, creating style using dialog boxes, modifying style, using style gallery, Headers and footers, creating footnotes.
5.   Creating Simple Table, Insert Row, Delete Row/Column, Split Cell, Formula, Create Graphs, mail merge,
6.   Overview of Power Point. Create a new presentation, Use different slide formats, Enter both Text and Graphics, Save a slide show, Working with colours and Transitions, Animation and sound- Preset Animation, Custom Animation, Timing, Effects, Action Buttons / Settings / Preview. | Any Group 'C' and Group 'B' officials/ Officers | 5 days |
| 10. | Principles of Networking, Internet and Network Security (Level-II training) | 1.   Fundamentals of Networking, Difference between Single User and Multiuser systems, OS requirements, Different Network Models, Types of Networking, Networking topologies, Transmission media and other Networking Components..
2.   Configuring Networks, Different protocols used in Networking, Overview about IP Addresses, Creation of Workgroups, Granting access, Sharing and various permissions
3.   Security concerns in networking (Virus threats, hacking etc.), Information Security, Information Security Services, Information Security Process.
4.   Security Technologies (Firewall, Virtual Private Networks), Encryption Concepts, Intrusion Detection. 5. Introduction to the Internet, Requirements for Internet Connections, Various types of Internet | (For those who have undergone training in MS Office or have basic knowledge of Computer) | 04 days |

		Access, Internet facilities (email, world wide web 'www'), and Web Browsers connecting Internet. 6. Introduction to Email, Creating Web based Email Accounts, Sending and receiving mails. 7. Brief Overview about e-commerce, e-governance etc., hands on practice on internet surfing. 8. Basic concepts of web designing and designing a website. 9. IA&AD Security Policy		
11.	**IDEA (Level-II)**	1. Basics of Data structures, IDEA: An Overview, What's on the IDEA Screen, Application windows and toolbars Getting started: Essential of data Downloading, including exercise 1, 2. Use of IDEA features followed by Exercise to practice analysis function for checking duplicates, indexing, summarizing and checking field statistics. (Exercise 2), 3. Exercise related with downloading of MS ACCESS database file, creation of virtual fields, duplicate records' detection and record extraction. (Exercise 3) 4. Use of IDEA features followed by Exercise to practice IDEA features useful in conduct of Financial Audit. 5. Using @ Functions in IDEA 6. Exercise 6: Use of IDEA in Value for Money Audit. 7. Exercise 7: Use of IDEA in Accounts Receivable Audit 8. Exercise 8: Use of IDEA in Accounts Payable Audit and Fraud Investigation 9. ODBC Connectivity using IDEA Software 10. Exercise : 9 – Use of IDEA in detailed Inventory System Audit and detect outdated stocks and missing inventory items	Those who have BASIC knowledge of Computer	05 days

12	**Red Hat Linux, Oracle 11g with Developer11g (Phase-I) Introductory Level**	• Get Started with the GNOME Graphical Desktop Objective: Get started with GNOME and edit text files with gedit • Manage Files Graphically with Nautilus Objective: Manage files graphically and access remote systems with Nautilus • Get Help in a Graphical Environment Objective: Access documentation, both locally and on-line • Configure Local Services Objective: Configure the date and time and configure a printer • Install Linux Graphically Objective: Install Red Hat Enterprise Linux and configure the system with first boot • Manage Virtual Machines Objective: Understand basic virtualization concepts; install and manage virtual machines • Control the Boot Process Objective: Understand run levels and manage GRUB	(For those who have good knowledge of computer)	10 days

| | | • Deploy File Sharing Services
Objective: Deploy an FTP server and a web server
• Secure Network Services
Objective: Manage a firewall; understand SELinux concepts and manage SELinux
• Comprehensive Review
Objective: Get a hands-on review of the concepts covered in this course
• Get Started with Bash
Objective: Understand basic shell concepts, execute simple commands, and use basic job control technique
• Get Help in a Textual Environment
Objective: Use man and info pages and find documentation in /usr/share/doc

