

UNIVERSITY OF BOLTON

SCHOOL OF EDUCATION AND PSYCHOLOGY

PSYCHOLOGY PATHWAYS

SEMESTER 2 EXAMINATION
2021/2022

COGNITIVE AND BIOPSYCHOLOGICAL
PERSPECTIVES

MODULE NO: PSC4003

Date: Tuesday 17th May

Time: 2.00pm – 4.00pm

INSTRUCTIONS TO CANDIDATES:

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.

University of Bolton
School of Education and Psychology
Psychology Pathways
Semester 2 Examination 2021/2022
Cognitive and Biopsychological Perspectives
Module No: PSC4003

1. Which of the following best describes Cognitive Psychology?
 - a. The scientific study of Mental Structure
 - b. The scientific study of Mental Health
 - c. The scientific study of Mental Processes
 - d. The scientific study of Mental Arithmetic

2. Why is the measurement of behaviour during the performance of cognitive tasks important for Cognitive Psychology?
 - a. It provides data regarding underlying mental processes
 - b. It provides data regarding stimulus-response associations
 - c. It provides data regarding the neural basis of cognition
 - d. It provides data regarding specific behaviours

3. Why is the information processing view of the Mind essential for Cognitive Psychology?
 - a. It offers a literal description of how the Mind is structured
 - b. It offers an untestable hypothesis to understand the Mind
 - c. It offers a theoretical framework to describe the functioning of the Mind
 - d. It offers a starting point from which to study behaviour

4. Which of the following assumptions is essential to Cognitive Psychology's aim to understand the Mind?
 - a. Information processing is unlimited
 - b. Information processing is exclusively data-driven
 - c. Information processing is exclusively concept-driven
 - d. Information processing is lawful

5. Which of the following disciplines studies patients with brain lesions in order to understand cognition?
 - a. Cognitive dissonance
 - b. Cognitive modelling
 - c. Cognitive simulation
 - d. Cognitive neuroscience

6. The idea that perception involves actively creating internal representations of the world implies that these representations are:
 - a. Subjective models of the physical world
 - b. Mirror images of the physical world
 - c. Exact illustrations of the physical world
 - d. Passive reflections of the physical world

Please turn the page

University of Bolton
School of Education and Psychology
Psychology Pathways
Semester 2 Examination 2021/2022
Cognitive and Biopsychological Perspectives
Module No: PSC4003

7. Which of the following distinguishes bottom-up processing from top-down processing?
 - a. Sensory information is actively processed
 - b. It relies on stored concepts
 - c. Involves making inferences from sensory data
 - d. Depends exclusively on sensory data

8. Which type of processing is illustrated by Visual Illusions?
 - a. Bottom-up
 - b. Top-down
 - c. Passive
 - d. Parallel

9. Texture Gradients, according to Gibson's (1966) theory of direct perception, is an example of:
 - a. A theory-driven notion of distance
 - b. A data-driven notion of distance
 - c. A socially-constructed notion of distance
 - d. A concept-based notion of distance

10. According to Gregory's theory, perception is best conceptualised as:
 - a. Direct and passive
 - b. Indirect and active
 - c. Direct and active
 - d. Indirect and passive

11. In Object Recognition, which of the following theories cannot adequately account for non-canonical representations of prototypical objects?
 - a. Template Matching
 - b. Feature Analysis
 - c. Recognition by Components
 - d. Computational Models

12. Top-down processing is illustrated by which type of attention?
 - a. Voluntary Attention
 - b. Involuntary Attention
 - c. Exogenous Attention
 - d. Unsustained Attention

University of Bolton
School of Education and Psychology
Psychology Pathways
Semester 2 Examination 2021/2022
Cognitive and Biopsychological Perspectives
Module No: PSC4003

13. What type of information processing occurs before an Attentional Bottleneck?
- Serial
 - Parallel
 - Bottom-up
 - Top-down
14. According to Broadbent's Filter Theory, which of the following stimuli is more likely to be noticed when presented to the unattended channel during a dichotic listening task?
- Words spoken by a different speaker
 - Words spoken in a different language
 - The participant's name
 - Words that are semantically related to the attended message
15. According to Treisman's (1964) theory of selective attention, at what level of processing does selection of information occur?
- Physical
 - Sensorial
 - Perceptual
 - Semantic
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 Attenuation Model
 - Deutsch & Deutsch's Late Selection Model
 - None
17. In what Memory store is the information kept in the sensory modality in which it was detected?
- Sensory
 - Short-Term
 - Long-Term
 - Phonological Loop
18. In Memory, converting written words into sounds is an example of:
- Encoding
 - Consolidation
 - Storage
 - Retrieval

