CHAPTER 2 (* - Correct Answer)

1. What is a danger in using naturalistic observation?
   a. it is too reductionistic
   b. * it is difficult to observe and record complex phenomenon accurately
   c. classifications are too narrow
   d. more than one of the above

2. A theory in science:
   a. is like any other educated hunch
   b. always generates scientific laws
   c. * must be subjected to experimental tests
   d. does not need to make contact with the real world

3. A consistently observed relationship between two or more events is called:
   a. a hypothesis
   b. a theory
   c. naturalistic observation
   d. * a scientific law

4. Every statement in science must be:
   a. subjective
   b. * verifiable
   c. meaningful
   d. objective

5. Which statement is an example of a scientific law (assuming each is correct)?
   a. "A stitch in time saves nine."
   b. "For every action there is an equal and opposite reaction."
   c. "The ripest fruit falls first."
   d. * all of the above

6. According to the traditional view of science, every scientific theory must be:
   a. based on logic
   b. based on rational components
   c. proven
   d. * reducible to empirical observations

7. The signs, symbols, or words that a theory contains are called the theory's:
   a. practical aspect
   b. * formal aspect
   c. heuristic function
   d. empirical aspect

8. All sciences seek to:
   a. prove theories
   b. * discover laws
   c. solve practical problems
   d. none of the above

9. The empirical aspect of a theory:
   a. can make sense by itself
   b. may make erroneous predictions about the physical world
   c. * has a complex relationship with the formal aspects of a theory
   d. is the same as the theory's heuristic value

10. The principle of parsimony states that a scientific theory must:
   a. * be as simple as possible
   b. be accurate
   c. generate publicly verifiable statements
   d. be heuristic

11. What is the most important feature of an operational definition?
   a. there is only one for any given important scientific concept
   b. * it allows the measurement of the concept being defined
   c. it guarantees objectivity
   d. all of the above

12. "Trials to Criterion" suggests which kind of definition of learning?
   a. theoretical
   b. empirical
   c. cognitive
   d. * operational

13. Which of the following is an operational definition of creativity?
   a. cognitive flexibility
   b. * how many things a person can do with a ruler in two minutes
   c. the ability to go beyond convention
   d. the ability to find unconventional solutions to current problems

14. The nomothetic method is:
   a. used exclusively in the area of abnormal psychology
   b. the intense study of a single case
   c. * the study of many cases
   d. artistic rather than scientific

15. An experimentalist studies the learning process of a single rat under a variety of circumstances. This technique is referred to as:
    a. * idiographic
    b. nomothetic
    c. normative
    d. naturalistic

16. Which of the following exemplifies the Nomothetic Technique?
    a. investigating environmental events and responses to them
    b. using animals instead of humans as subjects
    c. studying a single subject under a wide variety of circumstances
    d. * studying average performance of groups of experimental subjects

17. A technique whereby a researcher systematically varies one or more environmental events and notes their effect on the dependent variable is known as the:
    a. nomothetic technique
    b. correlational technique
    c. * experimental technique
    d. more than one of the above

18. When something known is used to describe something that is relatively less known, the former is being used as a ___ for the latter.
    a. * model
    b. paradigm
    c. theory
    d. law

19. According to Popper, in order for a theory to be considered scientific it must:
    a. make risky predictions
    b. be capable of making incorrect predictions
    c. be capable of being falsified
    d. * all of the above

20. Using the technique of naturalistic observation, one would:
    a. use a reductionistic approach
    b. control at least one independent variable
    c. * record details of a phenomenon as it occurs naturally
    d. more than one of the above

21. An approach whereby a complex phenomenon is broken down into its component parts for detailed analysis is called:
    a. heuristic analysis
    b. naturalistic observation
    c. nomothetic
    d. * elementistic

22. In science the demand for verification means:
    a. * statements must be testable
    b. experiments must be highly controlled
    c. information must pass freely from one scientist to another
    d. ambiguity must be avoided at all costs

23. Astrology has a(n) ___ component but not a(n) ___ component.
    a. scientific ... humanistic
    b. humanistic ... scientific
    c. empirical ... formal
    d. * formal ... empirical

24. The part of a scientific theory that attempts to explain physical events is referred to as the theory's:
    a. practical aspect
    b. formal aspect
    c. heuristic function
    d. * empirical aspect

25. The formal aspect of a theory:
    a. can make sense by itself
    b. may make erroneous predictions about the physical world
    c. has a complex relationship with the empirical aspects of a theory
    d. * all of the above

26. All scientific theories must begin with and end with:
    a. * empirical observations
    b. truth
    c. internal consistency
    d. abstractions

27. The heuristic function of a theory is:
    a. its ability to synthesize a large number of observations
    b. the same as its syntax
    c. * its ability to generate new research
    d. none of the above

28. The statement "Hungry animals tend to learn faster than food-satiated ones" exemplifies a(n):
    a. * theory
    b. model
    c. fact
    d. incorrect statement

29. Which of the following is a characteristic of a good scientific theory? It:
    a. is heuristic
    b. follows the principle of parsimony
    c. synthesizes a number of observations
    d. * all of the above

30. The idiographic method is:
    a. used exclusively in the area of abnormal psychology
    b. * the intense study of a single case
    c. the study of many cases
    d. artistic rather than scientific

31. The term "average performance" implies which of the following methods?
    a. scientific
    b. idiographic
    c. operational
    d. * nomothetic

32. According to Kuhn, scientists working within a certain paradigm are:
    a. doing unimportant work
    b. * doing "normal science"
    c. solving practical problems
    d. creating “new science”

33. The Kuhnian view of scientific progress emphasizes:
    a. logic
    b. accumulation of facts
    c. * social & psychological factors
    d. empirical observation

34. Popper claims that Freud's theory is not scientific because it:
    a. * makes no risky predictions
    b. does not explain normal behavior
    c. is psychoanalytic
    d. is psychodynamic

35. In his philosophy of science Popper stresses ___factors whereas Kuhn stresses ___ factors.
    a. * logical ... sociological and psychological
    b. sociological and psychological ... logical
    c. emotional ... historical
    d. historical ... rational

36. According to Popper, a scientific theory is:
    a. an attempt to summarize empirical observation
    b. an attempt to refute what has been observed
    c. something to which a scientist becomes emotionally attached
    d. * a proposed solution to a problem