

## Consciousness and Cognition

1. The prefix 'pre-' in the word 'premedical' is a
  - A. phoneme
  - B. morpheme
  - C. syntactic unit
  - D. chereme
  
2. Noam Chomsky differed from B.F. Skinner in posulating that language acquisition occurs primarily by means of
  - A. associative learning
  - B. cognitive social learning
  - C. a hard-wired process
  - D. imitation
  
3. Miriam learns that Lynne's cousin, Jordan, a nurse whom Miriam has never met, will be at a party they are planning to attend. When Miriam meets Jordan later that evening, she is surprised that Jordan is a man. This is an illustration of
  - A. representativeness heuristic
  - B. confirmation bias
  - C. availability heuristic
  - D. overconfidence effect
  
4. Which of the following is holophrastic speech typical of a two year old?
  - A. "Up!"
  - B. "I dranked it all!"
  - C. "Yummy tumtum!"
  - D. "The faucet goes dwip dwip"
  
5. In the normal sleep cycle a person alternates between NREM sleep and
  - A. stage 1
  - B. stage 2
  - C. stage 3
  - D. paradoxical sleep
  
6. Slow wave sleep is another name for
  - A. stage 1
  - B. stage 2
  - C. stage 3
  - D. stages 1-3
  
7. The length of a normal sleep cycle is
  - A. 30 minutes
  - B. 90 minutes
  - C. 4 hours
  - D. 6 hours
  
8. Which statements below accurately describe night terrors?
  - I. They tend to happen during periods of arousal from delta sleep.
  - II. They are not a kind of dream.
  - III. They often occur in tandem with sleep paralysis.
  - IV. They result from disrupted REM sleep.
  - A. I only
  - B. I and II
  - C. I, II and III
  - D. III and IV

9. Tom Missenshot, a basketball player is listening to his coach give instructions during a tight game. He clearly hears someone within the crowd say to his neighbor, 'Tom Missenshot? What a bum!' This is an example of
- A. cognitive inhibition
  - B. stimulus filtering
  - C. cocktail party effect
  - D. crossmodal attention
10. During REM sleep, the release of the CNS neurotransmitters norepinephrine, serotonin and histamine is
- A. completely suppressed
  - B. reduced
  - C. maintained at constant levels
  - D. increased
11. Along with K-complexes, sleep spindles are defining characteristics of, and indicate the onset of
- A. stage 1 sleep
  - B. stage 2 sleep
  - C. stage 3 sleep
  - D. REM sleep
12. Marcus believes that the control room of a submarine contains physical periscopes, control panels, viewing screens and an assortment of crew including pilot and sonarmen. The construct manifesting this belief is a(n)
- A. script
  - B. frame
  - C. schema
  - D. archetype
13. An assessment test composed entirely of non-verbal logic puzzles and mathematical problems may still be culturally biased due to
- A. socio-economic bias
  - B. gender bias
  - C. stereotype threat
  - D. perceptual set
14. After seeing many news stories of home foreclosures, a person may overestimate the likelihood of winding up in foreclosure if they buy a house. This is an example of
- A. base-rate fallacy
  - B. representativeness heuristic
  - C. gambler's fallacy
  - D. availability heuristic
15. After meeting four polite cosplayers at Comic-Con, Daryl concludes that cosplayers must be a courteous group. Daryl drew this conclusion based on what kind of reasoning?
- A. inductive reasoning
  - B. deductive reasoning
  - C. syllogistic reasoning
  - D. analogical reasoning

16. Jane has been working hard to gain acceptance into a prestigious law school. Of the following, which is most likely regarding Jane's predictions regarding her emotional state if she doesn't succeed?
- I. She is likely to underestimate how negatively she will feel.
  - II. She will likely underestimate her ability to cope.
  - III. She is likely to overestimate how negatively she will feel.
  - IV. She will likely overestimate her ability to cope.
- A. I and II
  - B. I and IV
  - C. II and III
  - D. III and IV
17. According to which cognitive model is a robin more representative of birds than a penguin?
- A. prototype theory
  - B. classical taxonomy
  - C. representativeness heuristic
  - D. structuralism
18. In the past, when data indicated a decline in sales for a particular product line, Rudolph had recommended increasing advertising and discounting prices. This time, though, the problem was not direct competition from equivalent products. The product line was being technologically superseded. The more profitable course would have been to stop advertising and increase prices to maximize revenue from the existing customer base while the revenue lasted. His inclination to attempt to solve the problem using what had worked before is an example of which concept?
- A. confirmation bias
  - B. functional fixedness
  - C. mental set
  - D. groupthink
19. Going out to dinner with her family, Marjorie understands the purpose of the tables, menus, food, and money at the restaurant, as well as the roles of the servers, chefs, and cashier. She expects a sequence of events to occur involving entering the restaurant, ordering, eating, paying and then exiting. This sequence of expected behaviors can be described as a
- A. prototype
  - B. mental set
  - C. schema
  - D. script
20. When Ornithal first met Bella, he imagined that she must be a school teacher because she liked children, had a no-nonsense attitude, and drove a practical car. His idea about her profession is best described as being arrived at by means of a
- A. representativeness heuristic
  - B. availability heuristic
  - C. schema
  - D. mental set
21. As a method of problem solving, trial and error is a(n)
- A. algorithm
  - B. heuristic
  - C. mental set
  - D. rule of thumb

