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BRAINWARE UNIVERSITY

Term End Examination 2024-2025

Programme – M.Sc.(APSY)-2022/M.Sc.(APSY)-2023/M.Sc.(APSY)-2024

Course Name – Psychometry and Statistics in Applied Psychology

Course Code - APSY202

(Semester II)

Full Marks : 60

Time : 2:30 Hours

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group-A

(Multiple Choice Type Question)

1 x 15=15

1. Choose the correct alternative from the following :

- (i) Heterogeneity of tests estimate the degree to which a test measures _____.
 - a) Different factors
 - b) Reliability
 - c) Validity
 - d) Different items
- (ii) Select the correct option- Quantitative data can be expressed through _____.
 - a) Numbers
 - b) Percentage
 - c) Rates
 - d) All of these
- (iii) Select the correct option- human experiences are studied through _____.
 - a) Ethnographic study
 - b) Phenomenological study
 - c) Case studies
 - d) All of these
- (iv) Select which of following is not a limitation of the qualitative research?
 - a) The approach is inflexible as well as rigid
 - b) Lack of transparency
 - c) Difficult of replicate
 - d) Subjective and impressionistic.
- (v) Select the correct option- ethnographic studies do not include _____.
 - a) Value neutrality
 - b) Fields notes
 - c) Participants observation
 - d) Object analysis
- (vi) Select the correct option- case studies explore _____.
 - a) Single entity
 - b) Phenomenon
 - c) Only single entity is correct
 - d) Single entity and phenomenon are correct
- (vii) Select the correct option- Internal consistency concerns whether the various items on a test measures the same thing?
 - a) True
 - b) False

- c) Cannot say
d) Sometimes true and sometimes false
- (viii) Identify the psychologist who introduced the concept of deviation IQ.
- a) Terman
b) Wechsler
c) Cattell
d) Wundt
- (ix) Select the key reason why measurement is essential in psychological research.
- a) To confuse study participants
b) To ensure consistency and reliability
c) To introduce bias in data collection
d) To discourage accurate data representation
- (x) Select the correct statement regarding the levels of measurement.
- a) Ordinal is the highest level of measurement.
b) Interval measurement has an arbitrary zero point.
c) Nominal data involves meaningful numerical values.
d) Ratio measurement lacks a true zero point.
- (xi) Identify the level of measurement that has a true zero point representing the absence of the measured attribute.
- a) Nominal
b) Ordinal
c) Interval
d) Ratio
- (xii) Classify the psychological principle that describes the logarithmic relationship between the intensity of a stimulus and the magnitude of sensation.
- a) Weber's Law
b) Fechner's Law
c) Steven's Law
d) Freud's Law
- (xiii) Identify the type of testing that compares an individual's performance to a predetermined criteria or level of performance.
- a) Criterion-referenced testing
b) Norm-referenced testing
c) Standardized testing
d) Experimental testing
- (xiv) Select the term associated with evaluating an individual's performance in relation to the performance of a group.
- a) Norm-referenced testing
b) Criterion-referenced testing
c) Absolute testing
d) Reliability testing
- (xv) Identify the phenomenon where a stimulus is below the absolute threshold and cannot be consciously perceived.
- a) Differential threshold
b) Subliminal perception
c) Sensory adaptation
d) Perceptual set

Group-B

(Short Answer Type Questions)

$$3 \times 5 = 15$$

2. Explain the Weber's law (3)
3. Distinguish between speed test and power test. (3)
4. Write the names of different types of validity and classify them as required. (3)
5. Describe criterion related validity. (3)
6. A researcher was interested in studying the relationship between success in a job and the training received. He collected data regarding these and treated them as the two main variables and added a third variable, "interest" (measured by interest inventory). The correlations among these variables were $r_{12} = 0.41$, $r_{13} = 0.50$, $r_{23} = 0.16$. This data enabled him to compute the multiple correlation coefficient and thus to find out the relationship between success in the job and the combined effect of the two independent variables- "training" and "interest". Solve and find the value of the correlation coefficient in his study. (3)

OR

X_1 represents score on achievement test (dependent variable) and X_2 and X_3 indicates scores on intelligence and (3) study hours (Independent variable). The other related values needed are:

SD of score $X_1 = 13.65$

$r_{12} = 0.41$

$r_{13} = 0.50$

$B_{12.3} = 0.338$

$B_{13.2} = 0.446$

Solve to find the estimated X_1 .

Group-C

(Long Answer Type Questions)

5 x 6=30

7. Describe what does a good test have? (5)
8. Differentiate between qualitative and quantitative methods of analyzing research data. (5)
9. Explain open, axial, and selective coding. (5)
10. The opinions of 90 unmarried persons and 100 married persons were secured on an attitude scale. The data were collected as shown in the tabular matter (5)

	Agree	Disagree	No opinion	Total
Unmarried	14	66	10	90
Married	27	66	7	100
Total	41	132	17	190

Solve to see that the data indicate a significant difference in opinion in terms of marital status of the individuals or not ?

11. The mothers of two hundred adolescents (some are graduates and others non-graduates) were asked whether they agree or disagreed on a certain aspect of adolescent behavior. The data collected are as follows: (5)

	Agree	Disagree	Total
Graduate mothers	38	12	50
Non graduate mothers	84	66	150
Total	122	78	200

Solve to see that the attitude of these mothers are related to their being graduates or non-graduates?

12. Write the methods of improving effectiveness of rating scale. (5)

OR

Write about NEO 5 inventory. (5)
