

द्वितीय पत्र (Paper II) : Technical Subject

Section (A) – 20 Marks

1. Concept of Measurement

- 1.1 Meaning of measurement
- 1.2 Types of measurement: Physical and psychological and their comparison
- 1.3 Scales of measurement
- 1.4 Errors of measurement and its computation
- 1.5 Ways for controlling error of measurement
- 1.6 Steps of psychological measurement
- 1.7 General problems of measurement

2. Concept of Test

- 2.1 Concept and use of test
- 2.2 Classical test theory: Concept and assumptions
- 2.3 Modern test theory: Concept and assumptions, Concept of One Parameter Logistic Model, Two Parameter Logistic Model and Three Parameter Logistic Model
- 2.4 Essential qualities of a good test: Reliability, validity, objectivity, comprehensiveness, representativeness, practicability
- 2.5 Types of test: Standardized and non-standardized test, individual and group test, norm referenced and criterion-referenced test
- 2.6 Issues of testing

Section (B) – 30 Marks

3. Technical Qualities of Test and Measurement

- 3.1 Concept of reliability
- 3.2 Methods for estimating reliability: Test retest method, parallel form method, split half method, Kuder Richardson formula, Coefficient α , Inter rater reliability (Concept and special consideration for estimating each type of reliability)
- 3.3 Concept of validity
- 3.4 Types of validity: Content validity, Criterion related validity, Construct validity and Validity based on consequence (Concept and special consideration for estimating each type of validity)
- 3.5 Ways for improving reliability and validity of a test

4. Achievement Tests

- 4.1 Concept of achievement test
- 4.2 Types of achievement test: Standardized achievement test and teacher made test
- 4.3 Tools for achievement test: Written test items and its types, oral test and written examination
- 4.4 Determining objectives
 - 4.4.1 Blooms taxonomy and its revision by Bloom and Anderson
 - 4.4.2 New taxonomy by Marzano and Kandell
- 4.5 Planning for test items based on above taxonomies
- 4.6 Preparing specification chart: Concept, model and special consideration for preparing specification chart

लोक सेवा आयोग

नेपाल शिक्षा सेवा, परीक्षण तथा मूल्याङ्कन समूह, शैक्षिक परीक्षण तथा मूल्याङ्कन उपसमूह, राजपत्राङ्कित तृतीय श्रेणी, शाखा अधिकृत वा सो सरह पदको खुला प्रतियोगितात्मक परीक्षाको पाठ्यक्रम

Section (C) – 20 Marks

5. Preparing items for achievement test

- 5.1 Writing objective test item: Multiple choice items, completion items, true and false items and matching items, subjective test items: Essay type items, short answer type items and very short type items
- 5.2 Item analysis: Concept, Item analysis in classical test theory: Item difficulty, item discrimination and power of distractors (Concept and computation), Item analysis in Modern test theory: Difficulty, discrimination and pseudo guessing (Concept only)
- 5.3 Consideration for planning and conducting an oral test
- 5.4 Designing a practical examination
- 5.5 Preparing a teacher made test: Determining objectives, specifying content, preparing specification chart, writing test item, item analysis, item assembly, preparing final form of the test
- 5.6 Implication of process of standardization for the preparation of a teacher made test
- 5.7 Item banking
- 5.8 Interpreting test result: Criterion based and norm based
- 5.9 Establishment of norms: Types, process and use
- 5.10 Types of marking and reporting systems for test results
- 5.11 Assigning letter grades
- 5.12 Concept of grade point average (GPA) and cumulative grade point average (CGPA)

Section (D) – 30 Marks

6. Statistical Analysis of Test Result

- 6.1 Concept and need of statistics in testing and assessment and its limitations
- 6.2 Tabulation and graphical presentation of data
- 6.3 Measure of central tendency: Mean, median and mode and their implications
- 6.4 Measures of dispersion: Range, quartile deviation, standard deviation and their implications
- 6.5 Measures of relationship: Pearson's product moment correlation, Spearman's rank correlation, point-biserial correlation and their implications
- 6.6 Inferential statistics: t and Z test, chi-square test

7. Research in Testing and Assessment

- 7.1 Meaning, importance and purposes of research in testing and assessment
- 7.2 Differences between evaluation and research
- 7.3 Program evaluation model: Stake's countenance and CIPP model of Daniel Stuffle beam
- 7.4 Types of research: Basic research, applied research, action research and formative research and their applications
- 7.5 Research design: Pre-experimental, quasi-experimental and experimental research design
- 7.6 Sampling in research: probabilistic and non-probabilistic sampling
- 7.7 Proposal writing
- 7.8 Report writing