MEWAR UNIVERSITY
PhD Course Work
Research Methodology
ASSIGNMENT- III

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Q.1 (a) Explain the meaning and significance of the concept of
"Standard Error' in sampling analysis.
(c) Describe briefly the commonly used sampling distributions.

Q.2 Distinguish between the following:
- Statistic and parameter;
- Confidence level and significance level;
- Random sampling and non- random
- sampling; Sampling of attributes and
sampling of variables.

Q.3 (a) What are the different approaches of determining a sample size?
Explain.
(b) If we want to draw a simple random sample from a population of 4000 items, how large a sample do we need to draw if we desire to estimate the per cent defective within 2 % of the true value with 95.45% probability.

Q.4 Suppose a certain hotel management is interested in determining the percentage of the hotel's guests who stay for more than 3 days. The reservation manager wants to be 95 per cent confident that the percentage has been estimated to be within ± 3% of the true value. What is the most conservative sample size needed for this problem?

Q.5 Distinguish between the following:
- Directional and Non Directional Hypothesis;
- Null hypothesis and alternative hypothesis;
- One-tailed test and two-tailed test;
- Type I error and Type II error.

Q. 6 (a) What do you mean by the power of a hypothesis test? How can it be measured? Describe and illustrate by an example.
(b) Clearly explain how will you test the equality of variances of two normal populations?

Q. 7 Briefly describe the important parametric tests used in context of testing hypotheses. How such tests differ from non-parametric

tests?Explain.

Q. 8 (a) Point out the important limitations of tests of hypotheses. What precaution the researcher must take while drawing inferences as per the results of the said tests?

(b) What is a t-test? When it is used and for what purpose(s)? Explain by means of examples.

Q.9 (a) Write a brief note on t-test.
(b) What is Chi-square test? Explain its significance in statistical analysis.

Q. 10 Write short notes on the following:
- Additive property of Chi-square;
- Chi-square as a test of 'goodness of fit';
- Precautions in applying Chi-square test;
- Conditions for applying Chi-square test.

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