**CHAPTER 1**

1. Why is behaviorism largely incompatible with the basic assumptions of cognitive science?

\*A. Behaviorists study non-psychological observable phenomena and measurable behavior, while cognitive science is the study of cognition and mind.

B. Cognitive scientists are not interested in behavior.

C. Behaviorism is not scientific.

D. Behaviorists study non-psychological observable phenomena and measurable behavior, while cognitive science is the study of association and reinforcement learning.

2. Reinforcement learning and classical conditioning are

A. The same.

\*B. Two different types of conditioning, both exploiting mechanisms of association and reinforcement.

C. Different because reinforcement learning depends upon mechanisms of reinforcement while classical conditioning does not.

D. Different because classical conditioning depends upon mechanisms of association while reinforcement learning does not.

3. What is the key feature of the maze experiments in Tolman and Honzik (1930)?

A. Rats learn to run the maze by response learning.

B. Reinforcement is the best way for rats to learn to run the maze.

C. Rats learn the layout of the maze only when they are rewarded.

\*D. Rats can learn the layout of the maze without any direct reinforcement.

4. In the cross-maze experiments reported in Tolman, Ritchie, and Kalish (1946), why did the rats for which the food was always in the same place learn to run the maze more quickly?

A. Because they used sequences of movements to figure out the maze.

\*B. Because they learned spatial information about the maze in terms of places.

C. Because they could selectively focus their attention on the reward.

D. Because it was easier to learn the location by reinforcement.

5. The cross-maze experiments reported in Tolman, Ritchie, and Kalish (1946) led him to propose which concept?

\*A. Cognitive map

B. Reinforcement learning

C. Latent learning

D. Hierarchical behavior

6. In Lashley’s work on explaining complex behaviors, which concept is essential?

\*A. Hierarchical organization

B. Cognitive map

C. Deep structure and surface structure

D. Representation

7. Which of the following statement is not compatible with the hypothesis of subconscious information processing?

A. Complex behaviors are often hierarchically organized.

B. We are often not aware of our high-level plans.

\*C. We are always aware of the information processing involved in carrying out a plan.

D. We often behave by breaking the task down into more basic ones.

8. Which is a good example of illustrating the idea of task analysis?

A. Recalling one’s password

B. A rat learning to run a maze

C. Playing tennis

\*D. A, B, and C

9. Which key idea in the development of cognitive science is attributable to Alan Turing?

\*A. Information processing is fundamentally algorithmic.

B. Not all behavior can be explained through conditioning.

C. The idea of hierarchically organized behavior provides a clue for how mind might process information

D. The idea of syntax provides a clue for how mind might process information.

10. In symbolizing the sentence “John has hit the ball” as the string of symbols “NP1 + Aux + V + NP2”, which aspect of the sentence has been revealed?

\*A. Its deep structure

B. Its meaning

C. Its surface structure

D. Its pragmatic structure

11. According to the Church-Turing thesis, every computable function can be computed by –––

Answer: a Turing machine

12. In his theory of information, Claude Shannon uses which concept to measure information?

\*A. A bit

B. A chunk

C. An informatron

13. An information channel with a channel capacity of n bits can discriminate how many pieces of information?

A. 2*n* pieces of information (so that a channel with a capacity of 3 bits can discriminate 6 items)

B. *n2* pieces of information (so that a channel with a capacity of 3 bits can discriminate 9 items)

\*C. 2*n* pieces of information (so that a channel with a capacity of 3 bits can discriminate 8 items)

14. Why (according to George Miller) are people better at making relative judgments than absolute judgments?

\*A. Because making relative judgments requires less channel capacity.

B. Because the information channels for making absolute judgments have lower capacity.

C. Because making absolute judgments requires more attention.

D. Because absolute judgments require hierarchical information-processing.

15. Decimal and binary number systems are different forms of

\*A. Chunking numerical information

B. Algorithmic computing

C. Subconscious information processing

D. Deep numerical structure

16. When you read in a noisy coffee shop, you focus on your reading and are not distracted by the conversations around you. This is an example of?

\*A. Selective attention

B. Chunking information

C. Hierarchical organization

D. Spatial learning

17. In Broadbent’s dichotic listening experiments, what best explains the fact that people performed best when they reported the stimuli ear by ear?

\*A. The selective filter makes people focus on one string of information at a time.

B. Their auditory systems break the task into sub-tasks.

C. People use different transformational rules for information they get from different ears.

18. According to Broadbent’s theory of attention, perceptual systems are information channels.

\*A. True

B. False

19. On Broadbent’s theory’s theory of attention, information is semantically processed before it enters the selective filter.

\*False

True

20 Broadbent illustrated the stages of information processing through ––

\*A. A flowchart

B. A Venn diagram

C. A cognitive map

D. An algorithm