## PhD Coursework- Jan 2025 Batch

## Research Methodology & Computer Application (PPD-101)

## (Common for Ph.D. Scholars)

## Assignment-3

## Unit.4 Methods of Data Collection, Unit.5 Processing & Analysis of Data

Q.1    What do you mean by Data? Differentiate between primary and secondary data.

Q.2    Write a short note on:

   (i)        Observation Method

   (ii)       Interview Method

   (iii)     Questionnaires & Schedules

   (iv)     Collection of Secondary Data

   (v)      Case Study Method

   (vi)     Characteristics of Good Measure

Q.3    Differentiate between:

   (i)        Qualitative Vs Quantitative Data

   (ii)       Obtrusive Vs Unobtrusive Methods

   (iii)     Survey Vs Experiments

   (iv)     Participatory methods Vs Community Meetings

   (v)      Laboratory Vs Field Research

   (vi)     Interview Vs Questionnaire

Q.4    What are different ways of observation? Give examples in each category.

Q.5    Describe how you might use a survey method to answer a research question. What might be some limitations of this approach?

Q.6    Describe how you might use public records to answer a research question. What might be some limitations of this approach?

Q.7    Discuss the importance of interview as a method of data collection.

Q.8    Discuss general rules for selecting data collection methods.

Q.9    What do you mean by Data Processing? Discuss in detail different steps involved in data processing with examples.

Q.10   Define and Differentiate Mean, Median and Mode. Give their merits and demerits.

Q.11   Write a descriptive note on:

   (i)        Central Tendency

   (ii)       Dispersion

   (iii)     Standard Deviation

    (iv)       Variance & Coefficient of Variation

    (v)       Pearson's Correlation Coefficient

    (vi)      Regression Analysis

**Q.12**    Distinguish 'data processing' from 'data analysis'.

**Q.13**    What is "Coding of Data"

**Q.14**    Enlist different necessary precautions during data processing & analysis.

**Q.15**    What do you mean by Data Analysis? Discuss different types of data analysis.

**Q.16**    The number of days that children were missing from school due to sickness in one year was recorded.

| Number of days off sick | 1 – 5 | 6 – 10 | 11 – 15 | 16 – 20 | 21 – 25 |
|---|---|---|---|---|---|
| Frequency | 12 | 11 | 10 | 4 | 3 |

(a)   Estimate the mean    (b)   Estimate the median.    (c)   Find the modal class.

**ANS: Mean= 9.925 days, Median= 9.36 days, Modal Class= 1-5 Days**

**Q.17**    Find the variance and standard deviation for the following data:

| No. of order | $f$ |
|---|---|
| 10 – 12 | 4 |
| 13 – 15 | 12 |
| 16 – 18 | 20 |
| 19 – 21 | 14 |
| Total | n = 50 |

**ANS: Variance= 7.5820, Standard Deviation= 2.75**

**Q.18**    Calculate the Chi-square value for the following data of incidences of water-borne diseases in three tropical regions.

|  | India | Equador | South America | Total |
|---|---|---|---|---|
| Typhoid | 31 | 14 | 45 | 90 |
| Cholera | 2 | 5 | 53 | 60 |
| Diarrhoea | 53 | 45 | 2 | 100 |
|  | 86 | 64 | 100 | 250 |

**ANS**: Chi-square value= 125.516

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