

Critical Analysis and Reasoning Skills Sample Paper 2

Passage I (Questions 1–6)

Historians of technology have debated whether major innovations are primarily the product of individual genius or of broader social and economic conditions. One school emphasizes the solitary inventor whose sudden insight reshapes an industry. Another stresses that inventions typically emerge from networks of skilled artisans, competing firms, and enabling infrastructures already in place. According to the second view, the celebrated “eureka” moment is often the visible tip of a much larger process of incremental improvement, knowledge sharing, and market demand. Proponents of the social view further note that similar solutions frequently appear independently in different places once the necessary technical and commercial preconditions exist, a phenomenon sometimes called simultaneous invention. Critics of this perspective counter that it underestimates the irreducible contribution of exceptional individuals who see possibilities others overlook. They point to cases in which a single figure’s work demonstrably accelerated development far beyond what the surrounding context alone would have produced. A more recent synthesis suggests that individual creativity and social context are mutually constitutive: talented people are more likely to flourish where institutions reward experimentation, while those same institutions are themselves shaped by the breakthroughs of earlier innovators.

Question 1

The author’s main purpose is to:

- a) Argue that individual genius is the sole driver of technological change
- b) Present contrasting views on the sources of technological innovation and a possible reconciliation
- c) Demonstrate that simultaneous invention never occurs
- d) Provide a chronological history of a particular invention

Correct Answer: b) Present contrasting views on the sources of technological innovation and a possible reconciliation

Explanation:

The passage outlines the individual-genius and social-context schools, notes criticisms, and ends with a synthesis that treats the two as mutually constitutive.

Question 2

According to the social view described in the passage, the “eureka” moment is typically:

- a) The sole cause of subsequent industrial change
- b) The visible tip of a larger process of incremental improvement and knowledge sharing
- c) An event that occurs only in isolation from market demand
- d) Proof that social networks are irrelevant

Correct Answer: b) The visible tip of a larger process of incremental improvement and knowledge sharing

Explanation:

The text states exactly this characterization of the eureka moment under the social view.

Question 3

The phenomenon of simultaneous invention is cited by proponents of the social view as evidence that:

- a) Individual genius is indispensable
- b) Necessary technical and commercial preconditions make similar solutions likely to appear independently
- c) Inventions never arise from artisan networks
- d) Market demand is irrelevant to innovation

Correct Answer: b) Necessary technical and commercial preconditions make similar solutions likely to appear independently

Explanation:

The passage links simultaneous invention to the existence of shared preconditions.

Question 4

Critics of the social perspective claim that it:

- a) Overemphasizes the role of institutions
- b) Underestimates the contribution of exceptional individuals
- c) Ignores the existence of simultaneous invention
- d) Denies that market demand ever matters

Correct Answer: b) Underestimates the contribution of exceptional individuals

Explanation:

The text states that critics “counter that it underestimates the irreducible contribution of exceptional individuals.”

Question 5

The synthesis offered at the end of the passage treats individual creativity and social context as:

- a) Mutually exclusive explanations
- b) Mutually constitutive
- c) Entirely reducible to economic forces
- d) Irrelevant to one another

Correct Answer: b) Mutually constitutive

Explanation:

The final sentence explicitly describes them as “mutually constitutive.”

Question 6

Which of the following, if true, would most strengthen the critics’ position?

- a) Many inventions arise gradually from artisan workshops
- b) Documented cases exist in which a single individual’s work produced advances that the surrounding context had failed to generate for decades
- c) Simultaneous invention is more common than previously thought
- d) Institutions that reward experimentation tend to attract talented people

Correct Answer: b) Documented cases exist in which a single individual’s work produced advances that the surrounding context had failed to generate for decades

Explanation:

Such cases would directly support the claim that exceptional individuals make irreducible contributions beyond what context alone supplies.