**Multiple Choice Section**

 1. According to the text, sociology is a science because:
 a. its subject matter includes the investigation of society.
 b. the phenomena sociologists study are fixed and predictable.
 c. the goal of sociology is to predict and explain human behavior.
 d. the discipline utilizes a scientific methodology.
 **Topic: What Is Science?, p. 4, Answer: d**

 2. According to the authors of this text, science:
 a. is easily defined.
 b. refers to general or particular bodies of knowledge.
 c. is united not by its subject matter but by its methodology.
 d. has no methodology.
 **Topic: What Is Science?, p. 4, Answer: c**

 3. Knowledge based on sensory experience is known as:
 a. inductively strong.
 b. *a posteriori.*
 c. rational.
 d. *a priori*.
 **Topic: Approaches to Knowledge, p. 5, Answer: b**

 4. Rationalists hold that knowledge claims are justified on the basis of:
 a. application of the scientific method.
 b. the supernatural.
 c. our sensory experiences.
 d. our innate capacity to grasp concepts and ideas regardless of our sensory experiences.
 **Topic: Approaches to Knowledge, pp. 5-6, Answer: d**

 5. Epistemology refers to:
 a. scientific methodology.
 b. the scientific investigation of philosophical issues.
 c. the study of the foundations of knowledge.
 d. the study of primitive societies.
 **Topic: Approaches to Knowledge, pp. 4-5, Answer: c**

6. According to the text, scientific knowledge:
 a. once established, is indisputable.
 b. is justified on the basis of reason alone.
 c. is justified on the basis of both reason and sensory experience.
 d. none of these answers are correct
**Topic: Approaches to Knowledge, pp. 5-6, Answer: c**

7. Which is a fundamental assumption of the scientific approach?
 a. Knowledge is superior to ignorance.
 b. We can know nature.
 c. All natural phenomena have natural causes.
 d. All of these answers are correct.
**Topic: Basic Assumptions of Science, pp. 6-8, Answer: d**

 8. Which of the following is NOT a fundamental assumption of the scientific approach?
 a. Some natural phenomena have supernatural causes.
 b. Knowledge is superior to ignorance.
 c. Nature is orderly and regular.
 d. Nothing is self‑evident.
**Topic: Basic Assumptions of Science, pp. 6-8, Answer: a**

9. The fundamental assumptions of science:
 a. have been proven to be absolutely correct.
 b. are necessary prerequisites for the conduct of scientific inquiry.
 c. are based on the notion that nature is always imperfect.
 d. are absolute truths.
 **Topic: Basic Assumptions of Science, pp. 6-8, Answer: b**

10. Which statement reflects a fundamental assumption of the scientific approach?
 a. There are logically compelling reasons for the regularity and order of nature.
 b. Knowledge should not be pursued for its own sake, but rather for perfecting human conditions.
 c. *A priori* knowledge is independent of the human experience.
 d. None of these answers are correct.
 **Topic: Basic Assumptions of Science, pp. 6-8, Answer: d**

11. The ultimate goal of the social sciences is to produce an accumulating body of reliable knowledge enabling us to:
 a. predict, understand, and control.
 b. explain, manipulate, and dominate.
 c. explain, predict, and understand.
 d. predict, understand, and manipulate.
 **Topic: Aims of the Social Sciences, p. 8, Answer: c**

12. In a deductive explanation, when a conclusion logically follows from the various premises of the explanation and one or more premises is not true, the explanation is:
 a. deductively valid.
 b. deductively sound.
 c. *a posteriori.*
 d. *a priori.*
 **Topic: Aims of the Social Sciences, pp. 9-10, Answer: a**

13. Inductive explanations are distinguished from deductive explanations on the basis of:
 a. logic.
 b. empirical evidence.
 c. universal laws.
 d. probabilistic judgments.
 **Topic: Aims of the Social Sciences, pp. 8-9, Answer: d**

14. An abductive (retroductive) explanation:
 a. utilizes universal laws to derive an explanation.
 b. has minimal risk of being invalidated by factors outside the purview of the scientist.
 c. is common in axiomatic (or formal) theory.
 d. can provide a more empathetic understanding of social phenomena.
 **Topic: Aims of the Social Sciences, p. 10, Answer: d**

15. A deductive explanation:
 a. expresses an arithmetical ratio between phenomena.
 b. is based on probabilistic generalizations.
 c. cannot be generalized.
 d. is based on universal laws.
 **Topic: Aims of the Social Sciences, p. 8, Answer: d**

16. A scientific explanation that is based upon probabilistic generalization is a(n) \_\_\_\_\_ explanation.
 a. probabilistic
 b. deductive
 c. inductive
 d. supernatural
 **Topic: Aims of the Social Sciences, p. 8, Answer: c**

17. A probabilistic (inductive) explanation:
 a. expresses an arithmetical ratio between phenomena.
 b. is based on intuition.
 c. cannot be generalized.
 d. is based on universal laws.

