

UNIVERSITY OF GREATER MANCHESTER

SCHOOL OF PSYCHOLOGY

PSYCHOLOGY PATHWAYS

SEMESTER TWO EXAMINATION 2024/25

**COGNITIVE AND BIOPSYCHOLOGICAL
PERSPECTIVES**

MODULE NO: PSC4003

Date: 15th May 2025

Time: 10:00am-12:00pm

INSTRUCTIONS TO CANDIDATES:

Candidates are advised that the examiners attach importance to legibility of writing and clarity of expression. **YOU ARE STRONGLY ADVISED TO PLAN YOUR ANSWERS.**

There are 60 questions on this paper. Answer **ALL** the questions.

All questions carry equal marks.

Write your answers in the answer booklet provided. Any answers not written in the answer book will not be marked.

Both question paper and answer book must be handed in at the end of the examination.

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QUESTIONS

1. Cognitive Psychology can be described as:
 - a. The scientific study of Mental Health
 - b. The scientific study of Mental Structure
 - c. The scientific study of Mental Biology
 - d. The scientific study of Mental Processes
2. Cognitive Psychology studies mental processes by:
 - a. Measuring emotions during cognitive tasks
 - b. Measuring somatic data during cognitive tasks
 - c. Measuring performance during cognitive tasks
 - d. Measuring neural processes during cognitive tasks
3. Which of the following provides a theoretical framework for the scientific study of cognition?
 - a. Information Processing
 - b. Information Theory
 - c. Information Technology
 - d. Information Management
4. In an experimental study, the variable being manipulated is the:
 - a. Independent variable
 - b. Dependent variable
 - c. Extraneous variable
 - d. Dummy variable
5. Which of the following describes Cognitive Neuroscience's strategy to study cognition?
 - a. Study the performance of healthy Humans on cognitive tasks
 - b. Study the performance of computer models on cognitive tasks
 - c. Study the performance of brain damaged individuals on cognitive tasks
 - d. Study the performance of non-Human animals on cognitive tasks
6. The internal representations of the world and concepts associated with perception are best described as:
 - a. Exact illustrations
 - b. Subjective models
 - c. Mirror images
 - d. Passive reflections

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7. Processing that involves making inferences based on previous knowledge can be described as:
 - a. Bottom-up processing
 - b. Top-down processing
 - c. Serial processing
 - d. Parallel processing
8. Which type of processing is illustrated by visual illusions like the Necker Cube and the Hollow Face?
 - a. Passive processing
 - b. Bottom-up processing
 - c. Top-down processing
 - d. Graphemic processing
9. According to Gregory's (1966) theory, perception is best understood as:
 - a. Direct and passive
 - b. Indirect and passive
 - c. Direct and active
 - d. Indirect and active
10. Which of the following models of object recognition relies on *geons* as the units of recognition?
 - a. Template Matching
 - b. Feature Analysis
 - c. Recognition by Components
 - d. Marr's 3-D Model
11. Attention is process characterised by a combination of:
 - a. Focus and selection
 - b. Focus and withdrawal
 - c. Focus and processing
 - d. Focus and forgetting
12. Which of the following is an example of Bottom-up attention?
 - a. Endogenous Attention
 - b. Exogenous Attention
 - c. Limited Attention
 - d. Unsustained Attention

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13. What type of processing takes place before an attentional bottleneck?
- Bottom-up
 - Top-down
 - Parallel
 - Serial
14. According to Broadbent's Filter Theory, what happens to unattended information?
- Is discarded from further processing
 - Is processed at a semantic level
 - Is processed at a conscious level
 - Is processed at an unconscious level
15. According to Treisman's (1964) theory of selective attention, what happens to unattended messages?
- Are filtered out before sensory processing
 - Are filtered out after sensory processing
 - Are processed in an attenuated state
 - Are processed in full
16. Which of the following accounts for the possibility of information not processed at a conscious level having an effect on behaviour?
- Broadbent's Filter Model
 - Treisman's Attention Model
 - Deutsch & Deutsch's Late Selection Model
 - Neisser's Synthesis Model
17. In memory, the process of translating a visually presented word into a sound is an example of:
- Encoding
 - Consolidation
 - Storage
 - Retrieval
18. What process is associated with forgetting items in the Short Term Memory store?
- Trace decay
 - Disintegration
 - Displacement
 - Interference