22. Consider the following proposition:

The grass became wet numerous times when it rained, therefore: the grass always gets wet when it rains.

What type of reasoning is being employed?

- A. inductive
- B. deductive
- C. by analogy
- D. rule of thumb

23. A toddler looks up at his dad from the stroller and says ‘Want juice!’”. This is an example of which kind of speech?

- A. holophrastic
- B. telegraphic
- C. babbling
- D. over-regularization

24. Human beings can talk about things that aren’t present. We can even talk about things that don’t actually exist. What property of language does this reflect?

- A. prevarication
- B. generativity
- C. displacement
- D. arbitrariness

25. The most pervasive deficit in aphasias is

- A. apraxia
- B. alexia
- C. dysgraphia
- D. anomia

26. When August Kekulé realized that the structure of benzene was a closed ring, he was half-asleep in front of a fire. He saw molecules forming into snakes, one of which grabbed its tail in its mouth. The term for this state of consciousness is

- A. hypnagogia
- B. dissociative
- C. NREM sleep
- D. ideasthesia

27. In a single episode of *McGyver*, our hero 1) used a knife on a string to hook a towel, 2) constructed a flame thrower from a hose and a pipe, 3) constructed an arc welder from a jumper cable and two half dollars, and 4) melted a garden hose spread on a net to make an ant-repellent suit. Which obstacle to problem solving does McGyver consistently overcome?

- A. focalism
- B. fundamental attribution error
- C. neglect of probability
- D. functional fixedness

28. The sentence “Mary had a little lamb” may mean something different if Mary is walking to school with her lamb following behind or if Mary is actually sitting at a table in a restaurant having lambchops for dinner. This difference is best described as a matter of

- A. pragmatics
- B. syntax
- C. morphology
- D. semiotics

29. A group of police officers have breathalyzers displaying false drunkenness in 5% of the cases in which the driver is sober. However, the breathalyzers never fail to detect a truly drunk person. Suppose the police officers stop a driver at random, and force the driver to take a breathalyzer test. It indicates that the driver is drunk. If the police officer thinks there is a 95% chance the driver actually is drunk, their invalid reasoning can likely be ascribed to the following fallacy:

- A. appeal to probability
- B. conjunction fallacy
- C. base-rate fallacy
- D. prosecutor's fallacy

30. What is the name of the neural structure described below?

With projections to the thalamus and cerebral cortex that allow it to exert some control over which sensory signals reach the cerebrum and come to our conscious attention, this structure plays a central role in states of consciousness like alertness and sleep.

- A. basal ganglia
- B. pons
- C. hypothalamus
- D. reticular formation

31. On the EEG, the transition to stage 1 sleep is characterized by a decrease in alpha wave patterns and an increase in

- A. alpha waves
- B. beta waves
- C. delta waves
- D. theta waves

32. In which stage of sleep do night terrors, nocturnal enuresis, sleep walking, and somniloquy occur?

- A. stage 1
- B. stage 2
- C. stage 3
- D. REM

33. Complete the analogy. Cataplexy is to narcolepsy as active motor behavior is to \_\_\_\_\_

- A. REM sleep behavior disorder
- B. Night terrors
- C. Sleep paralysis
- D. NREM parasomnia

34. A specific variant of the human leukocyte antigen (HLA) complex in combination with a specific genetic mutation in the T-cell receptor alpha locus causes the immune system to attack and kill orexin producing neurons. Hence

- A. sensitized phagocytic microglia will down-regulate serotonin production.
- B. over expression of IL-1 leads to excessive tau phosphorylation.
- C. narcolepsy may result from an auto-immune disorder with a genetic component.
- D. neurons of the substantia nigra become dysfunctional and eventually die.