 **Topic: Aims of the Social Sciences, p. 8, Answer: a**

18. The chief limitation of probabilistic (inductive) generalizations is that:
 a. they are not as accurate as deductive explanations.
 b. such generalizations cannot be verified empirically.
 c. certain conclusions cannot be drawn from specific cases.
 d. they are frequently unscientific.
 **Topic: Aims of the Social Sciences, p. 8, Answer: c**

18. Logically speaking, the process of prediction is:
 a. identical to the process of explanation.
 b. not an integral ingredient in the scientific approach.
 c. always accurate as long as antecedent conditions have been verified.
 d. the reverse of the process of explanation.
 **Topic: Aims of the Social Sciences, pp. 10-11, Answer: d**

19. According to the text, the meaning of the term *understanding*:
 a. is not agreed upon.
 b. suggests that the social and natural sciences potentially comprise separate bodies of knowledge.
 c. is rooted in the *Verstehen* tradition.
 d. all of these answers are correct.
 **Topic: Aims of the Social Sciences, pp. 11-12, Answer: d**

20. According to the *Verstehen* tradition:
 a. the natural and social sciences are logically identical in their subject matter.
 b. the natural and social sciences are distinctive bodies of knowledge.
 c. social scientists can obtain objective knowledge about the natural as well as the social world.
 d. empathetic understanding is not essential to the production of knowledge.
 **Topic: Aims of the Social Sciences, pp. 11-12, Answer: b**

21. According to the interpretive approach, which emerged as an offspring of the *Verstehen* tradition:
 a. both the subject matter of the social sciences and the credibility of the findings are less enduring than those attributed to the natural sciences.
 b. there is no difference between the natural and social sciences.
 c. the structure of the scientific method in the natural and social sciences is identical.
 d. social scientists deal in absolute truth.
 **Topic: Aims of the Social Sciences, p. 12 Answer: a**

22. Logical empiricists take the position that:
 a. social scientists can attain objective knowledge in the study of the natural as well as the social world.
 b. the natural and social sciences are distinctive bodies of knowledge with divergent subject matters.
 c. knowledge claims are justified by sensory experiences alone.
 d. none of these answers are correct.
 **Topic: Aims of the Social Sciences, p. 12, Answer: a**

23. Scientific methodology is a system of explicit rules and procedures that is:
 a. closed and infallible.
 b. logically complete such that new methods are unnecessary.
 c. self‑correcting.
 d. immune to criticism.
 **Topic: The Roles of Methodology, p. 12, Answer: c**

24. During the evolution of the methodology of the social sciences, a system of rules and procedures has emerged, representing a \_\_\_\_\_\_\_\_\_\_ framework of scientific methodology.
 a. positive
 b. relational
 c. normative
 d. probabilistic
 **Topic: The Roles of Methodology, pp. 12-13, Answer: c**

25. According to the text, replication in science:
 a. is unnecessary.
 b. takes place only when it is suspected that another investigator proceeded under false assumptions.
 c. typically reveals that other investigators failed to report their findings correctly.
 d. serves as a safeguard against unintentional error.
 **Topic: The Roles of Methodology, p. 13, Answer: d**

26. *Constructive criticism* implies that:
 a. certain probing questions should be asked about the procedures used.
 b. claims for knowledge cannot be refuted.
 c. most scientists reject real criticism.
 d. scientific studies are never flawed.
 **Topic: The Roles of Methodology, p. 13, Answer: a**

27. The system of reasoning that permits drawing reliable inferences from factual observations is:
 a. logic.
 b. tautology.
 c. philosophy.
 d. methodology.
 **Topic: The Roles of Methodology, p. 13, Answer: a**

28. The essential tool of the scientific approach, along with empirical observation is:
 a. criticism.
 b. observation.
 c. logic.
 d. none of these answers are correct
 **Topic: The Roles of Methodology, p. 13, Answer: c**

29. Conclusions in deductive or probabilistic explanations:
 a. are established on the basis of purely logical principles.
 b. must be established with empirical evidence.
 c. follow strictly from the verification of general laws on which such conclusions are based.
 d. are nonsensical.
 **Topic: The Roles of Methodology, p. 14, Answer: b**

30. In order to be intersubjective, knowledge in general and scientific methodology in particular must be:
 a. transmissible.
 b. indisputable in scientific terms.
 c. forever valid.
 d. all of these answers are correct

**Topic: The Roles of Methodology, p. 14, Answer: a**

31. According to Kuhn, normal science:
 a. is viewed as the routine verification of the dominant theory in any historical period.
 b. is similar to revolutionary science.
 c. challenges contemporary paradigms and replaces them as necessary.
 d. is pursued by objective scientists that have no allegiance to a particular paradigm.
 **Topic: Scientific Revolutions, p. 15, Answer: a**

