

Annexure 'E'

Course Contents

General Courses 2016-17

Sl.No	Course Name	Modules/Topic Covered	Preferred Participant Profile	Duration
1.	Audit of Functioning of Department	Briefing, Background, concept and objectives on Department Centric Audit. Risk evaluation and selection of CCOs/ DDOs Planning for Department Centric Audit. Execution of Department Centric Audit. Supervision and audit conclusions. Reporting of Department Centric Audit findings. Case Study.	SAOs/AOs/ AAOs	02 days
2.	Audit of PRIs/ULBs including Construction Works in ULBs & Receipts 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	SAOs/AOs/ AAOs	05 days

		PRIs/ULBs works and receipts of PRIs. Case Study.		
3.	Statistics and Sampling Audit	<p>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 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</p> <p>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 ó 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</p>	SAOs/AOs/AAOs	05 days

		<p>of few characters of interest using SRSWR, SRSWOR, Systematic, PPS and PPS- systematic design.</p> <p>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</p> <p>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.</p> <p>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.</p> <p>Risk assessment & sampling in audit Risk based analysis & the risk model in audit. Risk perception as input to statistical sampling</p> <p>Case Studies Discussion on risk assessment and statistical sampling with case studies</p>		
4.	Certification/ Financial Attest Audit	<p>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</p>	SAOs/AOs/ AAOs	05 days

		<p>audit areas with discussion on Case Studies</p> <p>Materiality and Risk assessment with discussion on Case Studies</p> <p>Audit Programme-Function and importance of audit programme</p> <p>Audit sampling and Analytical techniques with Case Studies</p> <p>Supervision and control- Standards and structure of supervision and methods of review and assurance required from the review of audit work.</p> <p>Auditing Standards of the CAG of India in particular and INTOSAI Standards</p> <p>Field work- Manner in which field audit is carried out and audit evidence is collected</p> <p>Auditing Standards of documentation and filing system and procedures</p> <p>Accounting Standards and disclosure requirements-Major accounting standards of ICAI and awareness about the existence of others</p> <p>Principal of reporting-Reporting requirement and how to improve audit reporting with case study</p> <p>Drafting, summarization, conclusion and overview with case study</p>		
5.	Audit of Public Private Partnership Projects	<p>Public Private Partnership(PPP): An Overview: Introduction, PPP& Types of PPP Projects (PPPPs), PPP and Private Finance Initiatives (PFI), Procurement of Goods & Services, PPP and Privatization.</p> <p>Requisites for success of PPP Projects, Objectives of PPP, Role of Private Sector Partners in PPP Projects, PPP Audit in different (Infrastructure) sectors.</p> <p>Institutional Arrangements for Appraisal and Approval of PPP Projects: Organisational structure for the appraisal and approval of PPP Projects, Financial Power of PPP Approval Committee (PPPAC), Procedure for formulation and appraisal of PPP Projects, Appraisal by /Approval of PPPAC, Financial support to PPPPs in infrastructure. Model Concession Agreements (MCA), Institutional arrangements in State Government.</p> <p>Scope and Objectives of PPP Audit: Scope of PPP Audit, its objectives, types of documents to be audited, accessing the documents and records of private partner by auditors, when PPPs should be subjected to public audit.</p> <p>Mandate of Audit and Accessibility of records: Mandate for Public audit of PPPPs, International Auditing Standard and Guidelines for the audit of PPPPs, PPP audit and Performance Auditing Guidelines, Identifying and sharing & risks, Audit Planning and Selection of PPPPs for audit.</p> <p>Auditing Process and Criteria for PPP audit: Process- flow of PPP arrangements, Audit</p>	SAOs/AOs/AAOs	05 days

		<p>Methodology, Audit of PPPs, Audit of Concessions and Concession Period, Audit of Risk, Audit of Viability Gap Funding(VGF) Audit of Tariff/Toll/User charges, Audit of total project cost, Audit of bidding and evaluation.</p> <p>Commercial and Revenue PPPs Audit, Reporting Audit findings and Recommendations:</p> <p>Audit of construction of projects activities, audit of commercial department, audit of operation, maintenance, development and the collection of revenue, Auditing PPP for Value for Money Evaluation, audit of valuation of assets. Audit finding and Reporting, Audit recommendations. Case Study.</p>		
6.	Workshop on Establishment and Administration	<p>Recruitment Rules, Procedure for direct recruitment and transfer on deputation. Reservation in recruitment and promotion. Maintenance of post based roster ó 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. servants- Analytical 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.</p>	SAOs/AOs/AAOs	06 days

7.	Environmental Auditing	<p>1. Environment and Climate Change. 2. International Treaties and conventions on Environmental safeguards and Climate Change 3. Organization and policy initiatives for Environmental protection and Climate Change in India. 4. Environmental Auditing (EA) and Climate Change; Planning and process. 5. Audit of Biological Diversity and Air Pollution. 6. Audit of Waste Management. 7. Audit of Climate change. 8. Audit of Coastal Zone Management, Water pollution/Case Study 9. Field Visit</p>	SAOs/AOs/AAOs	04 days
8.	Audit Quality Management Framework (AQMF)	<p>1. Introduction to AQMF and its broad parameters. 2. Leadership and Direction ó Core values and auditing standards. 3. Strategic Planning, Portfolio and risk Management. 4. Capacity building, personnel welfare and benefits. 5. Audit Management and relationship with clients. 6. Audit planning, execution, reporting and follow up. 7. Continuous Improvement through Internal Audit. 8. Internal Quality assurance and Peer Review</p>	SAOs/AOs/AAOs	03 days
9.	Audit of Public Works and Projects including Irrigation Projects	<p>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. Review Of Irrigation Projects: Introduction, definitions and follow up of Public Works</p>	SAOs/AOs/AAOs	05 days

		<p>Procedures including deviations from it, if any.</p> <p>Case Study- Irrigation Project.</p> <p>Review of irrigation Projects contd.</p> <p>Review of Large Projects (other than Irrigation): Introduction, definitions, methodology, audit findings and recommendations with a case study.</p> <p>Audit of Central Government Sponsored Scheme- Introduction, methodology for audit and submission of Audit Report.</p> <p>Case Study- Pradhan Mantri Gramin Sadak Yojna. Manpower audit in PWD/or as decided by the Course Director.</p> <p>Audit of PW Deposits and Transfer Entries (TE) including checking of fictitious TEs.</p> <p>Works Analysis: Introduction, records related to the particular work, methodology, process and techniques.</p> <p>Audit of Suspense and Remittance Balances in PWD, reconciliation of Divisional Transactions with Treasuries & Banks and scrutiny of Form-51 and Bank Reconciliation Statements.</p> <p>Thrust areas in Audit of PW and Projects including Irrigation Projects to be explored for finding potential audit findings.</p> <p>Salient features of Performance Audit of PWs and projects including Irrigation Projects.</p> <p>Drafting and finalising of Performance Audit Report on Public Works and Projects including Irrigation Projects.</p>		
10.	Audit Reporting	<p>1 Introduction to Audit Reporting: Covers key aspects of audit reporting as detailed in Level 2 and Level 3 of ISSAIs</p> <p>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</p> <p>3 Link between Report, Audit Objectives and Working Paper: Emphasis is on the linkage between 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</p> <p>4 Balanced and Fair Reporting: Focus is on: Characteristics of Audit evidence Balanced and Fair reporting Consideration of audited agencies' response and views</p> <p>5 Compliance Audit Reports: Focus on compliance</p>	SAOs/AOs/ AAOs	03 days

