

Branch- **APPLIED PSYCHOLOGY**
PSYCHOMETRIC METHODS & STATISTICS

Time: Three Hours

Maximum: 75 Marks

SECTION-A (10 Marks)

Answer **ALL** questions

ALL questions carry **EQUAL** marks

(10 × 1 = 10)

Question No.	Question	K Level	CO
1	The smallest amount of stimulus energy that can be detected is called: a) Difference threshold b) Absolute threshold c) Terminal threshold d) Minimal change	K1	CO2
2	Weber's Law is expressed as: a) $\Delta R = kR$ b) $S = k \log R$ c) $R = kS^2$ d) $\Delta S = kR^2$	K2	CO2
3	Which of the following research types aims to find the cause-and-effect relationship between variables? a) Descriptive research b) Comparative research c) Inferential research d) Predictive research	K1	CO2
4	Which type of data consists of distinct categories without any numerical meaning? a) Continuous data b) Categorical data c) Metric data d) Random data	K2	CO2
5	Which of the following measures is not a measure of central tendency? a) Mean b) Median c) Mode d) Range	K1	CO3
6	The coefficient of variation (CV) is used to measure: a) Central tendency b) Correlation between variables c) Relative variability d) Sampling error	K2	CO3
7	Which of the following errors occurs when a true null hypothesis is rejected? a) Type I error b) Type II error c) Sampling error d) Standard error	K1	CO2
8	The Chi-square test is mainly used for: a) Testing mean differences b) Testing relationships between categorical variables c) Measuring correlation d) Analyzing regression coefficients	K2	CO2
9	Which of the following scales in Steven's hierarchy represents data with a true zero point? a) Nominal scale b) Ordinal scale c) Interval scale d) Ratio scale	K1	CO3
10	The degree to which a test measures what it claims to measure is known as: a) Reliability b) Validity c) Standardization d) Objectivity	K2	CO3

Cont...

ALL questions carry EQUAL Marks (5 × 7 = 35)

Question No.	Question	K Level	CO
11.a.	Analyse the different types of thresholds in psychometry with suitable examples.	K4	CO2
	(OR)		
11.b.	Differentiate any two methods used in psychometry for measuring thresholds.		
12.a.	Examine the need for understanding statistics in psychological research.	K3	CO2
	(OR)		
12.b.	Distinguish between metric and non-metric data in psychological research with examples.		
13.a.	Distinguish the measures of central tendency with their significance in data analysis.	K4	CO3
	(OR)		
13.b.	Elucidate the measures of variability and their importance.		
14.a.	Distinguish one-tailed and two-tailed hypothesis tests with examples.	K4	CO3
	(OR)		
14.b.	Analyse the non-parametric tests and mention any two with their applications.		
15.a.	Assess the Steven's hierarchy of scales with suitable examples.	K4	CO3
	(OR)		
15.b.	Elucidate the concept reliability and explain any two methods of estimating it.		

SECTION -C (30 Marks)

Answer **ANY THREE** questions

ALL questions carry EQUAL Marks (3 × 10 = 30)

Question No.	Question	K Level	CO
16	Explain psychophysics and explain Weber's Law, Fechner's Law, and the concept of JND and JNND.	K3	CO2
17	Appraise constructs and concepts in psychological research and explain the difference between constructive and operational definitions of variables.	K4	CO3
18	Appraise the concept normal distribution, its properties, and the methods of testing normality of data.	K5	CO3
19	Compare ANOVA and Regression Analysis with their types and uses in psychological research.	K5	CO3
20	Justify the principles of test construction and explain the processes of validity, standardization, and norm development in psychological testing.	K5	CO3

Z-Z-Z END