

Rhetorical Synthesis

Question 1

While researching a topic, a student has taken the following notes:

- The 'winner's curse' denotes a ubiquitous auction anomaly wherein the victorious bid substantially surpasses the actual intrinsic value of the acquired asset.
- This phenomenon typically manifests in common value auctions where asset utility is identical for all bidders, but information concerning true value remains imperfectly distributed.
- Information asymmetry fundamentally exacerbates this outcome, as the winning bidder likely possessed the most optimistic, and thus highest, valuation among participants.
- Cognitive biases, including overconfidence and intense competitive pressures, significantly contribute to bidders' systematic overestimation of an item's worth.
- Consequently, successful bidders frequently experience a post-transaction disillusionment, realizing diminished returns or even net financial loss on their "victory."
- Early observations by Capen, Clapp, and Campbell in 1971 documented oil companies suffering unexpectedly low returns in offshore lease auctions.
- To circumvent this affliction, rational agents should engage in strategic bid shading, adjusting their valuations downward by factoring in the conditional probability of winning.

The student wants to explain the interconnected factors that primarily contribute to the occurrence of the winner's curse. Which choice most effectively uses relevant information from the notes to accomplish this goal?

- A** Despite originating in oil lease auctions observed by Capen, Clapp, and Campbell, the winner's curse now pervades various competitive scenarios, including IPOs.
- B** The winner's curse leads to a paradoxical outcome where victorious bidders suffer diminished returns or financial losses, prompting a need for bid shading.
- C** In common value auctions, participants are compelled to adjust their bids downward, a strategic maneuver to prevent post-transactional disillusionment.
- D** The winner's curse fundamentally emerges from information asymmetry and optimistic bidder overestimation, both amplified by inherent cognitive biases like overconfidence in common value auction settings.

Question 2

- While researching a topic, a student has taken the following notes:
 - In 1965, Yale University historians claimed that a world map called the Vinland Map was drawn in the fifteenth century.
 - Since that time, the map's age has been the subject of debate.
 - In 2021, researchers conducted a study to analyze the elemental composition of the map's ink.
 - Their analysis revealed that the ink contains a titanium compound not used in inks until the 1920s.
 - The researchers concluded that the map was drawn in the twentieth century.

The student wants to present the study and its findings. Which choice most effectively uses relevant information from the notes to accomplish this goal?

- A** Given the debate about the Vinland Map's age, researchers in 2021 conducted a study to analyze the elemental composition of the map's ink.
- B** A 2021 study of the Vinland Map's ink revealed that it contains a titanium compound not used in inks until the 1920s, indicating that the map was drawn in the twentieth century.
- C** The Vinland Map, believed by some to have been drawn in the fifteenth century, was the focus of a 2021 study.
- D** Aware that a certain titanium compound was not used in inks until the 1920s, researchers in 2021 studied the elemental composition of the Vinland Map's ink.

Question 3

While researching a topic, a student has taken the following notes:

- The 'Ben Franklin effect' describes how asking someone for a favor can increase their positive regard toward the requestor.
- Benjamin Franklin extensively documented employing this psychological tactic to transform political adversaries into personal allies.
- This counterintuitive phenomenon is often explained by cognitive dissonance, as individuals rationalize helping someone by concluding they must like that person.
- The Jecker and Landy study in 1969 compellingly demonstrated this effect with participants who returned money to an experimenter.
- This finding directly challenges the common assumption that receiving help inherently leads to a sense of obligation or resentment.
- Modern psychological theories often integrate self-perception theory, where people infer their own attitudes from observing their behaviors.

The student wants to explain the psychological basis for why the 'Ben Franklin effect' occurs. Which choice most effectively uses relevant information from the notes to accomplish this goal?

- A** The 'Ben Franklin effect,' which involves asking a favor, can actually make someone like the requestor more, as Benjamin Franklin noted.
- B** In 1969, Jecker and Landy conducted a study illustrating how people who helped an experimenter liked them more, similar to Franklin's observations.
- C** The phenomenon is explained by cognitive dissonance and self-perception theory, as individuals rationalize helping by inferring positive feelings for the person.
- D** The 'Ben Franklin effect' contradicts the common notion that offering assistance often results in resentment or an uncomfortable feeling of

indebtedness.

Question 4

While researching a topic, a student has taken the following notes:

- Traditional concrete production significantly contributes to global CO₂ emissions, posing a severe environmental challenge for the construction industry.
- Scientists are developing 'living concrete' by incorporating photosynthetic cyanobacteria into a sand and hydrogel matrix.
- These specific microbes, such as *Synechococcus*, use sunlight to perform photosynthesis, subsequently converting atmospheric CO₂ into calcium carbonate.
- The precipitated calcium carbonate acts as a natural biocement, effectively binding aggregate particles to form robust, self-healing building material.
- Beyond enhanced durability, this novel bio-concrete offers significant advantages, including carbon sequestration and regenerative capacity, potentially growing new bricks from existing ones.
- Pioneering research in this domain, led by engineer Wil Srubar at the University of Colorado Boulder, highlights its potential to revolutionize sustainable construction.