		<p>audit reporting requirements as envisaged in ISSAI 4100. Case Study.</p> <p>6 Audit Report ó 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</p> <p>7 Style Guide: Focus is on the key requirements of the Style Guide issued by the Headquarters.</p>		
11.	Seminar on Performance Audit	<p>I An Introduction to Performance Audit. Issues of Economy, Efficiency and Effectiveness. Objective of Performance Audit. Elements of Performance Audit.</p> <p>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) <u>Mandate and General Principles for Performance Audit.</u> General Principles, Ethics and Independence, Audit Approach, Audit Criteria, Audit Risk. Communication.</p> <p>Skills, Professional judgement, due care and scepticism. Quality Control, Materiality, Documentation. Case Study. (Chapter-II of Performance Auditing Guidelines 2014) <u>Strategic Audit Planning and Selection of Audit Topics.</u> Strategic Audit Planning, Objective of strategic Audit planning, Strategic Audit Planning Process.</p> <p>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) <u>Planning Individual performance audits</u> Understanding the entity/programme Defining Audit Objectives Scope of Audit</p> <p>Determining the Audit Criteria Deciding Audit Approach and Methods. Case Study. Developing Audit Questions</p>	SAOs/AOs/AAOs	05 days

		<p>Assess audit team skills Utilisation of outside expertise. Audit Design Matrix</p> <p>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)</p> <p><u>Implementing the Performance Audit</u> Entry Conference, Issuance of Engagement letter, Field audit process, Entry Meeting, Data Collecting & Analysis.</p> <p>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)</p> <p><u>Evidence and Documentation</u> C&AG of India's auditing standards, Competence, Relevance, Sufficiency, Factors affecting the evidence,</p> <p>Types of Evidence, Sources of Evidence, Documentation, Working papers, Audit File Case Study & Group Discussion (Chapter-VI of Performance Auditing Guidelines 2014)</p> <p><u>The Reporting Process</u> 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)</p> <p><u>Follow-up of performance audits.</u> 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).</p> <p>Potential impacts of performance audit and Thematic audit and quality assurance. Case study & Group Discussion</p>		
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12.	Internal Controls Evaluation Manual	<p>Introduction to Internal Controls Evaluation Manual.</p> <p>Introduction to Components of Internal Control ó Control environment and control activities.</p> <p>Introduction to Components of Internal Control ó Risk assessment.</p> <p>Introduction to Components of Internal Control ó Information and communication and monitoring.</p> <p>Role of Internal Audit in Internal Control.</p> <p>Role of External Audit in Internal Control.</p> <p>Audit Methodology.</p> <p>Understanding Audit Risk.</p> <p>Detailed Checklist for evaluation of Internal Control-General Check list, Relating to Cash Management, Relating Budget and Expenditure control, Relating to Accounting.</p> <p>Detailed Checklist for evaluation of Internal Control- Personnel Administration, Internal Audit, Stores and Grant-in-aids & Loans.</p>	SAOs/AOs/AAOs	03 days
13.	Auditing Standards (ISSAIs)	<p>Introduction to ISSAIs</p> <p>Level Two ISSAIs</p> <p>Level Two ISSAIs</p> <p>ISSAIs on Financial Attest Audit</p> <p>ISSAIs on Financial Attest Audit</p> <p>ISSAIs on Performance Audit</p> <p>ISSAIs on Performance Audit</p> <p>ISSAIs on Compliance Audit</p> <p>ISSAIs on Compliance Audit</p> <p>INTOSAI GOV 9100 9199</p> <p>INTOSAI GOV 9100 9199</p>	SAOs/AOs/AAOs	03 days
14.	Audit of CERA, GST and ACES	<p>Briefing on <i>Customs, Central Excise and Service Tax</i> -Basis for Taxation, Direct Taxes and Indirect Taxes, Features of Indirect Tax, Constitutional Validity, Administration and Relevant Procedures, <i>Common aspects of Customs, Central Excise and Service Tax</i></p> <p>Constitutional Background, Laws Relating to Central Excise</p> <p>Central Excise Act, 1944, Duties Leviable, Levy, Collection & Exemptions from Excise Duty, Goods, Excisability of Plant & Machinery, Waste and Scrap, Manufacture, Manufacturer Classification of Goods</p> <p>Valuation of Goods, Valuation in case of Job Work óRule 10A, Some Critical Issues in Central Excise, Assessable Value under Section 4, Value Based on Retail Sale Price, MRP Based Valuation, Assessment under Central Excise Law, Procedural Aspects under Central Excise Duty, Refund & Other Important Provisions, Other Procedures in Central Excise</p> <p>Excise Audit, Warehousing, Export Benefits and Procedures, Excise on Small Scale Industries, Demands and Penalties, Appeals</p> <p>Important Provisions of Central Excise Act, 1944,</p>	SAOs/AOs/AAOs	05 days

		<p>Important Provisions of Central Excise Rules, 2002, Important Rules of Central Excise Valuation Rules, 2000, Rules of Classification</p> <p>Background of Cenvat Credit , Highlights of Cenvat Credit Scheme, Utilization of Cenvat Credit, Reversal of Cenvat Credit, Refund of cenvat Credit , Obligation of a manufacturer or Producer of final Products and a provider of taxable services, Input service Distributors, Documents and Accounts, Other Provisions</p> <p>Introduction of Custom Duties, Type of Custom Duties, Valuation in Customs, Methods of Valuation, Export Goods- Valuation for Assessment, Self assessment on basis of Risk Management System (RMS), Procedures for Import, Procedures for Export, Transit and Transshipment of Goods, Exemptions and Remission</p> <p>Refund of Customs Duty, Warehousing in Customs, Provisional Assessment of Duty, Baggage, Courier and Import and Export through Post Drawback, Other provisions in Customs, Project Imports, Offences, Power and Penalties under Custom</p> <p>Export Promotion Schemes, Duty Drawback, EOU and Similar Schemes, Special Economic Zones, Advance Authorisation, Duty Entitlement Pass Book Scheme (DEPB Scheme), Duty Free Import Authorisation, EPCG Authorisation, Foreign Trade Policy, Administration of Policy by DGFT, Import/Export Authorisation, Export Promotion Councils, Policy for Import of Goods, Restrictions on Exports</p> <p>Introduction, Registration Under Service Tax, Reverse Charge, Brand Name of Another Person, Payment of Service Tax, Rate of Service Tax, Invoices Under Service Tax, Records to be Maintained, Automation of Central Excise and Service Tax (ACES), Electronic Accounting System in Excise and Service Tax (EASTEST), Negative List & Exempted Services, Point of Taxation, Taxable Event in Service Tax, Place of Provision of Service Rules, Valuation Rules, Important Issue under Service Tax Provisions, E-Payment of Service Tax, Self-Adjustment of Excess Tax Paid, Special Audit, Return, Penalties, Adjudication & Appeals, Role of GST</p>		
15.	Audit of Autonomous Bodies(SAR)	<p>Legal Framework for Audit of Autonomous Bodies</p> <p>Preparation of Financial Statements</p> <p>Common Format of Accounts and Financial Statements</p> <p>Audit checks for certification of Annual Accounts of ABs. Accounting Standards prescribed for ABs.</p>	SAOs/AOs/AAOs	06 days

