| Course : Statistical Sampling in Audit | | | | | |
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| **Day** | **Session No.** | **Session Time** | **Topic** | **Faculty** | **Session Feedback** |
| 2022-01-10, Monday | Session 1 | 10:00 - 10:15 | Inauguration of the course and Ice breaking : | Dr. Abhishek Gupta, Director General | |
| | Session 2 | 10:15 - 11:30 | Descriptive statistics: 1. What is data? (Qualitative vs Quantitative data) 2. What is an Attribute? 3. Frequency distribution of data 4. Concept of random variable : | Dr. Parmil Kumar, Professor |  |
| | Session 3 | 11:45 - 13:00 | 1. Measure of Central Tendency (Mean, Median and Mode): Concept, measure & applicability 2. Measure of Dispersion (Range, Standard Deviation & Coefficient of variation): Concept, measure & applicability : | Dr. Parmil Kumar, Professor |  |
| | Session 4 | 14:00 - 15:15 | 1. Classical definition of probability: Concepts with examples2. Probability distribution (Binomial, Poisson & Normal distribution): Concepts & applicabilityPracticalUsing Excel/IDEA package to demonstrate different statistics using live data and interpret the statistics to draw conclusion about the distribution of the data : | Dr. V K Shivgotra, Assistant Professor |  |
| | Session 5 | 15:30 - 16:45 | 1. Classical definition of probability: Concepts with examples2. Probability distribution (Binomial, Poisson & Normal distribution): Concepts & applicabilityPracticalUsing Excel/IDEA package to demonstrate different statistics using live data and interpret the statistics to draw conclusion about the distribution of the data : | Dr. V K Shivgotra, Assistant Professor |  |
| 2022-01-11, Tuesday | Session 1 | 10:15 - 11:30 | 1. What is Statistical Sampling?2. How it is different from judgmental and convenience sampling.3. Advantage of statistical sampling4. What is Random sampling & concept of sampling frame? : | Dr. V K Shivgotra, Assistant Professor |  |
| | Session 2 | 11:45 - 13:00 | 1. Different techniques of statistical sampling: Simple Random Sampling (SRS), Systematic Random Sampling: concepts, definition & applicability2. Methodology of drawing samples using SRS & Systematic (both Linear Systematic and Circular Systematic) using, (a) Random Number Table & (b) IDEA package3. Estimation formulae for estimation of population average, total and proportion of an attribute & corresponding estimation of standard errors: | Dr. V K Shivgotra, Assistant Professor |  |

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| | | | (Only the formulae to be stated, without proof) : | | |
| | Session 3 | 14:00 - 15:15 | 1. Probability Proportional to Size (PPS) sampling: concept, definition & applicability2. Different techniques of drawing samples for PPS design (Cumulative total method, Prof. Lahiri's method of drawing samples)3. PPS- Systematic sampling & its method of drawing samples4. 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) 5. Problems on selection of samples & evaluation of few characters of interest using SRSWR, SRSWOR, System, PPS, and PPS- systematic design : | Dr. Sunil Kumar, Assistant Professor |  |
| | Session 4 | 15:30 - 16:45 | 1. Probability Proportional to Size (PPS) sampling: concept, definition & applicability2. Different techniques of drawing samples for PPS design (Cumulative total method, Prof. Lahiri's method of drawing samples)3. PPS- Systematic sampling & its method of drawing samples4. 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) 5. Problems on selection of samples & evaluation of few characters of interest using SRSWR, SRSWOR, System, PPS, and PPS- systematic design : | Dr. Sunil Kumar, Assistant Professor |  |
| 2022-01-12, Wednesday | Session 1 | 10:15 - 11:30 | 1. Stratification in sampling2. Cluster Sampling3. Stratification vs. Cluster sampling4. Advantages of stratification.5. Estimation formulae under stratification6. Demonstrate with examples(i) Multistage statistical sampling with particular reference to two-stage sampling: concepts & applicability(ii) Estimation formulae using two- stage design-1st stage as PPSWR and the 2nd stage as SRSWORSRSWOR in both the stages : | Dr. Sunil Kumar, Assistant Professor |  |
| | Session 2 | 11:45 - 13:00 | 1. Stratification in sampling2. Cluster Sampling3. Stratification vs. Cluster sampling4. Advantages of stratification.5. Estimation formulae under stratification6. Demonstrate with examples(i) Multistage statistical sampling with particular reference | Dr. Sunil Kumar, Assistant Professor |  |