Please turn the page

University of Bolton
School of Education and Psychology
Psychology Pathways
Semester 2 Examination 2021/2022
Cognitive and Biopsychological Perspectives
Module No: PSC4003

19. A recall task characterized by a pattern of errors that is based on the stimuli's acoustic properties suggests that information was coded:
- Visually
 - Semantically
 - Phonologically
 - Abstractly
20. The Working Memory model suggests that the rehearsal of visually encoded information is carried out by:
- The Central Executive
 - The Visuo-spatial Sketch Pad
 - The Phonological Loop
 - The Episodic Buffer
21. How can the recency effect be explained?
- Information that is still present on the STM store
 - Information that has been processed and transferred to the LTM store
 - Information that is available at an unconscious level
 - Information that is being actively encoded into semantic networks
22. Which of the following is an example of a Semantic Memory?
- Knowing how to ride a bicycle
 - Knowing what you had for breakfast yesterday
 - Knowing that Paris is the capital of France
 - Knowing what the weather was like on the day you graduated
23. From the following, which one is an example of a type of Non-declarative Long-Term Memory?
- Episodic Memory
 - Perceptual Priming
 - Semantic Memory
 - Autobiographic Memory
24. Which of the following describes a deficit in forming new memories?
- Anterograde Amnesia
 - Retrograde Amnesia
 - Dissociative Amnesia
 - Childhood Amnesia

Please turn the page

University of Bolton
School of Education and Psychology
Psychology Pathways
Semester 2 Examination 2021/2022
Cognitive and Biopsychological Perspectives
Module No: PSC4003

25. Executive Function are associated with the activity of:
- The Occipital Lobe
 - The Superior Temporal Lobe
 - The Temporo-parietal Junction
 - The Prefrontal Cortex
26. Which types of behaviour are associated with Executive Function?
- Automatic responses to environmental stimuli
 - Well learned sequences of behaviour
 - Novel situations requiring behavioural flexibility
 - Prepotent behaviours associated with previous situations
27. According to Norman and Shallice's (1986) *Supervisory Attentional Model*, what are Schema Control Units?
- Internal Representations of Objects
 - Internal Representations of People
 - Internal Representations of Actions
 - Internal Representations of Places
28. According to Norman and Shallice's (1986) theory, the *Supervisory Attentional System* plays a key role in terms of:
- Automatically activating Schema Control Units
 - Selecting the appropriate Schema Control Units
 - Inhibiting the activation of Somatic Markers
 - Supporting automatic responses
29. The *Contention Scheduling* bias mechanism is responsible for the adequate implementation of:
- Familiar and simple actions
 - Novel and complex actions
 - Dangerous and hazardous actions
 - All types of actions
30. The notion that behavioural decisions are influenced by previously experienced bodily responses is the hallmark of:
- The Working Memory Model
 - The Supervisory Attentional Model
 - The Somatic Marker Hypothesis
 - The Cascade of Control Model

Please turn the page

University of Bolton
School of Education and Psychology
Psychology Pathways
Semester 2 Examination 2021/2022
Cognitive and Biopsychological Perspectives
Module No: PSC4003

31. The part of the peripheral nervous system under voluntary control is the:

- a. Sympathetic nervous system
- b. Spinal nervous system
- c. Somatic nervous system
- d. Social nervous system

32. The nerve that transmits electrical impulses from the retina is the:

- a. Optic nerve
- b. Sciatic nerve
- c. Cranial nerve
- d. Dorsal nerve

33. Which of the following brain structures is not part of the limbic system:

- a. Hippocampus
- b. Pons
- c. Hypothalamus
- d. Basal ganglia

34. A collection of sub-cortical structures implicated in movement control is the:

- a. Node of Ranvier
- b. Limbic system
- c. Prefrontal cortex
- d. Basal ganglia