		<p>Format of SAR/Audit Certificate of ABs. Drafting and contents of draft SAR/Management letter</p> <p>Finalizations of SARs</p> <p>Case Study</p> <p>Evaluation of Internal Control Mechanism</p> <p>Ethics</p>		
16.	General Management	<p>Understanding Management</p> <p>Creativity</p> <p>Internal Personal relationship</p> <p>Conflict Management</p> <p>Personality Development and Dedication</p> <p>Time & Stress Management</p> <p>Environment awareness, Trekking trip</p> <p>Team Management & Leadership</p> <p>Managing Change.</p> <p>Syndicate Presentation, Experience sharing.</p>	SAOs/AOs/AAOs	06 days
17.	All India Seminar on Government Accounting including GASAB and Accrual Accounting	<p>1. What are accounts?</p> <p>2. Introduction to initial accounts.</p> <p>3. Purpose & importance of accounting in Government.</p> <p>4. Role of Comptroller & Auditor General of India</p> <p>5. Responsibility of Accountant General</p> <p>1. Historical evolution of the Institution of the CAG</p> <p>2. CAG's powers as enshrined in Constitution and in the CAG's (DPC) Act of 1971.</p> <p>3. Duties of the Accountant General (Accounts and Entitlement) in respect of accounts of a State government.</p> <p>1. The main divisions of government accounts;</p> <p>2. The main features of how the government transactions are exhibited in final accounts.</p> <p>In this session we will discuss the various prescribed steps in the compilation of accounts in the Indian Audit and Accounts Department.</p> <p>1. Receipt of initial accounts.</p> <p>2. Check of initial accounts.</p> <p>3. Compilation of accounts.</p> <p>4. Maintenance of Classified and Consolidated Abstracts</p> <p>session we will discuss:</p> <p>a) the procedure for receipt and check of compiled accounts from Public Works Divisions and Forest Division;</p> <p>b) incorporation of these compiled accounts into the Government Accounts;</p> <p>c) Classified and Consolidated Abstracts of Public Works and Forest transactions.</p> <p>In this session we will discuss: In this session we will discuss accounting of transactions under the Debt, Deposit and Remittance Heads and check exercised in Accounts Offices to ensure accuracy of balances under these heads.</p> <p>a) accounting of transactions under the Debt, Deposit and Remittance Heads;</p>	SAOs/AOs/AAOs	04 days

		<p>b) checks exercised in Accounts Offices to ensure accuracy of balances under Debt, Deposit and Remittance Heads.</p> <ol style="list-style-type: none"> 1. What is a Transfer Entry? 2. Preparation of Transfer Entry. 3. Object of Transfer Entry. 4. Maintenance of Transfer Entry Book <p>During this session we will discuss:</p> <ol style="list-style-type: none"> 1. Objective and concepts underlying financial statements; 2. Financial Statements of Government or Finance Accounts of Government. <p>During this session we will discuss:</p> <ol style="list-style-type: none"> 1. Objective and concepts underlying Appropriation Accounts; 2. Form and Content of Appropriation Accounts; 3. Reconciliation of figures appearing in the Finance Accounts with those appearing in the Appropriation Accounts. <ol style="list-style-type: none"> 1. Role of Reserve Bank of India in Government Accounting; 2. Inter Government and inter departmental adjustments; 3. Checks and balances. <p>In this session we will discuss the voucher level computerization in Indian Audit and Accounts Department.</p> <ol style="list-style-type: none"> 1. Limitation of manual system of compilation of accounts; 2. Usefulness of Voucher Level Computerization; 3. Basic formats in which data is entered. <p>In this session we will conduct a written test. The test paper will consist of objective and descriptive questions on the subject discussed during training.</p> <p>In this session we will discuss feedback on trainers of this course. The course will end with distribution of certificates to participants.</p>		
18.	Audit of Procurement and Contract Management	<p>Introduction to Delegation of Financial Power Rules 1978</p> <p>Important Provision of GFR related to Procurement of Goods and Services- Definition of Goods, Fundamental principles of public buying ,Different mode of Procurement</p> <p>Mode of Tendering for Procurement of Goods and Services</p> <p>Contract Management- Standard conditions of contract including Post Contract Management</p> <p>Role of Internal Finance in Procurement cases</p> <p>An Overview of Important Provisions of Delegation of Financial Power of UP and MP State</p> <p>Process of e-procurement CVC Guidelines on Procurement and Contracts</p>	SAOs/AOs/AAOs	03 days
19.	Handling of Court Cases	<p>Complaint cases and their disposal</p> <p>Procedure for drafting and filing of replies, affidavit and counter affidavit, etc. before</p>	SAOs/AOs/AAOs	02 days

		Courts/Tribunals Case Study on Court cases relating to GPF (Case Study-I) Case Study on Court cases relating to GPF(continued) Case Study-II		
20.	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/AOs/AAOs	03 days
21.	Refresher Course for AOs	CAG (DPC Act) 1971-Various sections relating to Accounts and Audit matters Code of Ethics RTI Act Role of Supervisory officers relating to Administrative and functional fields. Writing of APARs-Reporting, Reviewing and communication of adverse entries. Introduction to CCS(Conduct)Rules and CCS(CCA) Rules, Office Procedure , Record Management Leadership/ Motivation/communication qualities.	AOs	03 days
22.	Settlement of Suspense and Remittance Balances and Maintenance of Broadsheets	Concept of suspense balances. Effect of suspense balances on Government Accounts. Concept of remittances. Forest remittances-remittances into treasury, forest cheques and other remittances (items adjustable by civil, items adjustable by forest). Procedure for settlement. GD/ Exercises Broadsheet of Treasury suspense- OB suspense, DAA Suspense. Reasons of outstanding and procedures for settlement of Broadsheets. GD/ Exercises Broadsheets of PW Remittances- Remittances into treasury, PW cheques, other remittances (item adjustable by civil and items adjustable by PWD).GD/Exercises. Voucher level computerization, Generation of Broadsheet, Effectiveness of VLC in settlement of suspense balances to ensure accuracy in Government Accounts.GD/Exercises. Demonstration of VLC Software on compilation of accounts and generation of	SAOs/AOs/AAOs	05 days

