

UNIVERSITY OF BOLTON
SCHOOL OF EDUCATION AND PSYCHOLOGY
PSYCHOLOGY PATHWAYS
SEMESTER 2 EXAMINATION 2018/2019
COGNITIVE AND BIOPSYCHOLOGICAL
PERSPECTIVES
MODULE NO: PSC4003

Date: Friday 24th May 2019

Time: 2.00 – 4.00 (2 hours)

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 60 questions.

All questions carry equal marks.

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1. The aim of Cognitive Psychology is to provide a scientific understanding of:
 - a. The organization of objective behaviour
 - b. The biological bases of mental processes
 - c. The functioning of the Mind
 - d. The effects of the unconscious Mind
2. One of the guiding assumptions of Cognitive Psychology is that:
 - a. Information processing is unlimited
 - b. Information processing is lawful
 - c. Perception is exclusively data-driven
 - d. Perception is exclusively concept-driven
3. Why is the measurement of behaviour during the performance of cognitive tasks important for Cognitive Psychology?
 - a. It provides information regarding underlying mental processes
 - b. It provides information regarding stimulus-response associations
 - c. It provides objective data regarding the neural basis of cognition
 - d. It provides objectively observable data
4. Which approach provided Cognitive Psychology with a theoretical framework regarding the functioning of the Mind?
 - a. Connectionist Networks
 - b. Information processing
 - c. Computational Modeling
 - d. Artificial Intelligence
5. The theoretical model of cognition suggesting that activation is spread between linked conceptual nodes and links is referred to as:
 - a. Connectionist Model
 - b. Information Processing Approach
 - c. Semantic Networks
 - d. Products Results

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6. Sternberg's (1966) study on Short Term Memory search reaction time is an example which type of processing?
 - a. Serial
 - b. Parallel
 - c. Bottom-up
 - d. Top-down

7. In which of the following aspects is bottom-up processing distinct from top-down processing?
 - a. It involves actively processing information
 - b. It relies directly on previously acquired data
 - c. It involves making inferences from sensory data
 - d. It depends exclusively on sensory data

8. Which of the following describes the main difference between Sensation and Perception?
 - a. Sensation detects stimuli, perception interprets these stimuli
 - b. Sensation follows bottom-up processing, perception follows top-down
 - c. Sensation has limited capacity, perception has unlimited capacity
 - d. Sensation is accurate, perception is misleading

9. Optical illusions are an example of which type of processing?
 - a. Bottom-up
 - b. Top-down
 - c. Serial
 - d. Parallel

10. According to Marr's (1982) Computational Theory of Visual Perception, at which stage does visual perception begin?
 - a. Raw Image
 - b. Primal Sketch
 - c. 2 ½ D Sketch
 - d. 3 D Model

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11. What kind of cues about the visual world are provided by binocular disparity?
- Shape and colour
 - Depth and distance
 - Movement and direction
 - Spatial orientation
12. Which of the following theories of object recognition cannot adequately account for the recognition of objects from non-canonical views?
- Template Matching Models
 - Feature Analysis Models
 - Recognition by Components Models
 - Marr's Computational Model
13. What type of attention is an example of a top-down process?
- Voluntary Attention
 - Involuntary Attention
 - Selective Attention
 - Spatial Attention
14. If during a dichotic listening task a participant is instructed to shadow the message presented to one ear, which of the following stimuli presented on the unattended channel is more likely to be noticed?
- A switch in language
 - The participant's name
 - A switch to a non-language
 - A repetition of the same word
15. At which stage does the Filter Model of attention suggests that selection of information occurs?
- At the sensory stage
 - At the semantic stage
 - At the response stage
 - At the perceptual stage

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16. According to late-selection theories of attention, when does selection occur?

- a. After sensorial processing
- b. After perceptual processing
- c. After semantic processing
- d. After the behavioural response

17. What type of processing is explained by early-selection models of attention?

- a. Automatic
- b. Controlled
- c. Bottom-up
- d. Parallel

18. When information needs to be processed in a controlled manner, what prepotent type of information processing needs to be inhibited?

- a. Bottom-up
- b. Parallel
- c. Automatic
- d. Controlled

19. The conversion of visually presented stimuli, such as written words, into sounds can be described as an example of:

- a. Encoding
- b. Consolidation
- c. Storage
- d. Retrieval

20. In Memory, the recency effect reflects a recall benefit based on:

- a. Stimuli still being in the short-term store
- b. Stimuli being more processed
- c. Stimuli being in the sensory store
- d. Stimuli being consolidated

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21. Which of the following can be used as examples to illustrate the suggestion that information is actively organized in Memory?
- Evidence suggesting that using category names as retrieval cues facilitates recall of items on a list
 - Evidence that items with similar meanings may be activated by the same trigger
 - Evidence suggesting that recall of items is improved by recreating the context and state in which learning of those items occurred
 - All of the above
22. If the typical pattern of errors in recalling items from a list is based on their meaning, what does it suggest in terms of the format in which information was encoded?
- Information was coded visually
 - Information was coded semantically
 - Information was coded phonologically
 - Information was coded abstractly
23. Which of the following Working Memory component is responsible for the rehearsal of spatially encoded information?
- Central Executive
 - Visuo-spatial Sketch Pad
 - Phonological Loop
 - The Articulatory Loop
24. Which of the following is a type of declarative memory?
- Episodic Memory
 - Procedural memory
 - Perceptual Priming
 - Non-associative Memory
25. Which model of Executive Function suggests that behavioural decisions are influenced by the simulation of previously experienced bodily responses?
- The Working Memory Model
 - The Supervisory Attentional System
 - The Somatic Marker Hypothesis
 - All of the above