The student wants to explain the primary scientific mechanism by which living concrete forms its structural integrity. Which choice most effectively uses relevant information from the notes to accomplish this goal?

- A** Living concrete integrates photosynthetic cyanobacteria within a sand and hydrogel structure to reduce the environmental impact of conventional building materials.
- B** Through photosynthesis, cyanobacteria embedded in the matrix absorb carbon dioxide, leading to the precipitation of calcium carbonate, which functions as a robust binding agent.
- C** Engineered by researchers like Wil Srubar, this advanced bio-concrete leverages microbial activity to achieve self-healing properties and notable regenerative capacities.

- D The development of living concrete offers a solution to the substantial CO₂ emissions from traditional concrete production, ensuring enhanced durability and sustainability.

Question 5

- Antonio Stradivari (1644-1737) made about 1,000 violins in his lifetime.
- Musicians prize his Stradivarius violins for their famed sound quality.
- Many of the 500 or so that exist today are named for a previous owner.
- The Jules Falk Stradivarius is named for Jules Falk, an American violinist.

Which choice most effectively uses information from the given sentences to explain how the Jules Falk Stradivarius got its name?

- A** Jules Falk was an American violinist.
- B** Of the 1,000 or so violins Antonio Stradivari made, only about 5000 exist today.
- C** Designed by Antonio Stradivari, Stradivarius violins like the Jules Falk are renowned for their quality.
- D** The Jules Falk Stradivarius is named after its former owner, Jules Falk.

Question 6

While researching a topic, a student has taken the following notes:

- Alexander Fleming discovered penicillin in 1928 through an accidental observation.
- He noticed *Penicillium notatum* mold preventing bacteria from growing on a dish.
- Fleming published his initial findings but faced challenges purifying the substance.
- In the 1940s, Howard Florey and Ernst Chain successfully purified penicillin.
- Their efforts led to its mass production and use in medicine during WWII.

The student wants to introduce the discovery and development of penicillin. Which choice most effectively uses relevant information from the notes to accomplish this goal?

- A** Alexander Fleming discovered penicillin, and Howard Florey and Ernst Chain later developed it for medical use.
- B** The accidental discovery of penicillin by Alexander Fleming in 1928 began the antibiotic era.
- C** Fleming's publication about *Penicillium notatum* led to Florey and Chain purifying the substance.
- D** *Penicillium notatum* mold was crucial for penicillin, which became important during WWII.

Question 7

While researching a topic, a student has taken the following notes:

- Breaching experiments are methodological procedures devised by sociologist Harold Garfinkel to reveal the tacit, normative foundations of everyday social interaction.
- These experiments involve deliberately violating unstated social rules, prompting unexpected reactions from unsuspecting participants within a given context.
- The disruptions expose how individuals strive to normalize the breach, thereby elucidating the underlying, often unarticulated, structures maintaining social order.
- Garfinkel's research, central to ethnomethodology, scrutinizes the commonsense methods people employ to construct and comprehend their social realities.
- Examples include students acting as formal lodgers in their own homes or asking "What do you mean?" to clear statements, generating confusion and discomfort.
- The observed responses illustrate the profound reliance on subtle social cues for mutual intelligibility and a collective sense of normalcy.

The student wants to emphasize the fundamental objective of conducting breaching experiments within ethnomethodological research. Which choice most effectively uses relevant information from the notes to accomplish this goal?

- A** Harold Garfinkel developed breaching experiments as a unique methodological procedure within ethnomethodology, involving deliberate violations of social rules.
- B** Breaching experiments, such as students acting as formal lodgers, prompt confusion and discomfort to reveal reliance on subtle social cues.
- C** The primary objective of breaching experiments is to deliberately disrupt unstated social norms to expose and elucidate the tacit

structures that underpin and maintain social order.

- D Ethnomethodology, advanced by Garfinkel, utilizes breaching experiments to scrutinize the commonsense methods people employ to navigate and comprehend social realities.

Question 8

While researching a topic, a student has taken the following notes:

- The *Third Wave* was a 1967 classroom experiment by teacher Ron Jones.
- It explored how German citizens accepted the Nazi regime.
- Jones simulated a fascist movement at Cubberley High School, California.
- Students quickly embraced strict discipline, community, and even served as informants.
- The experiment showed the powerful dangers of unchecked obedience and conformity.

The student wants to introduce the *Third Wave* experiment. Which choice most effectively uses relevant information from the notes to accomplish this goal?

- A** The *Third Wave* experiment involved students embracing discipline and acting as informants.
- B** Conducted in 1967 by Ron Jones, the experiment highlighted obedience and conformity.
- C** The *Third Wave* experiment, simulated by Ron Jones in 1967, demonstrated fascism's appeal to students.
- D** Students at Cubberley High School participated in the *Third Wave* experiment, which showed unchecked obedience.

Question 9

While researching a topic, a student has taken the following notes:

- *Skyquakes* are unexplained booming sounds reported globally, resembling distant thunder or cannon fire.
- This enigmatic atmospheric phenomenon often causes structural vibrations, baffling residents and scientists for centuries.
- Researchers like those at the University of North Carolina, around 2020, have analyzed seismo-acoustic data.
- Their studies suggest these noises are atmospheric phenomena, not directly linked to seismic activity.
- Multiple hypotheses exist, including meteoric bolides, escaping lake gases, and even distant atmospheric events.
- However, no single theory definitively explains the diverse origins of these widely reported audible transients.