• Establish Network Connectivity
Objective: Understand basic network concepts; configure, manage, and test network settings
• Administer Users and Groups
• Objective: Manage users and groups
• Manage Files from the Command Line
Objective: Understand Linux file system hierarchy and pathnames; manage files from the command line
• Secure Linux File Access
Objective: Understand Linux file access mechanisms; manage file access from the GUI and the command line
.
• Administer Remote Systems
Objective: Share and connect to a desktop; use SSH and rsync
• Configure General Services
Objective: Manage services; configure SSH and remote desktops
• Manage Physical Storage II
Objective: Manage file system attributes and swap space
• . Manage Physical Storage I
Objective: Understand basic disk concepts and manage system disks
• Manage Logical Volumes
Objective: Understand logical volume concepts and manage logical volumes
• Monitor System Resources
Objective: Manage CPU, memory, and disk utilization
• Manage System Software
Objective: Manage system software locally and using Red Hat Network (RHN)

• Getting Started with the Classroom
Environment | | |

		Objective: Given a virtualized environment, begin to administrate multiple systems using prerequisite skills • Enhance User Security		
		Objective: Given a virtualized environment, begin to administrate multiple systems using prerequisite skills • Enhance User Security		

		• Objective: Configure system to use Kerberos to verify credentials and grant privileges via sudo • Bash Scripting and Tools Objective: Automate system administration tasks utilizing Bash scripts and text-based tools • File Security with GnuPG Objective: Secure files with GnuPG • Software Management Objective: Use yum plugins to manage packages; understand the design of packages; build a simple package • Network Monitoring Objective: Profile running services, then capture and analyze network traffic • Route Network Traffic Objective: Configure system to route traffic and customize network parameters with sysctl • Secure Network Traffic Objective: Secure network traffic through SSH port forwarding and ip tables filtering/network address translation (NAT) • NTP Server Configuration Objective: Configure an NTP server • System Monitoring and Logs Objective: Manage local file system integrity; monitor systems over time and system logging • Centralized Secure Storage Objective: Access centralized storage (iSCSI) and encrypt file systems • SSL-encapsulated Web Services Objective: Understand SSL certificates and deploy an SSL-encapsulated web service • Web Server Additional Configuration Objective: Configure a web server with virtual hosts, dynamic content, and authenticated directories • Basic SMTP Configuration • Objective: Configure an SMTP server for basic operation (null client, receiving mail, smart host relay) • Caching-Only DNS Server Objective: Understand DNS resource records and configure a caching-only name server • File Sharing with NFS Objective: Configure file sharing between hosts with NFS • File Sharing with CIFS Objective: Configure file and print sharing between hosts with CIFS • File Sharing with FTP Objective: Configure file sharing with anonymous FTP • Troubleshooting Boot Process Objective: Understand the boot process and recover unbootable systems with rescue mode		

| | | • A brief about 3 tier Architecture, Weblogic including difference between Oracle 8i and Oracle 11g and a brief about DBMS and RDBMS Introduction to Oracle Database:
 •List the features of Oracle Database 11g
 •Discuss the basic design, theoretical, and physical aspects of a relational database
 •Categorize the different types of SQL statements
 •Describe the data set used by the course
 •Log on to the database using SQL Developer environment
 •Save queries to files and use script files in SQL Developer

 Retrieve Data using the SQL SELECT Statement:
 •List the capabilities of SQL SELECT statements
 •Generate a report of data from the output of a basic SELECT statement
  •Select All Columns
 •Select Specific Columns
 •Use Column Heading Defaults
 •Use Arithmetic Operators
 •Understand Operator Precedence
 •Learn the DESCRIBE command to display the table structure
 •Learn to Restrict and Sort DataWrite queries that contain a WHERE clause to limit the output retrieved
 •List the comparison operators and logical operators that are used in a WHERE clause
 •Describe the rules of precedence for comparison and logical operators
 • Use character string literals in the WHERE clause
 •Write queries that contain an ORDER BY clause to sort the output of a SELECT statement
 •Sort output in descending and ascending order
 Usage of Single-Row Functions to Customize Output:
 •Describe the differences between single row and multiple row functions
 •Manipulate strings with character function in the SELECT and WHERE clauses
 •Manipulate numbers with the ROUND, TRUNC, and MOD functions
 •Perform arithmetic with date data
 •Manipulate dates with the DATE functions Invoke Conversion Functions and Conditional Expressions
 •Describe implicit and explicit data type conversion
 •Use the TO_CHAR, TO_NUMBER, and TO_DATE conversion functions | | |