		<p>broadsheet.GD/Exercise.</p> <p>Broadsheets of deposit heads of accounts bearing interest and not bearing interest. Broadsheets of PLA. Analysis of difference and settlement of outstanding balances. GD/ Exercises</p> <p>Broadsheet of long term advances- House Building Advance and Motor Car Advance. Reasons for outstanding balances under HBA Suspense and MCA Suspense. Broadsheets of PF Suspense and LA Suspense. GD/ Exercises</p> <p>Broadsheets of PAO Suspense and procedure for maintenance of Broadsheet of RBS headquarters, Broadsheets of CAO, RB Suspense. Procedure for settlement of suspense balances. Broadsheet of cheques and bills. GD/ Exercises</p> <p>Concept of RBD cash balances of state Government. Maintenance of Broadsheet of RBD. GD and exercises</p>		
23.	Seminar on VLC & Generation of Accounts and Audit using VLC Data	<p>Importance of VLC Project and its various Functions. Brief introduction to its various modules and Audit using VLC data.</p> <p>Accounting of treasury a/c using VLC software</p> <p>Capturing of data in Treasury Compilation Module, Processing and Proving, Deficiencies generally noticed in treasury accounts causing problems in proper accounting and remedial measures</p> <p>Working of Compilation General in receiving of accounts from Treasury and their distribution to VLC sections.</p> <p>LOP and CASH accounts? Capturing of LOP and Cash Accounts in VLC Package and reconciliation of LOP/CA.</p> <p>Master data, interface, system security, administration and a brief discussion on VLC hazards.</p> <p>Various reports that can be generated through VLC</p> <p>Visit to VLC site of A.G.(A&E-I) U.P. for getting firsthand information of treasury accounts.</p> <p>Visit to VLC site of AG (A&E-II) U.P. Allød. for getting firsthand information Works and Forest accounts</p> <p>Discussion on various aspects of VLC Modules. Doubts and query.</p>	SAOs/AOs/AAOs	03 days
24.	Workshop on Financial Management	<p>Indian Financial System: Fiscal Policy, Legislative control, Federal division of powers, Budget, Accounts, Plan and non-plan expenditure, Audit, etc.</p> <p>Budget Meaning ó Introduction, Annual Financial Statement; Financial Year; elements of a budget</p> <p>Budget Process - Budgetary control, New Service, New Instrument of Service, Vote on account, Supplementary, Re-appropriations, Excess grants, etc.</p> <p>Budget Scope - Charged and Voted, Revenue and Capital and Plan and Non-Plan.</p> <p>Compilation of Accounts ó Introduction - Part I</p>	SAOs/AOs/AAOs	05 days

		<p>Consolidated Fund, Part II Contingency Fund, Part III Public Account and Coding system</p> <p>Compilation of Accounts ó Overview of compilation in AG (A&E)</p> <p>Compilation of Accounts ó Account Current</p> <p>Compilation of Accounts ó Works and Forest</p> <p>Compilation of Accounts ó Loans and Deposits</p> <p>Finance Accounts ó Definition, Structure of Finance Accounts, Explanation of general checks to be exercised for the preparation of Finance Accounts</p> <p>Finance Accounts ó Notes to Accounts in Finance Accounts, Hqrs instructions and linkage between statements</p> <p>Finance Accounts ó Discussion on various statements of finance accounts</p> <p>Finance Accounts - Discussion on various statements of finance accounts and exercises</p> <p>Appropriation Accounts - Original, Supplementary, Re-appropriation, New Service and New Instrument of Service and Structure of appropriation accounts.</p> <p>Appropriation Accounts - points to be seen during audit of Appropriation Accounts and exercise</p>		
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Course Contents

IT Courses 2016-17

Sl no	Course Name	Modules/Topic Covered	Preferred Participant Profile	Duration
1.	MS Office (Level-I course)	<p>1. Introduction to Computers, Overview of Windows O.S.</p> <p>2. MS Word:</p> <p>(a) Creation, saving, formatting character, paragraph, page, page break, creating column</p> <p>(b) Spell check, Find and Replace, word Automatic Functions and its settings</p> <p>(c) Bullet including multiple layer of bullets, Border and shadings</p> <p>(d) Creation and editing Paragraph and character styles, headers and footers, footnotes etc.</p> <p>(e) Creating Simple and complex table, formatting, editing table, applying formula.</p> <p>(f) Creating chart and graph, mail merge.</p> <p>3. MS Excel:</p> <p>(a) Creating, saving, entering different data type, Editing, Formatting, applying borders and shading.</p> <p>(b) Applying Arithmetical formula, Cell reference, creating simple chart, importing and exporting data , sorting data. Creating chart and its formatting.</p> <p>4. MS Access:</p> <p>(a) Introduction to Database Management, Overview of Access, Create Tables, Modify Tables Define validations in tables and lookup wizards, Data entry/manipulation in tables, Filter, sort, delete records, Creation of Simple Forms.</p> <p>(b) Set relationship between tables, Basic Queries Create queries with single condition, duplicate query, append query, make table query) Demo on creation of Reports.</p> <p>5. Power Point:</p> <p>(a) Overview of Power Point. Create a new presentation, Use different slide formats, Enter both Text and Graphics, Save a slide show, Working with colors and Transitions, Animation and sound.</p>	Any Group :Cøand Group :Bø officials/ Officers	08 days
2.	Audit in IT Environment	<p>Ice Breaking Session</p> <p>Entry Knowledge Test (EKT)</p> <p>Understanding IT environment- Challenges and opportunities</p> <p>Importance of controls with specific reference to Application Controls</p> <p>Introduction to CAATs ó IDEA and Excel</p> <p>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)</p> <p>Conditional formatting</p> <p>Filter including Advanced filter Pivot Table</p> <p>Excel functions ó User defined functions</p> <p>Numeric</p> <p>Text</p> <p>Conditional</p> <p>Date and time</p> <p>Financial</p> <p>Aggregation</p> <p>Creating Projects ó Managed and External, Import</p>	(For AAOs/ AOs/ Sr.AOs. only)	06 days