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19. In what memory store is the information preferably kept in a phonological format?
- a. Sensory Memory
 - b. Short-Term Memory
 - c. Working Memory
 - d. Long-Term Memory
20. Errors in recall based on a stimulus' meaning suggests that the information was coded:
- a. Visually
 - b. Phonologically
 - c. Semantically
 - d. Abstractly
21. In the Working Memory model, remembering visual information is a task of the:
- a. The Central Executive
 - b. The Visuo-spatial Sketchpad
 - c. The Phonological Loop
 - d. The Episodic Buffer
22. In the Working Memory, binding different aspects of information, such as the sound and the meaning of words, is a task for the...:
- a. The Central Executive
 - b. The Visuo-spatial Sketchpad
 - c. The Phonological Loop
 - d. The Episodic Buffer
23. In the Serial Position Effect, the Primacy Effect can be explained by:
- a. Information that is still present on the STM store
 - b. Information that has been processed and transferred to the LTM store
 - c. Information that is available at an unconscious level
 - d. Information that is being actively encoded into semantic networks
24. Which of the following is an example of Procedural Memory?
- a. Knowing how to ride a bicycle
 - b. Knowing what you had for breakfast yesterday
 - c. Knowing that Paris is the capital of France
 - d. Knowing the answer to this question

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25. Which of the following is an example of non-associative learning?
- a. Classical Conditioning
 - b. Operant Conditioning
 - c. Habituation
 - d. Imprinting
26. A deficit in forming new memories is described as:
- a. Dissociative Amnesia
 - b. Childhood Amnesia
 - c. Anterograde Amnesia
 - d. Retrograde Amnesia
27. Executive Functions are essential for situations requiring:
- a. Automatic responses
 - b. Well learned sequences of behaviour
 - c. Prepotent behaviours
 - d. Behavioural flexibility
28. What is the *Contention Scheduling* bias mechanism responsible for implementing?
- a. Familiar and simple actions
 - b. Novel and complex actions
 - c. Dangerous and hazardous actions
 - d. All types of actions
29. According to Norman and Shallice's (1986) *Supervisory Attentional Model*, Schema Control Units are:
- a. Internal representations of objects
 - b. Internal representations of people
 - c. Internal representations of actions
 - d. Internal representations of places
30. The notion that previously experienced bodily responses influence behavioural decisions is the hallmark of:
- a. The Working Memory Model
 - b. The Supervisory Attentional Model
 - c. The Somatic Marker Hypothesis
 - d. The Cascade of Control Model

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31. Which of the following is the division of the nervous system linked to cognitive processes?
- a. Sympathetic nervous system
 - b. Parasympathetic nervous system
 - c. Somatic nervous system
 - d. Central nervous system
32. Which type of nerve originates from the eye?
- a. Optic nerve
 - b. Sciatic nerve
 - c. Cranial nerve
 - d. Dorsal nerve
33. Which of the following brain structure is part of the limbic system
- a. Hippocampus
 - b. Pons
 - c. Cortex
 - d. Pineal gland
34. Which of part of the central nervous system is the interface between the spinal cord and brain ?
- a. Brain stem
 - b. Limbic system
 - c. Cingulate
 - d. Corpus callosum
35. What is the general location of the 'where pathway' of the visual system?
- a. Parietal
 - b. Occipital
 - c. Temporal
 - d. Limbic
36. Action potentials start at the :
- a. Nucleus
 - b. Axon hillock
 - c. Axon terminus
 - d. Soma

