Scientific and Social Values MOT1442 Q2 2022/23 – Scientific Values Exam - (3 Hours) 13th December 2022 – 13:30-16:30

1. False
2. True
3. True
4. True
5. False
6. True
7. False
8. True
9. False
10. B
11. D
12. A
13. C
14. –
15. –
16. C
17. D
18. B
19. D
20. B
21. C× B（比较每个遗憾里面最大的谁最小就选谁而不是遗憾值相加最小）
22. A
23. B
24. B
25. C
26. 太简单了
27. 太简单了
28. Falsificationism, a concept introduced by philosopher Karl Popper, posits that scientific theories cannot be definitively proven out but can only be falsified. This approach emphasizes the importance of empirical testability and the ability to disprove hypotheses through experimentation or observation. A theory is considered to be scientific if it presents the possibility of being shown false by some conceivable event or observation.

This perspective acknowledges that scientific knowledge is provision and subject to revision. Science progresses by eliminating false hypotheses, gradually narrowing the scope of uncertainty and leading us closer to understanding the true nature of reality.

It reflects the inherently tentative and self-correcting nature of scientific inquiry. In science, theories and models are developed to explain observations and predict outcomes. While these theories may closely approximate reality, they are not absolute truth. Instead, they are the best explanations currently available, subject to change with new evidence or better theories. This process of constant refinement and falsification is central to scientific progress.

Scientific and Social Values MOT1442 Q2 2022/23 – Scientific Values Exam RESIT - (3 Hours) 13th April 2023 – 9:00-12:00

1. B
2. B
3. A
4. B
5. B
6. B
7. B
8. A
9. B
10. B
11. C
12. A
13. A
14. A
15. So easy
16. B
17. C
18. D
19. C
20. B
21. B
22. C
23. B
24. D
25. C
26. Easy
27. Easy
28. Falsificationism, a concept proposed by philosopher Karl Popper, posits that for a theory to be considered scientific, it must be falsifiable. This means that the theory should be structured in such a way that it can be tested and potentially disproven by empirical evidence. The key aspect of falsificationism is not that a theory has been proven false but that it can be proven false, if indeed it is false. This criterion demarcates scientific theories from non-scientific ones, based on the principle that a theory should be testable and exposed to the possibility of being wrong.

I agree with the statement that the falsifiability of the theory is an important criterion for considering it scientific. Falsificationism encourages rigorous testing and critical scrutiny(审查), which are essential components of the scientific method. A theory that cannot be tested or is immune to potential refutation does not align with the empirical nature of science, which relies on observation and experimentation.

Moreover, falsiicationism fosters a dynamic and progressive understanding of knowledge. It acknowledges that scientific theories are not immutable truths but are instead provisional and subject to change with new evidence. This perspective aligns with the historical progression of science, where theories evolve, adapt, or are replaced in light of new idea.

Scientific and Social Values MOT1442 Q2 2021/22 – Scientific Values Exam - (3 ½ Hours) 7th December 2021 – X-Sports Hall 3

1. B
2. B
3. A
4. A
5. A
6. B
7. B
8. C
9. C
10. A
11. B
12. A
13. C
14. B
15. D
16. –
17. –
18. –
19. –
20. A
21. D
22. C
23. Easy
24. Falsificationism, a concept proposed by philosopher Karl Popper, suggests that scientific theories cannot be conclusively proven but can only be falsified. This philosophy posits that a theory is scientific if it is testable and can be potentially disproven by evidence. Falsifiacationism emphasizes the tentative and provisional nature of scientific knowledge, arguing that even well-established theories might be overturned if new, contradictory evidence arises.

Therefore, this statement is not entirely aligned with the principal of falsificationism. Science, indeed, offers us a way to understand the world around us, but the truths it provides are not absolute or final. Instead, scientific knowledge is better understood as a collection of theories that are the best explanations we have based on current evidence. These theories are always subject to revision, refinement, or rejection in light of new evidence.

Science’s strength lies in its openness to challenge and change. This scientific method is a process of continuous hypothesis testing, experimentation, observation, and refinement. As new data emerges, scientific theories evolve. This dynamic nature of science means that what we accept as true today might be modified or discarded tomorrow.