		<p>of data from diverse formats óExcel, 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.</p> <p>Importing of PDF/PRN Data, Importing data using ODBC, Indexing of Data ó Quick Index, Composite Index, Sorting Data.</p> <p>Field Manipulation in IDEA ó Append, Remove, Modify columns ó Data types ó Virtual, Non Virtual, Editable, Enabling/Disabling deletion of non-virtual fields</p> <p>Analysis</p> <p>Basic data analysis in IDEA ó Duplicate Key Detection/Exclusion, Gap Detection, Summarization.</p> <p>Data Extraction ó Direct Extraction, Key value extraction, Top/Bottom Records extraction, Indexed Extraction</p> <p>Working with multiple databases ó Join, Visual Connector, Append, Compare.</p> <p>Commonly used @ Functions in IDEA, introduction to #functions</p> <p>Stratification of Data, Aging analysis, Sampling</p> <p>Exporting Data from IDEA to other formats, Creating and Printing Reports in IDEA</p> <p>Way Forward ó Overview of Qlikview</p> <p>Way Forward -Overview of Tableau</p>		
3.	Advance Course On MS Access (Level-II Course)	<p>1. Introduction to DBMS and RDBMS. Concept of Database & Table.</p> <p>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.</p> <p>3. Primary key concept & indexes. Data entry through input mask, Validation, Adding, Editing & deleting Records, Hiding column Freezing columns.</p> <p>4. Creating Relationship between Tables, Adding OLE objects Fields to a Table. Importing & Exporting data between other programs ó dbase IV Text files, MS Excel. Data Entry Shortcuts.</p> <p>5. Creating Relationship between Tables, Adding OLE objects Fields to a Table. Importing & Exporting data between other programs ó dbase IV Text files, MS Excel. Data Entry Shortcuts.</p> <p>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.</p> <p>7. Form Design using Auto form ó Columnar / Tabular / Datasheet view. Form Design through form wizard, Form Design without Form wizards Adding & Editing labels.</p> <p>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..</p> <p>9. Creating a Report and Adding Controls, Sorting & Grouping through Design view Report Header, Page Header, Detail Footer etc. Adding Graphs to reports.</p> <p>10. What is Macro, Creating a simple macro, Use of</p>	Those who are trained in MS Office	08 days

		<p>functions in Access. Page ins etc.</p> <p>11. Database security viz user and group permission, password etc.</p> <p>12. Demonstration of some sample database software.</p>		
4.	Advance Course on MS Excel (Level-II Course)	<p>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.</p> <p>2. Data Entry Techniques, Entering Text/ Numbers/Date & Time, Creating a series, Customizing Auto Fill, Editing a worksheets, Checking spelling, hiding and Unhiding columns, rows and gridlines, Finding & Replacing Text/ Numbers, Checking Spellings, Header/Footer, Page No., Footnotes, Inserting line, Boxes, Auto-shapes, objects, WordArt etc. on Worksheet.</p> <p>3. Cell Referencing, Ranges, creating formulae, Copying and Moving Formulas.</p> <p>Applying formulas and functions in Excel sheet, Protecting, hiding and Unhiding 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.</p> <p>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 .</p> <p>5. Creating, modifying and formatting chart, Enhancing Charts, Saving Custom Chart Formats.</p> <p>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.</p>	Those who are trained in MS Office	07 days
5.	IDEA (Level-II Course)	<p>1. Basics of Data structures, IDEA: An Overview, What's on the IDEA Screen, Application windows and toolbars</p> <p>Getting started: Essential of data Downloading, including exercise 1,</p> <p>2. Use of IDEA features followed by Exercise to practice analysis function for checking duplicates, indexing, summarizing and checking field statistics. (Exercise 2),</p> <p>3. Exercise related with downloading of MS ACCESS database file, creation of virtual fields, duplicate records detection and record extraction. (Exercise 3)</p> <p>4. Use of IDEA features followed by Exercise to practice IDEA features useful in conduct of Financial Audit.</p> <p>5. Using @ Functions in IDEA</p> <p>6. Exercise 6: Use of IDEA in Value for Money Audit.</p> <p>7. Exercise 7: Use of IDEA in Accounts Receivable Audit</p> <p>8. Exercise 8: Use of IDEA in Accounts Payable</p>	Those who have undergone training in Level-I Course	5 days

		Audit and Fraud Investigation 9. ODBC Connectivity using IDEA Software 10. Exercise : 9 6 Use of IDEA in detailed Inventory System Audit and detect outdated stocks and missing inventory items		
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-I and Level-II courses.	10 days
7.	IT Concepts, MS-Office & Internet (Level-I 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; 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	Group Officers	08 days

		<p>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.</p> <p>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.</p> <p>14. Creation of Email Account, Sending and Receiving Mails with some practice</p> <p>15. IT Security and its importance. & the Security Policy of IA & AD.</p>		
8.	<p>Introductory training on “Red Hat Linux, Oracle 11g with Developer11g, Report11g” (Phase-I)</p>	<p>É Get Started with the GNOME Graphical Desktop Objective: Get started with GNOME and edit text files with gedit</p> <p>É Manage Files Graphically with Nautilus Objective: Manage files graphically and access remote systems with Nautilus</p> <p>É Get Help in a Graphical Environment Objective: Access documentation, both locally and on-line</p> <p>É Configure Local Services Objective: Configure the date and time and configure a printer</p> <p>É Manage Physical Storage I Objective: Understand basic disk concepts and manage system disks</p> <p>É Manage Logical Volumes Objective: Understand logical volume concepts and manage logical volumes</p> <p>É Monitor System Resources Objective: Manage CPU, memory, and disk utilization</p> <p>É Manage System Software Objective: Manage system software locally and using Red Hat Network (RHN)</p> <p>É Get Started with Bash Objective: Understand basic shell concepts, execute simple commands, and use basic job control technique</p> <p>É Get Help in a Textual Environment Objective: Use man and info pages and find documentation in /usr/share/doc</p> <p>É Establish Network Connectivity Objective: Understand basic network concepts; configure, manage, and test network settings</p> <p>É Administer Users and Groups Objective: Manage users and groups</p> <p>É Manage Files from the Command Line Objective: Understand Linux file system hierarchy and pathnames; manage files from the command line</p> <p>É Secure Linux File Access Objective: Understand Linux file access mechanisms; manage file access from the GUI and the command line</p> <p>É Administer Remote Systems Objective: Share and connect to a desktop; use SSH and rsync</p> <p>É Configure General Services Objective: Manage services; configure SSH and remote desktops</p> <p>É Manage Physical Storage II Objective: Manage file system attributes and swap space</p> <p>É Install Linux Graphically</p>	<p>Those who have undergone training in Level-I courses.</p>	<p>12 days</p>

