INDRAPRASTHA INSTITUTE *of* INFORMATION TECHNOLOGY
DELHI

PSY 305/50
Attention & Perception
Winter 2024
Mid-Term Examination

Name :

Roll Number :

Section –A: Single choice/answer questions (12 Marks)

Attempt any 12 questions **12 X 1 marks**

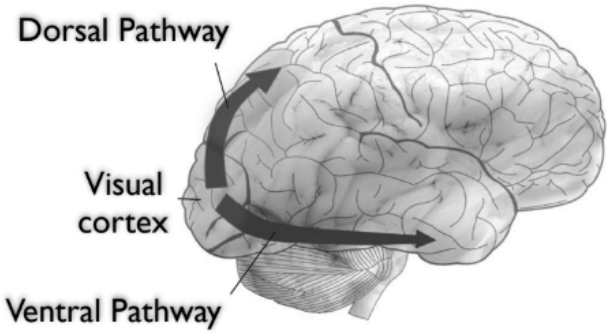
Choose the most appropriate option

1. What type of recording involves measuring the electrical activity outside neurons, typically through the use of microelectrodes?
   a) Intracellular recording
   b) Extracellular recording
   c) fMRI
   d) Pupillometry

2. In a visual search experiment, participants are asked to locate a target item within an array of distractors. The experiment includes two conditions: Feature Search and Feature Conjunction Search. In which condition is the target distinguished from distractors based on a single, salient feature?
   a. Feature Search
   b. Feature Conjunction Search
   c. Both conditions equally
   d. Neither condition

3. In an art gallery, John is captivated by the vibrant colors of a painting, paying little attention to the overall scene. This situation exemplifies:
   a) Object-based Attention
   b) Divided Attention
   c) Feature-based Attention
   d) Inattentiveness

4. In a neuroscience experiment investigating attentional processes, researchers focus on the dorsal and ventral streams. Participants are presented with visual stimuli, and their attentional mechanisms are closely observed. What might be a specific task that predominantly engages the dorsal stream of attention?



A) Recognizing and identifying various colors in the stimuli.
B) Judging the spatial location and motion of moving objects.
C) Discriminating between different shapes and patterns.
D) Processing and interpreting the emotional expressions of faces.

5. True or **false**:
The Zoom Lens Model of attention describes attention as a rigid spotlight on a stage play, which can only illuminate a fixed area broadly or narrowly.

6. In a study exploring the relationship between the area of attention and attentional resources, participants are engaged in a task requiring focused attention. The researchers manipulate the availability of attentional resources across different conditions. How does the area of attention vary?
A) The area of attention expands as attentional resources increase.
B) The area of attention remains constant regardless of attentional resources.
C) The amount of attentional resources are more when the area of attention contracts.
D) The area of attention shows no consistent pattern of change with attentional resource manipulation.

7. In an attention experiment utilizing endogenous cues, participants are instructed to respond to the presence of a white letter target among black letters, with the task details revealed before the experiment. The cue for detecting the white letter is the specific color white; participants know this cue in advance. What distinguishes endogenous attention in this scenario?

A) The cue is processed involuntarily, guiding attention automatically.
B) Attention is intentionally directed based on cues known prior to the experiment.

C) The task details are kept undisclosed, allowing for spontaneous attentional shifts.
D) The detection of the white letter relies solely on involuntary processes.

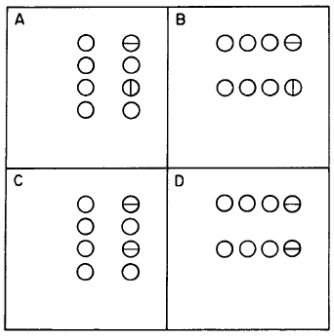
8. In the study by Posner, Snyder, and Davidson (1980) investigating attention and the detection of signals, participants were presented with cues and LEDs, and cue validity was manipulated. What key findings emerged from the study regarding cue validity and attention?
   A) Attention was consistently unaffected by cue validity.
   B) Equal probabilities of target appearance at attended locations resulted in higher accuracy.
   C) Unequal probabilities of target appearance influenced reaction times but not accuracy.
   D) Blocked conditions with high cue validity did not impact participants' attention.

9. In an experiment investigating the relationship between response time (RT) and cue validity, participants are presented with cues of varying validity before responding to a target. How does RT behave in relation to validity?
   A) RT remains constant regardless of changes in validity.
   B) RT increases as validity increases.
   C) RT fluctuates randomly with changes in validity.
   D) RT decreases as validity increases.

10. John participates in an experiment where he is asked to detect the minimum brightness change in a visual stimulus. This experiment is likely measuring his:
    a) Reaction Time
    b) PSE
    c) JND
    d) Late Selection view

11. During a crime scene investigation, Detective Smith notices a crucial piece of evidence on a table among various items. This exemplifies:
    a) Feature-based Attention
    b) Selective Attention
    c) Divided Attention
    d) Object-based Attention

12. In the context of William Prinzmetal's 1981 study on feature integration in visual perception, participants were exposed to conjunction errors of target percept, specifically in the same (A&C in figure below) or different (B&D in figure below) perceptual groups. If feature integration is determined to be location-based, what outcome is expected in terms of errors for the same and different perceptual groups?



A) No difference in errors between the same and different perceptual groups.

B) Higher errors for the same perceptual group than for the different group.

C) Lower errors for the same perceptual group than for the different group.

D) Errors are unrelated to the feature integration being location-based.

13. During a Psychological Refractory Period (PRP) experiment, participants are asked to respond to two consecutive auditory tones. What is observed when the second tone closely follows the first?

    a) Faster response to the second tone

    b) Slower response to the second tone

    c) No difference in response time between tones

    d) Improved accuracy in responding to the second tone

14. What is the primary characteristic of Selective Attention in cognitive psychology?

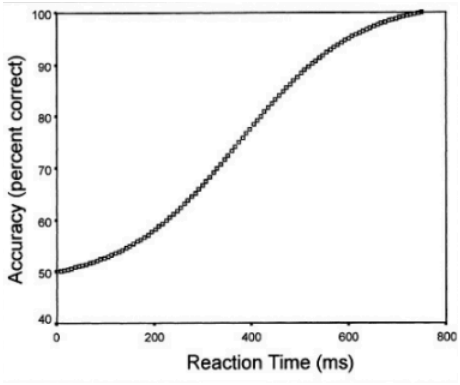
    a) The ability to focus on multiple stimuli simultaneously.

    b) Distributing attention evenly across the entire visual field.

    c) The capacity to filter and concentrate on behaviourally relevant stimuli while ignoring others.

    d) **The capacity to filter and concentrate on specific stimuli while ignoring others.**

15. Looking at the graph below, determine which of the following statements is incorrect.



a) The graph represents Speed - Accuracy tradeoff.

b) Increased response time is associated with decreased performance accuracy

c) The S-shaped form of the function reflects that when RTs are relatively fast, any decreases in RT are accompanied by large costs in accuracy.

d) Response decisions are made slowly with high accuracy or fast with high error rate.