		•Nest multiple functions		
		•Apply the NVL, NULLIF, and COALESCE functions to data		
		•Use conditional IF THEN ELSE logic in a SELECT		
		Data Manipulation Statements:		
		•Describe each DML statement		
		•Insert rows into a table		
		•Change rows in a table by the UPDATE statement		
		•Delete rows from a table with the DELETE statement		
		•Save and discard changes with the COMMIT and ROLLBACK statements		
		•Explain read consistency		
		The SET Operators:		
		•Describe the SET operators		
		•Use a SET operator to combine multiple queries into a single query		
		•Control the order of rows returned		
		Aggregate Data Using the Group Functions:		
		•Use the aggregation functions to produce meaningful reports		
		•Divide the retrieved data in groups by using the GROUP BY Clause		
		•Exclude groups of data by using the HAVING clause		
		Display Data From Multiple Tables Using Joins:		
		•Write SELECT statements to access data from more than one table		
		•View data that generally does not meet a join condition by using outer joins		
		•Join a table to itself by using a self join		
		Use Sub-queries to Solve Queries:		
		• Describe the types of problem that sub-queries can solve •Define sub-queries		
		•List the types of sub-queries•Write single-row and multiple-row sub-queries		
		Use of DDL Statements to Create and Manage Tables:		
		•Categorize the main database objects		
		•Review the table structure		
		•List the data types available for columns		
		•Create a simple table		
		•Decipher how constraints can be created at table creation		
		•Describe how schema objects work		
		Other Schema Objects:		
		•Create a simple and complex view		
		•Retrieve data from views		
		•Create, maintain, and use sequences		
		•Create and maintain indexes		

		•Create private and public synonyms Control User Access: •Differentiate system privileges from object privileges •Create Users		
		•Create private and public synonyms Control User Access: •Differentiate system privileges from object privileges •Create Users		

		•Grant System Privileges		
		•Create and Grant Privileges to a Role Change Your Password		
		•Grant Object Privileges		
		•How to pass on privileges?		
		•Revoke Object Privileges Management of Schema Objects		
		•Add, Modify, and Drop a Column		
		•Add, Drop, and Defer a Constraint		
		•How to enable and Disable a Constraint?		
		•Create and Remove Indexes		
		•Create a Function-Based Index		
		•Perform Flashback Operations		
		•Create an External Table by Using ORACLE_LOADER and by Using ORACLE_DATAPUMP•Query External Tables Manage Objects with Data Dictionary Views		
		•Explain the data dictionary		
		•Use the Dictionary Views		
		•USER_OBJECTS and ALL_OBJECTS Views		
		•Table and Column Information		
		•Query the dictionary views for constraint information		
		•Query the dictionary views for view, sequence, index and synonym information •Add a comment to a table		
		•Query the dictionary views for comment informationRegular Expression Support		
		•Use the Regular Expressions Functions and Conditions in SQL		
		•Use Meta Characters with Regular Expressions		
		•Perform a Basic Search using the REGEXP_LIKE function		
		•Find patterns using the REGEXP_INSTR function		
		•Extract Substrings using the REGEXP_SUBSTR function		
		•Replace Patterns Using the REGEXP_REPLACE function •Usage of Sub-Expressions with Regular Expression Support		
		•Implement the REGEXP_COUNT function Introduction to PL/SQL:		
		•What is PL/SQL		
		•PL/SQL Environment		
		•Benefits of PL/SQL		
		•Overview of the Types of PL/SQL blocks		
		•Create and Execute a Simple Anonymous Block		
		•Generate Output from a PL/SQL Block		
		•SQL*Plus as PL/SQL Programming Environment Declaring PL/SQL Identifiers:		

		•Identify the Different Types of Identifiers in a PL/SQL subprogram •Use the Declarative Section to Define Identifiers •List the Uses for Variables •Store Data in Variables •Declare PL/SQL Variables		

Writing Executable Statements:
- Describe Basic Block Syntax Guidelines
- Use Literals in PL/SQL
- Customize Identifier Assignments with SQL Functions
- Use Nested Blocks as Statements
- Reference an Identifier Value in a Nested Block
- Qualify an Identifier with a Label
- Use Operators in PL/SQL
- Use Proper PL/SQL Block Syntax and Guidelines