		<p>Objective: Install Red Hat Enterprise Linux and configure the system with first boot</p> <p>É Manage Virtual Machines</p> <p>Objective: Understand basic virtualization concepts; install and manage virtual machines</p> <p>É Control the Boot Process</p> <p>Objective: Understand run levels and manage GRUB</p> <p>É Deploy File Sharing Services</p> <p>Objective: Deploy an FTP server and a web server</p> <p>É Secure Network Services</p> <p>Objective: Manage a firewall; understand SELinux concepts and manage SELinux</p> <p>É Comprehensive Review</p> <p>Objective: Get a hands-on review of the concepts covered in this course.</p> <p>É Getting Started with the Classroom Environment</p> <p>Objective: Given a virtualized environment, begin to administrate multiple systems using prerequisite skills</p> <p>É Enhance User Security</p> <p>É Objective: Configure system to use Kerberos to verify credentials and grant privileges via sudo</p> <p>É Bash Scripting and Tools</p> <p>Objective: Automate system administration tasks utilizing Bash scripts and text-based tools</p> <p>É File Security with GnuPG</p> <p>Objective: Secure files with GnuPG</p> <p>É Software Management</p> <p>Objective: Use yum plugins to manage packages; understand the design of packages; build a simple package</p> <p>É Network Monitoring</p> <p>Objective: Profile running services, then capture and analyze network traffic</p> <p>É Route Network Traffic</p> <p>Objective: Configure system to route traffic and customize network parameters with sysctl</p> <p>É Secure Network Traffic</p> <p>Objective: Secure network traffic through SSH port forwarding and ip tables filtering/network address translation (NAT)</p> <p>É NTP Server Configuration</p> <p>Objective: Configure an NTP server</p> <p>É System Monitoring and Logs</p> <p>Objective: Manage local file system integrity; monitor systems over time and system logging</p> <p>É Centralized Secure Storage</p> <p>Objective: Access centralized storage (iSCSI) and encrypt file systems</p> <p>É SSL-encapsulated Web Services</p> <p>Objective: Understand SSL certificates and deploy an SSL-encapsulated web service</p> <p>É Web Server Additional Configuration</p> <p>Objective: Configure a web server with virtual hosts, dynamic content, and authenticated directories</p> <p>É Basic SMTP Configuration</p> <p>É Objective: Configure an SMTP server for basic operation (null client, receiving mail, smart host relay)</p> <p>É Caching-Only DNS Server</p> <p>Objective: Understand DNS resource records and configure a caching-only name server</p> <p>É File Sharing with NFS</p> <p>Objective: Configure file sharing between hosts with NFS</p> <p>É File Sharing with CIFS</p> <p>Objective: Configure file and print sharing between hosts with CIFS</p>		
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		<p>É File Sharing with FTP Objective: Configure file sharing with anonymous FTP</p> <p>É Troubleshooting Boot Process Objective: Understand the boot process and recover unbootable systems with rescue mode</p> <p>É A brief about 3 tier Architecture, Weblogic including difference between Oracle 8i and Oracle 11g and a brief about DBMS and RDBMS</p> <p>Introduction to Oracle Database: É List the features of Oracle Database 11g É Discuss the basic design, theoretical, and physical aspects of a relational database É Categorize the different types of SQL statements É Describe the data set used by the course É Log on to the database using SQL Developer environment É Save queries to files and use script files in SQL Developer Retrieve Data using the SQL SELECT Statement: É List the capabilities of SQL SELECT statements É Generate a report of data from the output of a basic SELECT statement É Select All Columns É Select Specific Columns É Use Column Heading Defaults É Use Arithmetic Operators É Understand Operator Precedence É Learn the DESCRIBE command to display the table structure É Learn to Restrict and Sort Data Write queries that contain a WHERE clause to limit the output retrieved É List the comparison operators and logical operators that are used in a WHERE clause É Describe the rules of precedence for comparison and logical operators É Use character string literals in the WHERE clause É Write queries that contain an ORDER BY clause to sort the output of a SELECT statement É Sort output in descending and ascending order Usage of Single-Row Functions to Customize Output: É Describe the differences between single row and multiple row functions É Manipulate strings with character function in the SELECT and WHERE clauses É Manipulate numbers with the ROUND, TRUNC, and MOD functions É Perform arithmetic with date data É Manipulate dates with the DATE functions Invoke Conversion Functions and Conditional Expressions É Describe implicit and explicit data type conversion É Use the TO_CHAR, TO_NUMBER, and TO_DATE conversion functions É Nest multiple functions É Apply the NVL, NULLIF, and COALESCE functions to data É Use conditional IF THEN ELSE logic in a SELECT</p> <p>Data Manipulation Statements: É Describe each DML statement É Insert rows into a table É Change rows in a table by the UPDATE statement É Delete rows from a table with the DELETE statement</p>		
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		<p> ÉSave and discard changes with the COMMIT and ROLLBACK statements ÉExplain read consistency The SET Operators: ÉDescribe the SET operators ÉUse a SET operator to combine multiple queries into a single query ÉControl the order of rows returned Aggregate Data Using the Group Functions: ÉUse the aggregation functions to produce meaningful reports ÉDivide the retrieved data in groups by using the GROUP BY clause ÉExclude groups of data by using the HAVING clause Display Data From Multiple Tables Using Joins: ÉWrite SELECT statements to access data from more than one table ÉView data that generally does not meet a join condition by using outer joins ÉJoin a table to itself by using a self join Use Sub-queries to Solve Queries: É Describe the types of problem that sub-queries can solve ÉDefine sub-queries ÉList the types of sub-queriesÉWrite single-row and multiple-row sub-queries Use of DDL Statements to Create and Manage Tables: ÉCategorize the main database objects ÉReview the table structure ÉList the data types available for columns ÉCreate a simple table ÉDecipher how constraints can be created at table creation ÉDescribe how schema objects work Other Schema Objects: ÉCreate a simple and complex view ÉRetrieve data from views ÉCreate, maintain, and use sequences ÉCreate and maintain indexes ÉCreate private and public synonyms Control User Access: ÉDifferentiate system privileges from object privileges ÉCreate Users ÉGrant System Privileges ÉCreate and Grant Privileges to a Role Change Your Password ÉGrant Object Privileges ÉHow to pass on privileges? ÉRevoke Object Privileges Management of Schema Objects ÉAdd, Modify, and Drop a Column ÉAdd, Drop, and Defer a Constraint ÉHow to enable and Disable a Constraint? ÉCreate and Remove Indexes ÉCreate a Function-Based Index ÉPerform Flashback Operations ÉCreate an External Table by Using ORACLE_LOADER and by Using ORACLE_DATAPUMPÉQuery External Tables Manage Objects with Data Dictionary Views ÉExplain the data dictionary ÉUse the Dictionary Views ÉUSER_OBJECTS and ALL_OBJECTS Views </p>		
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		<p> ÉTable and Column Information ÉQuery the dictionary views for constraint information ÉQuery the dictionary views for view, sequence, index and synonym information ÉAdd a comment to a table ÉQuery the dictionary views for comment information Regular Expression Support ÉUse the Regular Expressions Functions and Conditions in SQL ÉUse Meta Characters with Regular Expressions ÉPerform a Basic Search using the REGEXP_LIKE function ÉFind patterns using the REGEXP_INSTR function ÉExtract Substrings using the REGEXP_SUBSTR function ÉReplace Patterns Using the REGEXP_REPLACE function ÉUsage of Sub-Expressions with Regular Expression Support ÉImplement the REGEXP_COUNT function Introduction to PL/SQL: ÉWhat is PL/SQL ÉPL/SQL Environment ÉBenefits of PL/SQL ÉOverview of the Types of PL/SQL blocks ÉCreate and Execute a Simple Anonymous Block ÉGenerate Output from a PL/SQL Block ÉSQL*Plus as PL/SQL Programming Environment Declaring PL/SQL Identifiers: ÉIdentify the Different Types of Identifiers in a PL/SQL subprogram ÉUse the Declarative Section to Define Identifiers ÉList the Uses for Variables ÉStore Data in Variables ÉDeclare PL/SQL Variables Writing Executable Statements: ÉDescribe Basic Block Syntax Guidelines ÉUse Literals in PL/SQL ÉCustomize Identifier Assignments with SQL Functions ÉUse Nested Blocks as Statements ÉReference an Identifier Value in a Nested Block ÉQualify an Identifier with a Label ÉUse Operators in PL/SQL ÉUse Proper PL/SQL Block Syntax and Guidelines Interacting with the Oracle Server: ÉIdentify the SQL Statements You Can Use in PL/SQL ÉInclude SELECT Statements in PL/SQL ÉRetrieve Data in PL/SQL with the SELECT Statement ÉAvoid Errors by Using Naming Conventions When Using Retrieval and DML Statements ÉManipulate Data in the Server Using PL/SQL ÉThe SQL Cursor concept ÉÉ Use SQL Cursor Attributes to Obtain Feedback on DML Save and Discard Transactions Writing Control Structures: ÉControl PL/SQL Flow of Execution ÉConditional processing Using IF Statements ÉConditional Processing CASE Statements ÉHandle Nulls to Avoid Common Mistakes ÉBuild Boolean Conditions with Logical Operators ÉUse Iterative Control with Looping Statements Working with Composite Data Types: ÉLearn the Composite Data Types of PL/SQL Records and Tables </p>		
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		<ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> • 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 <ul style="list-style-type: none"> • Explicit Cursor Attributes • Cursors and Records Handling Exceptions • Handling Exceptions with PL/SQL <ul style="list-style-type: none"> • Predefined Exceptions • Trapping Non-predefined Oracle Server Errors • Functions that Return Information on Encountered Exceptions <ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> • 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 • Using More Package Concepts: <ul style="list-style-type: none"> • 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 <ul style="list-style-type: none"> • Utilize the persistent state of package variables • Creating Triggers: 		
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		<p>Describe the different types of triggers and how they execute</p> <p>List the benefits and guidelines of using database triggers</p> <p>Show how triggers are executed with a basic database trigger example</p> <p>Show syntax and create DML triggers, and list the DML trigger components</p> <p>Explain the firing sequence of triggers</p> <p>Create a DML statement and row level triggers</p> <p>Use the OLD and NEW qualifiers to reference column values</p> <p>Use conditional predicates with triggers.</p> <p>Introduction to File builder Menu,</p> <p>Creating Forms using wizard and customize form, form Component- Canvas,</p> <p>Frame, Window,</p> <p>setting properties,</p> <p>Object navigator,</p> <p>Layout editor, Creating Master-Detail Forms</p> <p>creating triggers for restricting data and validation,</p> <p>alert, block, canvas, tabs,</p> <p>Modes of operation-Enter Query, Normal, Query Mode,</p> <p>Designing application having single/two data block, staked canvas, Tab canvas,</p> <p>Creating List of Values, Editors,</p> <p>Visual Attributes, Input items,</p> <p>text items,</p> <p>Radio group,</p> <p>Display items,</p> <p>Check box,</p> <p>Calculated items,</p> <p>Push button,</p> <p>sound item,</p> <p>image item,</p> <p>Trigger component & code, Message, alert,</p> <p>SQLERRM,</p> <p>Library creation,</p> <p>Item interaction Trigger,</p> <p>Query Trigger, Validation Trigger,</p> <p>Navigational Trigger,</p> <p>Transactional Trigger</p> <p>Menu, Function Key ,</p> <p>Mouse Event,</p> <p>Multiple Form application,</p> <p>form building,</p> <p>Introduction to Report Builder Component,</p> <p>customizing report builder,</p> <p>report editor,</p> <p>Report wizard component,</p> <p>Using Report Wizard,</p> <p>Tabular Type, Form like ,</p> <p>Mailing Label, Form letter,</p> <p>Group left, Group Above,</p> <p>Matrix Type, Matrix with Group type,</p> <p>Parameter creation etc.</p> <p>Manual Development of Report,</p> <p>Calling Report from a form,</p> <p>Message development ,</p> <p>Message Handling Triggers,</p> <p>Creating Menu and attaching forms and reports to the Menu,</p>		
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		É Handling Triggers (Navigation, Transactional, Validation Trigger),.		
9.	MS Word and Power Point (Level-I Course)	<p>1. Introduction to Computers, Overview of Windows O.S. and its application.</p> <p>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,).</p> <p>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),</p> <p>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.</p> <p>5. Creating Simple Table, Insert Row, Delete Row/Column, Split Cell, Formula, Create Graphs, mail merge,</p> <p>6. Overview of Power Point. Create a new presentation, Use different slide formats, Enter both Text and Graphics, Save a slide show, Working with colors and Transitions, Animation and sound- Preset Animation, Custom Animation, Timing, Effects, Action Buttons / Settings / Preview.</p>	Any Group and Group officials/ Officers	5 days
10.	Principles of Networking, Internet and Network Security (Level-II training)	<p>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..</p> <p>2. Configuring Networks, Different protocols used in Networking, Overview about IP Addresses, Creation of Workgroups, Granting access, Sharing and various permissions</p> <p>3. Security concerns in networking (Virus threats, hacking etc.), Information Security, Information Security Services, Information Security Process.</p> <p>4. Security Technologies (Firewall, Virtual Private Networks), Encryption Concepts, Intrusion Detection.</p> <p>5. Introduction to the Internet, Requirements for Internet Connections, Various types of Internet Access, Internet facilities (email, world wide web -wwwø), and Web Browsers connecting Internet.</p> <p>6. Introduction to Email, Creating Web based Email Accounts, Sending and receiving mails.</p> <p>7. Brief Overview about e-commerce, e- governance etc., hands on practice on internet surfing.</p> <p>8. Basic concepts of web designing and designing a website.</p> <p>9. IA&AD Security Policy</p>	For those who have undergone training in level-I courses.	05
11.	IT Security: Hardware and Software	<p>IT Security:</p> <ul style="list-style-type: none"> •Security Fundamentals •Importance of IT Security in the current IT Scenario •Security Categories: Physical, Logical, Environmental and Operational <p>Basic Goals: Prevention, Deterrence, Containment, Detection and Recovery</p> <p>Security of Hardware:</p> <ul style="list-style-type: none"> •Threats to IT Systems 	Those who have undergone training in Level-I and Level-II courses.	03 days