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37. The resting potential of the neuron is measured at approximately?
- a. - 70 mV
 - b. 0 mV
 - c. 40 mV
 - d. - 55mV
38. Hyperpolarisation describes the charge inside the neuron becoming:
- a. More negative
 - b. More positive
 - c. Neutral
 - d. Positive to neutral
39. Na is the symbol for the _____ ion?
- a. Steam
 - b. Chlorine
 - c. Anion
 - d. Sodium
40. What are Endorphins a type of?
- a. Monoamine
 - b. Neuropeptide
 - c. Hormone
 - d. Cell
41. The sodium-potassium pump depends on ____ for energy ?
- a. DNA
 - b. ATP
 - c. RNA
 - d. Sucrose
42. What is the most commonly occurring neurotransmitter in the mesolimbic pathway?
- a. Substance K
 - b. Glutamate
 - c. Dopamine
 - d. Amino acid

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43. Schwann cells can 'manufacture':

- a. Dendrites
- b. Myelin
- c. ATP
- d. Spines

44. What is Tryptophan a precursor of?

- a. Serotonin
- b. A seizure
- c. An Action potential
- d. A reflex

45. The layer of fat around the axon is called:

- a. Boutons
- b. Spines
- c. Nodes of Ranvier
- d. Myelin

46. Which of the following is part of the spinal column ?

- a. Neuromuscular junction
- b. Dorsal horn
- c. Diencephalon
- d. Cranial nerves

47. A major pathway in the spine is the _____ tract.

- a. Sacral minor
- b. Corticospinal
- c. Spinal major
- d. Cairo junction

48. Coordination of repetitive actions are associated with the:

- a. Occipital lobe
- b. Cerebellum
- c. Caudate
- d. Amygdala

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49. Outgoing motor impulses are dependent on:
- a. Sympathetic to parasympathetic pathways
 - b. Neural networks
 - c. Efferent pathways
 - d. Afferent pathways
50. Which of the following is linked to the monoamine hypothesis?
- a. Addiction
 - b. Depression
 - c. Schizophrenia
 - d. Personality disorders
51. A class of anti-depressants are the Monoamine Oxidase_____?
- a. Boosters
 - b. Inhibitors
 - c. SSRIs
 - d. Gated channels
52. Modern anti-depressants act as:
- a. GABA antagonists
 - b. Serotonin agonists
 - c. Glutamate agonists
 - d. Chloride agonists
53. How medications act on the body is called ?
- a. Pharmodiverse
 - b. Pharmokinetics
 - c. Pharmopositive
 - d. Pharming
54. Sudden increases in dopamine in the _____ are associated with a sense of reward :
- a. Fusiform gyrus
 - b. Superior temporal sulcus
 - c. Nucleus Accumbens
 - d. Pons

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55. Which of the following, when used in excess, is associated with a type of psychosis?
- a. Glutamate
 - b. Amphetamines
 - c. GABA
 - d. Caffeine
56. Haloperidol is used in the treatment of:
- a. Psychosis
 - b. Pain
 - c. Anorexia
 - d. Movement disorders
57. With which pathway are movement issues in Parkinson's disease thought to be associated with:
- a. Mesocortical
 - b. Nigrostriatal
 - c. Visual
 - d. Auditory
58. Which of the following describes a positive symptom of schizophrenia?
- a. Feeling calm
 - b. Disordered thinking
 - c. Anhedonia
 - d. Creativity
59. A common cause of psychosis is:
- a. Decrease in impulse control
 - b. Raised hormone levels
 - c. Raised heart rate
 - d. Increased dopamine levels
60. _____ is a demyelinating disorder of the central nervous system.
- a. Guillain-Barre syndrome
 - b. Multiple sclerosis
 - c. Parkinson's
 - d. Alzheimer's

END OF QUESTIONS