32. According to Kuhn, achievements that are sufficiently unprecedented to attract an enduring group of adherents away from competing modes of scientific activity are termed:
 a. paradigms.
 b. tautologies.
 c. methodologies.
 d. revolutions.
 **Topic: Scientific Revolutions, p. 15, Answer: a**

34. According to Kuhn:
 a. revolutionary science is the development of rival paradigms that are accepted gradually by the scientific community
 b. normal science involves routine verification and testing as part of a puzzle‑solving activity
 c. paradigm transformation characterizes revolutionary science
 d. all of these answers are correct
 **Topic: Scientific Revolutions, pp. 15-16, Answer: d**

35. According to Karl Popper's prescriptive theory:
 a. one dominant paradigm must eventually emerge in science.
 b. the scientific community ought to be an open society in which no dominant paradigm is ever sacred.
 c. the "normal scientist" has been properly taught.
 d. the scientific community ought to be a closed society characterized by a single, dominant paradigm.
 **Topic: Scientific Revolutions, pp. 16-17, Answer: b**

36. The activities of scientists as they attempt to validate claims for knowledge are referred to as the:
 a. research process.
 b. art of insight.
 c. context of justification.
 d. context of discovery.
 **Topic: Scientific Revolutions, p. 16, Answer: c**

37. The activities of the scientist within the context of \_\_\_\_\_\_\_\_\_\_\_\_ are not constrained by methodology.
 a. justification
 b. discovery
 c. science
 d. verification
 **Topic: Scientific Revolutions, pp. 16-17, Answer: b**

38. Which of the following is NOT one of the fundamental stages of the research process?
 a. measurement
 b. speculation
 c. data collection
 d. generalization
 **Topic: The Research Process, pp. 17-18, Answer: b**

39. The most characteristic feature of the research process is:
 a. its cyclic nature.
 b. measurement by design.
 c. hypothesizing.
 d. theory building.
 **Topic: The Research Process, p. 17, Answer: a**

40. The research process:
 a. involves going through the fifteen distinct stages of the process.
 b. begins at the same point in the process in order to facilitate replication and verification.
 c. is an overall strategy of scientific activities that scientists engage in to produce knowledge.
 d. is purely a logical exercise.
 **Topic: The Research Process, pp. 17-18, Answer: c**

**True/False Section**

T F 1. What makes knowledge scientific is the methodology used to obtain it.

**Topic: What Is Science?, p. 4, Answer: True**

T F 2. Claims to propositional knowledge require a set of beliefs that are both true and justified.

**Topic: Approaches to Knowledge, p. 5, Answer: True**

T F 3. One of the basic assumptions of science is that knowledge is self-evident.

**Topic: Assumptions of Science, p. 7, Answer: False**

T F 4. Deductively sound explanations are valid but not necessarily true.

**Topic: Aims of the Social Sciences, p. 9, Answer: False**

T F 5. Abductive explanations are not commonly employed by those in the social sciences, but are preferred in the natural sciences.

**Topic: Aims of the Social Sciences, p. 10, Answer: False**

T F 6. The *Verstehen* tradition is based on empathic understanding of social phenomena.

**Topic: Aims of the Social Sciences, pp. 11-12, Answer: True**

T F 7. Replication and constructive criticism are important safeguards against unintended error and ensure quality research.

**Topic: The Roles of Methodology, p. 13, Answer: True**

T F 8. Knowledge that is communicable and mutually agreed upon by members of the scientific community is known as deductive.

**Topic: The Roles of Methodology, p. 14, Answer: False**

T F 9. A paradigm is unprecedented enough to attract an enduring group of adherents away from other commonly held scientific beliefs.

**Topic: Normal Science, p. 15, Answer: True**

T F 10. Generalizations derived from a tested hypothesis that is true cannot be refuted.

**Topic: The Research Process, p. 18, Answer: False**

**Essay Section**

1. Compare and contrast rationalist and empiricist modes of thought regarding claims to knowledge, and discuss the contribution of Immanuel Kant.
2. What are the basic assumptions of science? Use three of these assumptions to invalidate commonly held beliefs about natural phenomena that are not rooted in science.
3. Compare and contrast deductive, inductive, and abductive explanations of the relationship between two or more phenomena. Detail a situation where only an abductive explanation would suffice, and explain why neither deductive nor inductive explanations could adequately explain said phenomenon.
4. Explain how rules communication, reasoning, and intersubjectivity are important in scientific methodology, and how constructive criticism from other scientists is vital for scientific research and ultimately knowledge claims.
5. Define a scientific paradigm in the context of “normal science.” Give an example of a revolutionary scientific paradigm that was (or still is) commonly rejected within the scientific community.