35. The 'where pathway' of the visual system is generally located in what lobe?

- a. Parietal
- b. Occipital
- c. Frontal
- d. Limbic

36. Spines increase surface area on which of the following:

- a. Plaques
- b. Dendrites
- c. Boutons
- d. Glia cells

University of Bolton
School of Education and Psychology
Psychology Pathways
Semester 2 Examination 2021/2022
Cognitive and Biopsychological Perspectives
Module No: PSC4003

37. The threshold for an action potential to occur is:

- a. - 90 mV
- b. 0 mV
- c. 40 mV
- d. - 55mV

38. Hyperpolarization is when the charge inside the neuron becomes:

- a. More negative
- b. More positive
- c. Neutral
- d. Positive to neutral

39. Ions enter the post-synaptic neuron via

- a. Pumps
- b. Gates
- c. Hillocks
- d. Vesicles

40. Serotonin and dopamine are:

- a. Neuropeptides
- b. Hormones
- c. Monoamines
- d. Unipolar

41. The sodium-potassium pump relies on _____ as a source of energy:

- a. ATP
- b. CREB
- c. RNA
- d. 5-HT

42. The two meso _____ dopamine pathways are the:

- a. Posterior and striatal
- b. Anterior and cortical
- c. Limbic and striatal
- d. Limbic and cortical

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Psychology Pathways
Semester 2 Examination 2021/2022
Cognitive and Biopsychological Perspectives
Module No: PSC4003

43. Schwann cells are glial cells and are found in the:
- Spinal cord
 - Peripheral nervous system
 - Limbic system
 - Central nervous system
44. Tryptophan is a precursor of a(n)
- Hormone
 - Neurotransmitter
 - Anti-depressant
 - Enzyme
45. Gates in the axon are concentrated at the
- Boutons
 - Spines
 - Nodes of Ranvier
 - Myelin
46. A part of the spinal cord that transmits motor information is the:
- Neuromuscular junction
 - Dorsal horn
 - Caudate
 - Ventral horn
47. A major pyramidal pathway in the spine is the _____ tract
- Sacral minor
 - Corticospinal
 - Spinal major
 - Cairo junction
48. One brain area implicated in the sequencing of movement is the:
- Post sensory
 - Cerebellum
 - Medulla
 - Premotor

University of Bolton
School of Education and Psychology
Psychology Pathways
Semester 2 Examination 2021/2022
Cognitive and Biopsychological Perspectives
Module No: PSC4003

49. Incoming sensory information followed by motor activity depends on:

- a. Sympathetic to parasympathetic pathways
- b. Efferent to afferent pathways
- c. Efferent to neuromuscular pathways
- d. Afferent to efferent pathways

50. The _____ hypothesis of depression implicates serotonin:

- a. Dimorphic
- b. GABA
- c. Monoamine
- d. Neuropeptide

51. Monoamine oxidase is a(n)

- a. Enzyme
- a. Precursor
- b. Hormone
- c. Peptide

52. Benzodiazepines act as

- a. Glutamate precursors
- b. GABA agonist
- c. Ach agonist
- d. GABA antagonist

53. Many medications are

- a. Ions
- b. Sodium
- c. 5-HT
- d. Molecules

54. One aspect of pharmacokinetics in terms of drug action is

- a. Tolerance
- b. Addiction
- c. Absorption
- d. Dependency

University of Bolton
School of Education and Psychology
Psychology Pathways
Semester 2 Examination 2021/2022
Cognitive and Biopsychological Perspectives
Module No: PSC4003

55. An alternative hypothesis to the dopamine hypothesis of schizophrenia implicates:
- Serotonin
 - Amphetamines
 - Glutamate
 - Epinephrine
56. Haloperidol targets:
- Ach receptors
 - Serotonin receptors
 - Cortisol receptors
 - Dopamine receptors
57. Disordered thinking in schizophrenia is thought to be attributed to levels of activity in which pathway
- Mesocortical
 - Nigrostriatal
 - Mesostriatal
 - Nigrocortical
58. One negative symptom of schizophrenia is
- Apathy
 - Muscle ache
 - Hallucinations
 - Violence
59. Over use of amphetamines can lead to psychosis due to
- Lowered GABA levels
 - Raised endorphin levels
 - Raised heart rate
 - Raised dopamine levels
60. Emotional impulsivity is a symptom of
- Guillain-Barre syndrome
 - Multiple sclerosis
 - Borderline personality disorder
 - Williams syndrome

END OF QUESTIONS