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26. Which model of Executive Function suggests that behavioural decisions are influenced by the simulation of previously experienced bodily responses?
- The Working Memory Model
 - The Supervisory Attentional System
 - The Somatic Marker Hypothesis
 - All of the above
27. According to Damásio (1994), how do Somatic Markers influence behaviour?
- By refreshing stored information regarding the present task's demands
 - By modulating the activity level of Schema Control Units
 - By simulating a physiological state associated with a given behaviour
 - By providing a logical method for selecting a course of action
28. According to Norman and Shallice's (1986) *Supervisory Attentional System*, Schema Control Units are internal representations of:
- Behavioural options
 - Present objectives
 - Somatic states
 - Physiological responses
29. According to Norman and Shallice's (1986) model, what is the bias mechanisms that is associated with simple and familiar actions?
- Schema Control Units
 - Contention Scheduling
 - Supervisory Attentional System
 - Lateral Inhibition
30. In Norman and Shallice's (1986) model of Executive Control, the *Supervisory Attentional System* plays a key role in terms of:
- Activating Schema Control Units
 - Monitoring the activity level of Schema Control Units
 - Selecting the appropriate Schema Control Units
 - Ending the activation of Schema Control Units

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31. One part of the central nervous system is the ?
- a. Sympathetic
 - b. Adrenal gland
 - c. Spinal cord
 - d. Somatic mark
32. Which brain structure relays sensory information
- a. Hypothalamus
 - b. Hippocampus
 - c. Thalamus
 - d. Gyrus
33. Incoming visual information is routed from the eye via the
- a. Olfactory bulb
 - b. Optic nerve
 - c. Limbic system
 - d. Vagus nerve
34. Language is generally processed in which cortical area
- a. Left temporal
 - b. Anterior occipital
 - c. Right frontal
 - d. Posterior parietal
35. A gyrus is a?
- a. Indentation
 - b. Tumour
 - c. Impulse
 - d. Ridge

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36. Spines are found on _____ to increase surface area

- a. Dendrites
- b. Myelin
- c. Gates
- d. Astrocytes

37. The voltage at the axon hillock must reach ____ for an action potential to commence

- a. - 10 mV
- b. 50 mV
- c. 40 mV
- d. - 55mV

38. During an action potential the neuron depolarizes as the polarity inside the axon changes from

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

39. A Schwann cell is a type of

- a. Neurons
- b. Hormone
- c. White cell
- d. Glial cell

40. ATP provides energy at which pump

- a. Chloride - potassium
- b. CSF fluid
- c. Sodium- ions
- d. Sodium-potassium

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41. Certain neurotransmitters can be synthesized from

- a. Dairy products
- b. Carbon dioxide
- c. Sodium dioxide
- d. Sugar

42. Serotonin is a

- a. Monoamines
- b. Neuropeptides
- c. Protein chains
- d. Dual amine

43. The meso limbic pathways is often referred as the

- a. Fear pathway
- b. Anxiety pathway
- c. Depression pathway
- d. Reward pathway

44. Acetylcholine is found at the

- a. Neuromuscular junction
- b. Sensory horn
- c. Neurofibrillary junction
- d. Dermal level

45. An excitatory post-synaptic potential will tend to

- a. Depolarise a neuron
- b. Increase agitation
- c. Decrease firing rates
- d. Hyperpolarise a neuron



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46. In Parkinson's deep brain stimulation targets nuclei in the

- a. Hippocampus
- b. Motor cortex
- c. Corpus callosum
- d. Basal ganglia

47. Pacinian corpuscles detect

- a. Humidity
- b. Danger
- c. Conflict
- d. Pressure

48. Muscle activation depends on information transmitted down

- a. Sympathetic pathways
- b. Afferent pathways
- c. Dopamine pathways
- d. Efferent pathways

49. Huntingdon's chorea is a

- a. Brain structure
- b. Movement disorder
- c. Sensory disorder
- d. Visual disorder

50. The cerebellum is implicated in

- a. Planning of movements
- b. Co-ordinating sensory information
- c. Initiating movement
- d. Balance and coordination



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51. The dominant hypothesis of depression is the
- Amino acid hypothesis
 - Peptide hypothesis
 - Monoamine hypothesis
 - Inhibitory regulation hypothesis
52. A drug that acts as a depressant on the nervous system might be a
- Glutamate agonist
 - GABA agonist
 - Dopamine agonist
 - GABA antagonist
53. Monoamine oxidase inhibitor prevents the action of a(n)
- Neurotransmitter
 - Enzyme
 - Tryptophan
 - Action potential
54. Cocaine 'reward' effects are caused by
- Depletion of dopamine
 - Glial cells
 - Increased heart-rate
 - Dopamine release
55. Pharmacokinetics relate to
- Street drugs
 - How drugs are distributed in the body
 - How drugs change behaviour
 - How drugs are excreted
56. A positive symptom of schizophrenia is
- Apathy
 - Delusions
 - Improved thinking
 - A decrease in hallucinations

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57. Differences in function of the prefrontal cortex in schizophrenia may contribute to
- Multiple personalities
 - Auditory hallucinations
 - Not willing to speak
 - Disordered thinking
58. Borderline personality disorder is characterised by a lack of
- Sensory perception
 - Empathy
 - Reasoning
 - Impulse control
59. Williams syndrome has been shown to have deficits in which cortical area
- Occipital
 - Temporal
 - Parietal
 - Ventral
60. Failure to understand another's 'state of mind' is a hallmark of
- Parkinson
 - Autism
 - Alzheimer
 - Motor neurone disease

END OF QUESTIONS

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