Interacting with the Oracle Server:
- Identify the SQL Statements You Can Use in PL/SQL
- Include SELECT Statements in PL/SQL
- Retrieve Data in PL/SQL with the SELECT Statement
- Avoid Errors by Using Naming Conventions When Using Retrieval and DML Statements
- Manipulate Data in the Server Using PL/SQL
- The SQL Cursor concept
- •Use SQL Cursor Attributes to Obtain Feedback on DML Save and Discard Transactions

Writing Control Structures:
- Control PL/SQL Flow of Execution
- Conditional processing Using IF Statements
- Conditional Processing CASE Statements
- Handle Nulls to Avoid Common Mistakes
- Build Boolean Conditions with Logical Operators
- Use Iterative Control with Looping Statements

Working with Composite Data Types:
- Learn the Composite Data Types of PL/SQL Records and Tables
- Use PL/SQL Records to Hold Multiple Values of Different Types
- Inserting and Updating with PL/SQL Records •Use INDEX BY Tables to Hold Multiple Values of the Same Data Type

Using Explicit Cursors:
- Cursor FOR Loops Using Sub-queries
- Increase the Flexibility of Cursors By Using Parameters
- Use the FOR UPDATE Clause to Lock Rows
- Use the WHERE CURRENT Clause to Reference the Current Row
- Use Explicit Cursors to Process Rows
- •Explicit Cursor Attributes

Cursors and Records Handling Exceptions
- Handling Exceptions with PL/SQL
- Predefined Exceptions
- Trapping Non-predefined Oracle Server Errors

		•Functions that Return Information on Encountered Exceptions •Trapping User-Defined Exceptions •Propagate Exceptions		
		•Functions that Return Information on Encountered Exceptions •Trapping User-Defined Exceptions •Propagate Exceptions		

		•Use The RAISE_APPLICATION_ERROR Procedure To Report Errors To Applications Single Row Function,-Character, Numeric, Date and Conversion Functions. Substitution Variable-Single, double and ampersand Creating Stored Procedures: Describe the block structure for PL/SQL stored procedures •Invoke a stored procedure from an anonymous block or another stored procedure •List the CREATE OR REPLACE PROCEDURE syntax •Identify the development steps for creating a stored procedure •Use the SHOW ERRORS command •View source code in the USER_SOURCE dictionary view Creating Stored Functions: •Describe stored functions •List the CREATE OR REPLACE FUNCTION syntax •Identify the steps to create a stored function •Execute a stored function •Identify the advantages of using stored functions in SQL statements •Identify the restrictions of calling functions from SQL statements •Remove a function Creating Packages: •List the advantages of packages •Describe packages •Show the components of a package Diagram the visibility of constructs within a package •Develop a package •Create the package specification •Declare public constructs •Create the package body •　Mailing Label, Form letter, •　Group left, Group Above, •　Matrix Type, Matrix with Group type, •　Parameter creation etc. Assesment Test Using More Package Concepts: •List the benefits of overloading •Show overloading example •Use forward declarations in packages •Create a one-time only procedure (package code initialization) •List the restrictions on package functions used in SQL •Encapsulate code in a package demonstration •Invoke a user-defined package function from a SQL statement		

		• •Utilize the persistent state of package variables.		

		• Introduction to Report Builder Component, • customizing report builder, • report editor, • Report wizard component, • Using Report Wizard, • Tabular Type, Form like ,		

| 13. | **Red Hat Linux, Oracle 11g with Developer11g (Phase-II) Advance Level** | •   A brief about 3 tier Architecture, WebLogic including difference between Oracle 8i and Oracle 11g and a brief about DBMS and RDBMS Introduction to Oracle Database:
•List the features of Oracle Database 11g
•Discuss the basic design, theoretical, and physical aspects of a relational database
•Categorize the different types of SQL statements
•Describe the data set used by the course
•Log on to the database using SQL Developer environment
•Save queries to files and use script files in SQL Developer
•   Review of PL/SQL commands
•   Trigger component & code, Message,
•   alert,
•   SQLERRM,
•   Library creation,
•   Item interaction Trigger,
•   Query Trigger, Validation Trigger,
•   Navigational Trigger,
•   Transactional Trigger
•   Menu, Function Key ,
•   Mouse Event,
•   Multiple Form application,
•   form building, in Oracle 11
•   Introduction to Report Builder Component,
•   customizing report builder, •   report editor,
•   Report wizard component,
•   Using Report Wizard,
•   Tabular Type, Form like ,
•   Mailing Label, Form letter,
•   Group left, Group Above,
•   Matrix Type, Matrix with Group type,
•   Parameter creation etc.
Practice Session
•   Manual Development of Report,
•   Calling Report from a form,
•   Message development ,
•   Message Handling Triggers,
•   Creating Menu and attaching forms and reports to the Menu,
Handling Triggers (Navigation, Transactional, Validation Trigger),
Exploring the Oracle Database Architecture
•Oracle Database Architecture Overview
•Oracle ASM Architecture Overview
•Process Architecture | (For those who have undergone training in Introductory Course on Red Hat Linux Oracle 11 g with Developer 11g- Phase-I) | 10 days |