		<ul style="list-style-type: none"> •Cyber Crime •Ways to protect the System Training <p>Security of Hardware:</p> <ul style="list-style-type: none"> •Location: Access vs Security, Rooms, Doors, Windows, Keys •Environment: Radio Frequency Interference (RFI), Cooling, Cabling, Power <p>Natural Disasters: Fire, Flood, Lightning.</p> <p>Security of Software:</p> <ul style="list-style-type: none"> •Security Concerns in networking •Virus threats, Types of Viruses, hacking etc. •Information Security process •Security Technologies: Fire wall, Virtual Private Networks, Intrusion detection •Logon Authentication •Access Control <p>Password Policies</p>		
12.	Red Hat Linux, Oracle 11g with Developer11g (Phase-II) Advance Level	<ul style="list-style-type: none"> É A brief about 3 tier Architecture, WebLogic including difference between Oracle 8i and Oracle 11g and a brief about DBMS and RDBMS É Introduction to Oracle Database: É List the features of Oracle Database 11g É Discuss the basic design, theoretical, and physical aspects of a relational database É Categorize the different types of SQL statements É Describe the data set used by the course É Log on to the database using SQL Developer environment É Save queries to files and use script files in SQL Developer É Review of PL/SQL commands É Trigger component & code, Message, alert, É SQLERRM, É Library creation, É Item interaction Trigger, É Query Trigger, Validation Trigger, É Navigational Trigger, É Transactional Trigger É Menu, Function Key , É Mouse Event, É Multiple Form application, É form building, in Oracle 11 É Introduction to Report Builder Component, É customizing report builder, É report editor, É Report wizard component, É Using Report Wizard, É Tabular Type, Form like , É Mailing Label, Form letter, É Group left, Group Above, É Matrix Type, Matrix with Group type, É Parameter creation etc. É Practice Session É Manual Development of Report, É Calling Report from a form, É Message development , É Message Handling Triggers, É Creating Menu and attaching forms and reports to the Menu, É Handling Triggers (Navigation, Transactional, Validation 	(Those who have done Introductory training on Red Hat Linux & Oracle 11g)	10 days

