



BRAINWARE UNIVERSITY

Term End Examination 2024-2025

Programme – B.Sc.(PSY)-Hons-2023

Course Name – Psychophysics

Course Code - BPY30108

(Semester III)

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) Identify the scientist who is considered the founder of psychophysics
 - a) Wilhelm Wundt
 - b) Sigmund Freud
 - c) Gustav Theodor Fechner
 - d) Ernst Heinrich Weber
- (ii) Identify the stage where raw sensory data is transformed into meaningful experiences
 - a) Sensation
 - b) Perception
 - c) Transduction
 - d) Adaptation
- (iii) Identify the range of stimulus intensities typically used in the Method of Constant Stimuli
 - a) 2 to 5 levels
 - b) 3 to 7 levels
 - c) 5 to 9 levels
 - d) 10 to 15 levels
- (iv) Select the reason why the Method of Constant Stimuli is considered precise and accurate
 - a) It uses a single stimulus intensity
 - b) It tests multiple intensities repeatedly
 - c) It adjusts intensity based on responses
 - d) It uses only subjective measures
- (v) Identify the trial sequence where intensity starts high and decreases until the participant can no longer detect the stimulus
 - a) Ascending trial
 - b) Descending trial
 - c) Randomized trial
 - d) Control trial
- (vi) Identify a common source of error in the Method of Limits
 - a) Random selection of stimulus intensities
 - b) Participant anticipation
 - c) Lack of stimulus control
 - d) Overuse of high-intensity stimuli
- (vii) Select the main purpose of unsupervised learning.
 - a) To predict outcomes
 - b) To find hidden patterns in data
 - c) To provide feedback
 - d) To classify labeled data
- (viii) Select the technique that enables machines to understand human language.
 - a) Image processing
 - b) Natural language processing

- c) Data analysis
d) Sound recognition
- (ix) Name the type of AI used for specific, narrow tasks.
a) General Intelligence
b) Weak AI
c) Strong AI
d) Feature layer
- (x) Select the decision outcome that occurs when there is no signal and the observer correctly identifies its absence.
a) Correct rejection
b) Sensitivity
c) Decision threshold
d) Hit rate
- (xi) Select the psychophysical method commonly used in organizational psychology to assess job-related stress thresholds.
a) Method of Adjustment
b) Method of Limits
c) Weber-Fechner Law
d) Differential Threshold
- (xii) Select the psychophysical method used to measure how small shifts in workplace environment (such as lighting) impact employee performance.
a) Method of Adjustment
b) Method of Limits
c) Differential Threshold
d) Terminal Threshold
- (xiii) Select the best scenario for applying the method of adjustment in research.
a) Testing how participants perceive brightness differences
b) Measuring the threshold for hearing different frequencies
c) Determining the pain threshold using varying intensities of stimuli
d) Comparing two brands of products based on consumer preference
- (xiv) Select the outcome of effective paired comparison testing in market research.
a) Determining consumer preferences for new products
b) Measuring emotional responses to advertising
c) Establishing pricing strategies
d) Evaluating the effectiveness of marketing campaigns
- (xv) Select the reason why paired comparison is considered a robust method in psychophysics.
a) It requires minimal participant engagement
b) It produces more reliable data than single-stimulus methods
c) It allows for quick measurements of absolute thresholds
d) It is less dependent on subjective perception

Group-B

(Short Answer Type Questions)

3 x 5=15

2. Define weber's law. (3)
3. Define the absolute threshold. (3)
4. Explain the strengths of the pain gate theory in psychophysical research. (3)
5. Explain the Differential Threshold in short. (3)
6. Write about how the method of constant stimuli is used in determining sensory thresholds. (3)

OR

Write about the application of the method of limits in clinical settings. (3)

Group-C

(Long Answer Type Questions)

5 x 6=30

7. Write a short note on gustav fechner. (5)
8. Compare Just Noticeable Difference and Terminal Threshold in Psychophysics. (5)
9. Explain and Compare the use of psychophysics in management settings versus marketing strategies. (5)
10. Explain and Differentiate between signal and noise in the context of Signal Detection Theory. (5)

11. Explain the Pain Gate Theory and its significance in understanding pain perception. (5)
12. Write a brief essay discussing the advantages and disadvantages of the Method of Constant Stimuli in psychophysical research. (5)

OR

Express the relevance of the Method of Limits in understanding human sensory perception in everyday life. (5)

Library

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