

**UNIVERSITY OF BOLTON**

**RAK ACADEMIC CENTRE**

**PSYCHOLOGY PATHWAYS**

**SEMESTER 2 EXAMINATION 2018/2019**

**COGNITIVE AND BIOPSYCHOLOGICAL  
PERSPECTIVES**

**MODULE NO: PSC4003**

Date: Friday 24<sup>th</sup> May 2019

Time: 4.00pm – 6.00pm (2 hours)

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**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
  
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

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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
  
11. What kind of cues about the visual world are provided by binocular disparity?
  - a. Shape and colour
  - b. Depth and distance
  - c. Movement and direction
  - d. Spatial orientation
  
12. Which of the following theories of object recognition cannot adequately account for the recognition of objects from non-canonical views?
  - a. Template Matching Models
  - b. Feature Analysis Models
  - c. Recognition by Components Models
  - d. Marr's Computational Model

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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
16. According to late-selection theories of attention, when does selection occur?
- After sensorial processing
  - After perceptual processing
  - After semantic processing
  - After the behavioural response
17. What type of processing is explained by early-selection models of attention?
- Automatic
  - Controlled
  - Bottom-up
  - Parallel
18. When information needs to be processed in a controlled manner, what prepotent type of information processing needs to be inhibited?
- Bottom-up
  - Parallel
  - Automatic
  - Controlled

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19. The conversion of visually presented stimuli, such as written words, into sounds can be described as an example of:
- Encoding
  - Consolidation
  - Storage
  - Retrieval
20. In Memory, the recency effect reflects a recall benefit based on:
- Stimuli still being in the short-term store
  - Stimuli being more processed
  - Stimuli being in the sensory store
  - Stimuli being consolidated
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

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24. Which of the following is a type of declarative memory?

- a. Episodic Memory
- b. Procedural memory
- c. Perceptual Priming
- d. Non-associative Memory

25. Which model of Executive Function suggests that behavioural decisions are influenced by the simulation of previously experienced bodily responses?

- a. The Working Memory Model
- b. The Supervisory Attentional System
- c. The Somatic Marker Hypothesis
- d. All of the above

26. Which model of Executive Function suggests that behavioural decisions are influenced by the simulation of previously experienced bodily responses?

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- d. All of the above

27. According to Damásio (1994), how do Somatic Markers influence behaviour?

- a. By refreshing stored information regarding the present task's demands
- b. By modulating the activity level of Schema Control Units
- c. By simulating a physiological state associated with a given behaviour
- d. 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:

- a. Behavioural options
- b. Present objectives
- c. Somatic states
- d. Physiological responses

29. According to Norman and Shallice's (1986) model, what is the bias mechanisms that is associated with simple and familiar actions?

- a. Schema Control Units
- b. Contention Scheduling
- c. Supervisory Attentional System
- d. Lateral Inhibition

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30. In Norman and Shallice's (1986) model of Executive Control, the *Supervisory Attentional System* plays a key role in terms of:

- a. Activating Schema Control Units
- b. Monitoring the activity level of Schema Control Units
- c. Selecting the appropriate Schema Control Units
- d. Ending the activation of Schema Control Units

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
- Dendrites
  - Myelin
  - Gates
  - Astrocytes
37. The voltage at the axon hillock must reach \_\_\_\_ for an action potential to commence
- 10 mV
  - 50 mV
  - 40 mV
  - 55mV
38. During an action potential the neuron depolarizes as the polarity inside the axon changes from
- Neutral to negative
  - Negative to positive
  - Negative to neutral
  - Positive to neutral
39. A Schwann cell is a type of
- Neurons
  - Hormone
  - White cell
  - Glial cell
40. ATP provides energy at which pump
- Chloride - potassium
  - CSF fluid
  - Sodium- ions
  - Sodium-potassium
41. Certain neurotransmitters can be synthesized from
- Dairy products
  - Carbon dioxide
  - Sodium dioxide
  - Sugar

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42. Serotonin is a
- Monoamines
  - Neuropeptides
  - Protein chains
  - Dual amine
43. The meso limbic pathways is often referred as the
- Fear pathway
  - Anxiety pathway
  - Depression pathway
  - Reward pathway
44. Acetylcholine is found at the
- Neuromuscular junction
  - Sensory horn
  - Neurofibrillary junction
  - Dermal level
45. An excitatory post-synaptic potential will tend to
- Depolarise a neuron
  - Increase agitation
  - Decrease firing rates
  - Hyperpolarise a neuron
46. In Parkinson's deep brain stimulation targets nuclei in the
- Hippocampus
  - Motor cortex
  - Corpus callosum
  - Basal ganglia
47. Pacinian corpuscles detect
- Humidity
  - Danger
  - Conflict
  - Pressure

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48. Muscle activation depends on information transmitted down
- Sympathetic pathways
  - Afferent pathways
  - Dopamine pathways
  - Efferent pathways
49. Huntingdon's chorea is a
- Brain structure
  - Movement disorder
  - Sensory disorder
  - Visual disorder
50. The cerebellum is implicated in
- Planning of movements
  - Co-ordinating sensory information
  - Initiating movement
  - Balance and coordination
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

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54. Cocaine 'reward' effects are caused by

- a. Depletion of dopamine
- b. Glial cells
- c. Increased heart-rate
- d. Dopamine release

55. Pharmacokinetics relate to

- a. Street drugs
- b. How drugs are distributed in the body
- c. How drugs change behaviour
- d. How drugs are excreted

56. A positive symptom of schizophrenia is

- a. Apathy
- b. Delusions
- c. Improved thinking
- d. A decrease in hallucinations

57. Differences in function of the prefrontal cortex in schizophrenia may contribute to

- a. Multiple personalities
- b. Auditory hallucinations
- c. Not willing to speak
- d. Disordered thinking

58. Borderline personality disorder is characterised by a lack of

- a. Sensory perception
- b. Empathy
- c. Reasoning
- d. Impulse control

59. Williams syndrome has been shown to have deficits in which cortical area

- a. Occipital
- b. Temporal
- c. Parietal
- d. Ventral

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60. Failure to understand another's 'state of mind' is a hallmark of
- a. Parkinson
  - b. Autism
  - c. Alzheimer
  - d. Motor neurone disease

**END OF QUESTIONS**

PAST EXAMINATION