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| | | | to two-stage sampling: concepts & applicability(ii) Estimation formulae using two- stage design-1st stage as PPSWR and the 2nd stage as SRSWORSRSWOR in both the stages : | | |
| | Session 3 | 14:00 - 15:15 | Practical:Selection of samples under a two- stage stratified design from a given set of data & estimation of two characteristics of the population from the selected sample : | Dr. Sunil Kumar, Assistant Professor |  |
| | Session 4 | 15:30 - 16:45 | Practical:Selection of samples under a two- stage stratified design from a given set of data & estimation of two characteristics of the population from the selected sample : | Dr. Sunil Kumar, Assistant Professor |  |
| 2022-01-13, Thursday | Session 1 | 10:15 - 11:30 | 1. Audit Samples:(a) What is statistical Audit Sampling?(b) Its advantages in audit(c) Risk of statistical sampling2. Attribute vs. Variable Sampling(a) Attribute sampling plan- determination of optimum sample size along with concepts of confidence level, precision & population deviation rate(b) Variable sampling plan- determination of optimum samples size along with concepts of confidence level, precision & population standard deviation(c) Un-stratified Mean Per Unit(d) Stratified Mean Per Unit : | Mr. Piyush Verma, Assistant Audit Officer |  |
| | Session 2 | 11:45 - 13:00 | 1. Audit Samples:(a) What is statistical Audit Sampling?(b) Its advantages in audit(c) Risk of statistical sampling2. Attribute vs. Variable Sampling(a) Attribute sampling plan- determination of optimum sample size along with concepts of confidence level, precision & population deviation rate(b) Variable sampling plan- determination of optimum samples size along with concepts of confidence level, precision & population standard deviation(c) Un-stratified Mean Per Unit(d) Stratified Mean Per Unit : | Mr. Piyush Verma, Assistant Audit Officer |  |
| | Session 3 | 14:00 - 15:15 | 1. Concept of alpha & beta risk & their relevance in audit hypothesis testing2. Concept of tolerable mis-statement & materiality in audit hypothesis testing3. Compliance test vs. Substantive test in audit 4. Monetary Unit Sampling (MUS) & demonstration of planning and selection of samples using IDEA5. Practical example of selection of samples using IDEA-MU : | Ms. Sanjana Kachroo, Senior Audit Officer |  |
| | Session 4 | 15:30 - 16:45 | 1. Concept of alpha & beta risk & their relevance in audit | Ms. Sanjana Kachroo, Senior Audit Officer |  |

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| 2022-01-14, Friday | Session 1 | 10:15 - 11:30 | Risk assessment & sampling in audit1. Risk based analysis & the risk model in audit2. Risk perception as input to statistical sampling3. Case StudiesDiscussion on risk assessment and statistical sampling with Case studies : | Ms. Sanjana Kachroo, Senior Audit Officer |  |
| | Session 2 | 11:45 - 13:00 | Risk assessment & sampling in audit1. Risk based analysis & the risk model in audit2. Risk perception as input to statistical sampling3. Case StudiesDiscussion on risk assessment and statistical sampling with Case studies : | Ms. Sanjana Kachroo, Senior Audit Officer |  |
| | Session 3 | 14:00 - 15:15 | Code of Ethics in IA&AD and Gender sensitisation : | Mr. Sanjay Bhan, Sr. Administrative Officer |  |
| | Session 4 | 15:30 - 16:00 | Exit test : | Mr. Sanjay Bhan, Sr. Administrative Officer | |
| | Session 5 | 16:15 - 16:45 | Summing up and Valediction : | Dr. Abhishek Gupta, Director General | |