		•Memory structures •Logical and physical storage structures •Installing your Oracle Software Tasks of an Oracle Database Administrator •Tools Used to Administer an Oracle Database •Installation: System Requirements •Oracle Universal Installer (OUI) •Installing Oracle Grid Infrastructure •Installing Oracle Database Software Creating an Oracle Database •Planning the Database Practice Session Using the DBCA to Create a Database •Password Management •Using the DBCA to Delete a Database Managing the Oracle Database Instance •Start and stop the Oracle database and components •Use Oracle Enterprise Manager •Access a database with SQL Plus •Modify database installation parameters •Describe the stages of database start up •Describe database shutdown options •View the alert log •Access dynamic performance views Manage the ASM Instance •Set up initialization parameter files for ASM instance •Start up and shut down ASM instances •Administer ASM disk groups Configuring the Oracle Network Environment •Use Enterprise Manager to create and configure the Listener •Enable Oracle Restart to monitor the listener •Use tnsping to test Oracle Net connectivity Practice Session Managing Database Storage Structures •Storage Structures •How Table Data Is Stored •Anatomy of a Database Block •Space Management in Table spaces •Table spaces in the Preconfigured Database •Actions with Table spaces Administering User Security •Database User Accounts •Predefined Administrative Accounts Managing Data Concurrency •Data Concurrency •Enqueue Mechanism •Resolving Lock Conflicts Managing Undo Data •Transactions and Undo Data •Undo Data Versus Redo Data •Configuring Undo Retention		

		Practice session Implementing Oracle Database Auditing •Describe DBA responsibilities for security •Enable standard database auditing •Specify audit options •Review audit information		

		•Maintain the audit trail Database Maintenance •Manage optimizer statistics •Manage the Automatic Workload Repository (AWR) •Use the Automatic Database Diagnostic Monitor (ADDM) Core Concepts and Tools of the Oracle Database •ASM Storage Concepts •Connecting to the Database and the ASM Instance •DBA Tools Overview Configuring for Recoverability •Purpose of Backup and Recovery (B&R), Typical Tasks and Terminology •Using the Recovery Manager (RMAN) •Configuring your Database for B&R Operations Configuring and Managing Persistent Settings for RMAN •Configuring Auto backup of Control File Practice session •Backup optimization •Advanced Configuration Settings: Compressing Backups •Configuring Backup and Restore for Very Large Files (Multi section)Creating Backups with RMAN •RMAN backup types •Creating and Using the following:- Backup Sets and Image Copies- Whole Database Backup- Fast Incremental Backup- Configure Backup Destinations−Archival Backup Restore and Recovery Task •Restoring and Recovering •Causes of File Loss •Automatic Temp file Recovery •Recovering from the Loss of a Redo Log Group •Re-creating a Password Authentication File •Complete and Incomplete Recovery Practice Session Using RMAN to Perform Recovery •Complete Recovery after Loss of a Critical or Noncritical Data File •Incomplete Recovery •Performing Recovery with a Backup Control File •Restoring from Auto back up: Server Parameter File and Control File •Restoring and Recovering the Database on a New Host Diagnosing the Database •Data Recovery Advisor (DRA) •Automatic Diagnostic Repository (ADR) •Health Monitor •The ADR Command-Line Tool, ADRCI Using Flashback Technology I •Flashback Technology: Overview and Setup		

		•Using Flashback Technology to Query Data •Flashback Table •Flashback Transaction Query		

•Using Flashback Technology to Query Data
•Flashback Table
•Flashback Transaction Query