35. Which drug or class of drugs below is not a GABA<sub>A</sub> receptor positive allosteric modulator?

- A. ethanol
- B. valium
- C. secobarbital
- D. morphine

36. Complete the analogy. Substantia nigra is to dorsal striatum as \_\_\_\_\_ is to nucleus accumbens.

- A. ventral tegmental area
- B. hypothalamus
- C. ventral striatum
- D. olfactory bulb

37.  $\Delta$ FosB overexpression and accumulation of phosphorylated  $\Delta$ FosB within neurons of the nucleus accumbens has been identified as playing a central, crucial role in the development and maintenance of pathological behavior and neural plasticity involved in both behavioral addictions and drug addictions.

$\Delta$ FosB is a

- A. dopamine receptor agonist
- B. tyrosine kinase
- C. truncated product of the *fosB* gene
- D. NMDA receptor co-agonist

38. Which of the following is better characterized as a bottom-up process?

- A. endogenous attention
- B. attentional control
- C. executive attention
- D. stimulus-driven attention

39. The substituted amphetamine, MDMA, is among which class of psychoactive drugs?

- A. stimulants
- B. hallucinogens
- C. narcotics
- D. entactogens

40. Barber, Spanos, and Chaves (1974) proposed a nonstate “cognitive-behavioural” theory of hypnosis, arguing that responses to hypnotic suggestions were mediated by a “positive cognitive set” consisting of positive expectations, attitudes, and motivation. Barber et al. noted that similar factors appeared to mediate the response both to hypnotism and to cognitive behavioural therapy, in particular, systematic desensitization. In other words

- A. The hypnotic state is distinguished by a diminished emotional responsiveness.
- B. The factors underlying hypnotic suggestibility resemble those underlying successful therapeutic treatment for phobias.
- C. The hypnotist’s object is to increase the receptability of specific messages much like the cognitive-behavioral therapist.
- D. Subjects of hypnosis and desensitization therapy patients are both attempting to fulfill socially constructed roles.

41. Which stage of sleep is depicted in the EEG pattern below?



- A. stage 1
- B. stage 2
- C. stage 3
- D. REM

42. Axons from the optic tract carry the information to reset diurnal rhythms each day to the
- A. lateral geniculate nucleus of the thalamus
  - B. superior colliculus of the midbrain
  - C. pretectum of the midbrain
  - D. suprachiasmatic nucleus of the hypothalamus
43. Concentrating on a math problem, which type of brain waves will appear on your electroencephalogram?
- A. delta waves
  - B. beta waves
  - C. alpha waves
  - D. theta waves
44. Internal activation of the brain in REM sleep is associated with the inhibition of both external sensory input and motor output. Control of this input-output gate occurs by means of reciprocal inhibitory interactions between monoaminergic and cholinergic neurons of the
- A. hypothalamus
  - B. reticular formation
  - C. medulla
  - D. pons
45. Chomsky's theory of generative grammar models the knowledge that underlies the human ability to speak and understand. One of the most important of Chomsky's ideas is that most of this knowledge is
- A. socially constructed
  - B. subconscious
  - C. innate
  - D. behaviorally conditioned
46. A child watching a nature program sees a pack of hyenas prowling near a herd of zebras on the Serengeti and says 'Look at those dogs!' She is reasoning based on
- A. a mental set
  - B. the availability heuristic
  - C. a prototype model
  - D. the representativeness heuristic
47. An auto mechanic, whenever confronted with the problem of a car that loses electrical power while driving, persists in always replacing the alternator as the first step even though recommended protocols suggest prior diagnostic tests. The mechanic has
- A. belief perseverance
  - B. functional fixedness
  - C. a mental set
  - D. confirmation bias

48. All biological life forms that we know of depend on liquid water to exist. Therefore, if we discover a new biological life form it will probably depend on liquid water to exist. This conclusion is an example of \_\_\_\_\_.
- A. inductive reasoning
  - B. deductive reasoning
  - C. an algorithm
  - D. formal logic
49. In a German language declarative sentence, the finite verb always stands in the second position, while other elements can be moved around to indicate emphases in meaning. Which aspect of German language does this rule govern?
- A. prosody
  - B. grammar
  - C. syntax
  - D. morphology
50. An experiment was conducted in which speakers of two languages that categorize colors differently (English and Zuni) were asked to recognize colors. It was found that Zuni speakers who classify green and blue together as a single color did have trouble recognizing and remembering nuances within the green/blue category. The results of this experiment would seem to suggest that
- A. The structure of anyone's native language strongly influences or fully determines the worldview he will acquire as he learns the language.
  - B. Language and its structures limit and determine human knowledge or thought
  - C. Linguistic and non-linguistic events must be separately observed and described before they can be correlated.
  - D. The structure of a language affects its speakers' cognition.