		<p>Trigger), Exploring the Oracle Database Architecture ÓOracle Database Architecture Overview ÓOracle ASM Architecture Overview ÓProcess Architecture ÓMemory structures ÓLogical and physical storage structures ÓInstalling your Oracle Software Tasks of an Oracle Database Administrator ÓTools Used to Administer an Oracle Database ÓInstallation: System Requirements ÓOracle Universal Installer (OUI) ÓInstalling Oracle Grid Infrastructure ÓInstalling Oracle Database Software Creating an Oracle Database ÓPlanning the Database Practice Session Using the DBCA to Create a Database ÓPassword Management ÓUsing the DBCA to Delete a Database Managing the Oracle Database Instance ÓStart and stop the Oracle database and components ÓUse Oracle Enterprise Manager ÓAccess a database with SQLPlus ÓModify database installation parameters ÓDescribe the stages of database startup ÓDescribe database shutdown options ÓView the alert log ÓAccess dynamic performance views Manage the ASM Instance ÓSet up initialization parameter files for ASM instance ÓStart up and shut down ASM instances ÓAdminister ASM disk groups Configuring the Oracle Network Environment ÓUse Enterprise Manager to create and configure the Listener ÓEnable Oracle Restart to monitor the listener ÓUse tnsping to test Oracle Net connectivity Practice Session Managing Database Storage Structures ÓStorage Structures ÓHow Table Data Is Stored ÓAnatomy of a Database Block ÓSpace Management in Table spaces ÓTable spaces in the Preconfigured Database ÓActions with Table spaces Administering User Security ÓDatabase User Accounts ÓPredefined Administrative Accounts Managing Data Concurrency ÓData Concurrency ÓEnqueue Mechanism ÓResolving Lock Conflicts Managing Undo Data ÓTransactions and Undo Data ÓUndo Data Versus Redo Data ÓConfiguring Undo Retention Practice session Implementing Oracle Database Auditing ÓDescribe DBA responsibilities for security ÓEnable standard database auditing ÓSpecify audit options ÓReview audit information ÓMaintain the audit trail Database Maintenance ÓManage optimizer statistics ÓManage the Automatic Workload Repository (AWR) ÓUse the Automatic Database Diagnostic Monitor (ADDM)</p>		
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		<p>Core Concepts and Tools of the Oracle Database</p> <ul style="list-style-type: none"> ÉASM Storage Concepts ÍConnecting to the Database and the ASM Instance ÍDBA Tools Overview Configuring for Recoverability ÍPurpose of Backup and Recovery (B&R), Typical Tasks and Terminology ÍUsing the Recovery Manager (RMAN) ÍConfiguring your Database for B&R Operations Configuring and Managing Persistent Settings for RMAN ÍConfiguring Autobackup of Control File Practice session ÍBackup optimization ÉAdvanced Configuration Settings: Compressing Backups ÍConfiguring Backup and Restore for Very Large Files (Multisection)Creating Backups with RMAN ÍRMAN backup types ÍCreating and Using the following:- Backup Sets and Image Copies- Whole Database Backup- Fast Incremental Backup- Configure Backup Destinations Archival Backup Restore and Recovery Task ÍRestoring and Recovering ÍCauses of File Loss ÉAutomatic Temp file Recovery ÍRecovering from the Loss of a Redo Log Group ÍRe-creating a Password Authentication File ÍComplete and Incomplete Recovery Practice Session Using RMAN to Perform Recovery ÍComplete Recovery after Loss of a Critical or Noncritical Data File ÍIncomplete Recovery ÍPerforming Recovery with a Backup Control File ÍRestoring from Autobackup: Server Parameter File and Control File ÍRestoring and Recovering the Database on a New Host Diagnosing the Database ÉData Recovery Advisor (DRA) ÉAutomatic Diagnostic Repository (ADR) ÍHealth Monitor ÉThe ADR Command-Line Tool, ADRCI Using Flashback Technology I ÍFlashback Technology: Overview and Setup ÍUsing Flashback Technology to Query Data ÍFlashback Table ÍFlashback Transaction Query ÍPerforming Flashback Transaction Backout Using Flashback Technology II ÉOracle Total Recall ÍFlashback Drop and the Recycle Bin Performing Flashback Database ÍConfiguring Flashback Database ÍPerforming Flashback Database Operations ÉMonitoring Flashback Database Managing Memory ÉOracle Memory Structures ÍOracle Database Memory Parameters ÍUsing Automatic Memory Management ÉAutomatic Shared Memory Management ÍUsing Memory Advisors ÍUsing Data Dictionary Views & Practice Managing Database Performance ÉTuning Activities ÍUsing Statistic Preferences ÍOptimizer Statistics Collection 		
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