		•Performing Flashback Transaction Back out Using Flashback Technology II		
		•Oracle Total Recall		
		•Flashback Drop and the Recycle Bin Performing Flashback Database		
		•Configuring Flashback Database		
		•Performing Flashback Database Operations		
		•Monitoring Flashback Database Managing Memory		
		•Oracle Memory Structures		
		•Oracle Database Memory Parameters		
		•Using Automatic Memory Management		
		•Automatic Shared Memory Management		
		•Using Memory Advisors		
		•Using Data Dictionary Views & Practice Managing Database Performance		
		•Tuning Activities		
		•Using Statistic Preferences		
		•Optimizer Statistics Collection		
		•Monitor the Performance of Sessions and Services		
		•Describing the Benefits of Database Replay Managing Performance by SQL Tuning		
		•SQL Tuning and SQL Advisors		
		•Using SQL Tuning Advisor		
		•SQL Access Advisor		
		•SQL Performance Analyzer Overview & Practice Managing Resources		
		•Database Resource Manager: Overview and Concepts		
		•Accessing and Creating Resource Plans		
		•Creating Consumer Group		
		•Specifying Resource Plan Directives, including:- Limiting CPU Utilization at the Database Level- Instance Caging		
		•Activating a Resource Plan		
		•Monitoring the Resource Manager Automating Tasks with the Scheduler Simplifying Management Tasks& Practice		
		•Creating a Job, Program, and Schedule Managing Space in Blocks		
		•Free Space Management		
		•Monitoring Space		
		•Compressing Data Managing Space in Segments		
		•Segment Creation on Demand		
		•Additional Automatic Space-Saving Functional it		
		•Shrinking Segments		
		•Segment Advisor		
		•Managing Re-sumable Space Allocation Duplicating a Database		
		•Using RMAN to Create a Duplicate Database		

		•Cloning a Database from a Backup •Duplicate a Database Based on a Running Instance & Practice		

| 14 | **PFMS &iBEMS** | Brief about EIS module of PFMS functionalities and creation of DDO's account on PFMS, e-payment and cheque payment
Various types of Bill preparation and payment to made each individual Beneficiary/Vendor by DDO.

Passing of Bill and payment to make each individual Beneficiary/Vendor by PAO.

Practical and Interaction session on PFMS
Brief about iBEMS & Hands on Experience on iBEMS
Capturing of gross expenditure of bills booked by field Office on Object head, Sub Object head and SubSub Object head to monitor the incurred Expenditure in iBEMS
Authentication of gross Expenditure and payment of bills
Practical and Interaction session on iBEMS | Dealing officails/ officers | 02 days |

15	Operation & Working in IFMS Environment & Overview of Treasury System & Inspection of Treasuries	Understand the Accounting System of State Government :- INTEGRATED FUND MANAGEMENT SYSTEM (IFMS) Web based application Information Gathering, Risk Assessment to Define Audit Objectives & Scope. Audit of General Controls: Organisation and management controls (IT policies and standards); IT operational controls; Physical controls (access and environment); Logical access controls; Acquisition and program change controls; Business continuity and disaster recovery controls. Audit of Application Controls: Input Control; Process Control Output Control Audit of IT Security & End User Computing Controls Using Computer Assisted Audit Techniques Data downloading using IDEA: Data downloading using CAAT-SQL: An overview of Treasury Inspection Mandate An overview of Accounting Framework and arrangements with RBI/Agency Banks An overview of functioning of a Treasury & Role of Treasury in budgetary control of the State Internal controls and Registers maintained in Treasury Planning a treasury inspection and areas of focus Points to be seen during Treasury Inspection Introduction Steps in IT Audit Preliminary Assessment and Data downloading, Join database ;Append ;Random Sampling; Systematic Sampling ;Stratified Random Sampling ; MUS Direct Extraction;	(For AAOs/ SAOs. only)	06 days
		Key Value Extraction ;,Duplicate Key; Summarisation ;Stratification ;Aging Evidence Collection and Evaluation Documentation and Reporting Case Studies		
16	Enterprise Resource Planning(ERP) /System Applications and Products in Data Processing	Course content to be decided with the help of user offices.	(For AAOs/ SAOs. only)	03 days
17	Audit of procurement through GeM	Course content to be decided with the help of user offices	(For AAOs/ SAOs. only)	03 days

Sl. No.	Course Name	Modules/Topic Covered	Preferred Participant Profile	Duration
1.	**All India Seminar on Government Accounting including GASAB and Accrual Accounting**	Government Accounts What are accounts Introduction to initial accounts. Purpose and importance of accounting in Government. Role of C&AG of India Responsibility of Accountant General Function, duties and powers of C&AG's in relation to Government Accounts Historical evolution of the Institution of the CAG. CAG's powers as enshrined in Constitution and in CAG's (DPC)Act, 1971 Duties of the Accountant General(A&E) in respect of accounts of a state government Basic structure and form of Government Accounts Main division of government accounts Main features of accounts- how the government transactions are exhibited in final accounts. Sources from which accounts are received in AG Office. Procedure for Receipt, maintenance, and compilation of accounts in IA&AD from treasuries ☐ Receipt of initial accounts. ☐ Check of initial accounts. ☐ Compilation of accounts. ☐ Maintenance of Classified and Consolidated Abstract Procedure for receipt of accounts from Public Works Divisions and Forest Division ☐ procedure for receipt and check of compiled accounts from Public Works Divisions and Forest Division; ☐ incorporation of these compiled accounts into the Government Accounts; ☐ Classified and Consolidated Abstracts of Public Works and Forest transactions Debt, Deposit and Remittance transactions ☐ accounting of transactions under the Debt, Deposit and Remittance Heads; ☐ checks exercised in Accounts Offices to ensure accuracy of balances under Debt, Deposit and Remittance Heads Transfer Entry, its use and accounting procedure. ☐ What is a Transfer Entry? ☐ Preparation of Transfer Entry. ☐ Object of Transfer Entry	SAOs/AAOs	04 days

		☐ Maintenance of Transfer Entry		

		Role of Reserve Bank of India in Government Accounts		
		☐ Role of Reserve Bank of India in Government Accounting;		
		☐ Inter Government and inter departmental adjustments;		
		☐ Adjustment of the outstanding suspense balances under final heads.		
		Objective and concept of financial statements		
		☐ Objective and concepts underlying financial statements;		
		☐ Financial Statements of Government or Finance Accounts of Government		
		Objective and concept of Appropriation Accounts of the Government		
		☐ Objective and concepts underlying Appropriation Accounts;		
		☐ Form and Content of Appropriation Accounts;		
		☐ Reconciliation of figures appearing in the Finance Accounts with those appearing in the Appropriation Accounts.		
		Understanding GASAB, Accrual Accounting, IGASs, IGFRSs, IFMS and KRA		
		☐ Existing system followed in Government Accounting		
		☐ Concept of Accrual Accounting		
		☐ Need for GASAB		
		☐ Formation of GASAB & its composition.		
		☐ Essentiality of formulating Accounting and Financial Reporting Standards		
		☐ Scope and Objective of GASAB		
		☐ Financial Statements of the Government		
		☐ Authority, Scope and Applicability of IGASs & IFRSs		
		☐ Introduction to IFMS and KRA		

2.	Treasury Inspection	An overview of Treasury Inspection Mandate An overview of Accounting Framework and arrangements with RBI/Agency Banks An overview of functioning of a Treasury & Role of Treasury in budgetary control of the State Internal controls and Registers maintained in Treasury Planning a treasury inspection and areas of focus Points to be seen during Treasury Inspection Introduction Steps in IT Audit Preliminary Assessment and Information Gathering, Risk Assessment to Define Audit Objectives & Scope. Audit of General Controls: Organisation and management controls (IT policies and standards); IT operational controls; Physical controls (access and environment); Logical access controls;	**SAOs/AAOs**	05 days
		Acquisition and program change controls; Business continuity and disaster recovery controls. Audit of Application Controls: (a) Input Control (b) Process Control Output Control Audit of IT Security & End User Computing Controls Using Computer Assisted Audit Techniques Understand the Accounting System of State Government :- INTEGRATED FUND MANAGEMENT SYSTEM (IFMS) – KUBER – Web based application Data downloading using IDEA: Data downloading using CAAT-SQL: Data downloading using MS- Access Join database ;Append ;Random Sampling; Systematic Sampling ;Stratified Random Sampling ;MUS Direct Extraction; Key Value Extraction ;,Duplicate Key; Summarisation ;Stratification ;Aging Evidence Collection and Evaluation Documentation and Reporting Case Study		