The student wants to introduce *skyquakes* to an audience unfamiliar with the phenomenon. Which choice most effectively uses relevant information from the notes to accomplish this goal?

- A** Many different theories regarding the source of *skyquakes* have been investigated by researchers, yet a definitive explanation remains elusive.
- B** The University of North Carolina studied *skyquakes*, indicating they are atmospheric, unlike previous assumptions associating them with seismic events.
- C** *Skyquakes* are mysterious booming sounds, resembling distant thunder or cannon fire, reported worldwide and whose precise origins remain unexplained.
- D** Historically, *skyquakes* have caused physical disturbances like rattling windows, as documented across various global locations for centuries.

Question 10

While researching a topic, a student has taken the following notes:

- The term "digital dark age," coined by Terry Kuny in 1997, describes the prospective scarcity of historical information from our era due to digital data becoming inaccessible.
- Unlike stable analog artifacts like the Dead Sea Scrolls, digital information is inherently fragile, often relying on transient hardware and software infrastructures for legibility.
- A primary threat arises from technological obsolescence, where file formats, operating systems, or reading devices rapidly become antiquated and unreadable.
- Furthermore, data degradation, or "bit rot," physically corrupts storage media over time, jeopardizing the integrity of the binary code.
- The absence of crucial contextual metadata can also render preserved digital files unintelligible to future researchers, even if accessible.
- Institutions implement complex preservation strategies, such as format migration and system emulation, to combat these multifaceted challenges.

The student wants to explain the principal challenges confronting efforts to preserve digital information for the long term. Which choice most effectively uses relevant information from the notes to accomplish this goal?

- A** The "digital dark age" is a concept Terry Kuny introduced in 1997, highlighting concerns that our historical records, stored digitally, may become irretrievably lost.
- B** Long-term digital preservation is significantly complicated by technological obsolescence, the inherent fragility of storage media, and the potential loss of vital contextual metadata necessary for data interpretation.
- C** Unlike resilient analog records, which remain readable across millennia, digital records face rapid decay and are continuously

susceptible to hardware and software incompatibility.

- D Although institutions utilize various strategies like data migration and system emulation to ensure future access, these methods address the symptoms rather than the fundamental problems of digital impermanence.

Question 11

- Ynés Mexía a was a Mexican American botanist.
- Between 1917 and 1938, she collected over 150,000 botanical samples throughout the Americas.
- She collected a sample of *Baccharis dentata* in Minas Gerais, Brazil, on September 18, 1930.
- She collected a sample of *Senecio chapalensis* in Jalisco, Mexico, on January 17, 1927.
- These specimens are members of the Asteraceae family.
- They can now be viewed online at the C. V. Starr Virtual Herbarium.

Which choice most effectively uses information from the given sentences to emphasize when she collected both of the samples?

- A** Ynés Mexía collected a sample of *Baccharis dentata* in September of 1930, after collecting *Senecio chapalensis* in January of 1927.
- B** On September 18 in 1930, Ynés Mexía added a new specimen to her growing collection of botanical samples: *Baccharis dentata* of the Asteraceae family.
- C** While both specimens collected by Ynés Mexía are members of the same family, *Baccharis dentata* was found in Minas Gerais and *Senecio chapalensis* was found in Jalisco.
- D** Thousands of botanical samples collected by Ynés Mexía can now be found in one place: online at the C. V. Starr Virtual Herbarium.

Question 12

While researching a topic, a student has taken the following notes:

- The Sublime, a profound aesthetic category distinct from beauty, signifies an experience of overwhelming grandeur, inspiring awe and often a sense of terror rather than mere pleasure.
- Eighteenth-century philosophers Edmund Burke and Immanuel Kant significantly advanced the conceptualization of the sublime, influencing subsequent aesthetic and philosophical discourse.
- Burke, in *A Philosophical Enquiry into the Origin of Our Ideas of the Sublime and Beautiful* (1757), posited that the sublime fundamentally arises from experiences involving fear, pain, or danger.
- This physiological response, triggered by vastness or obscurity, suspends one's faculties, producing 'delightful horror' through the suggestion of potential destruction without actual harm.
- Kant, conversely, articulated in *Critique of Judgment* (1790) that the sublime is primarily a mental state, a recognition of reason's capacity to transcend sensory limitations.
- He differentiated between the mathematical sublime, born from overwhelming magnitude, and the dynamic sublime, emerging from nature's irresistible power, revealing reason's moral superiority.

The student wants to summarize how Edmund Burke conceptualized the origin of the sublime, specifically contrasting it with other aesthetic experiences mentioned. Which choice most effectively uses relevant information from the notes to accomplish this goal?

- A** Edmund Burke's *A Philosophical Enquiry* asserted that the sublime uniquely emerges from sensations of fear or danger, generating a "delightful horror," fundamentally distinguishing it from mere beauty's

pleasantness.

- B** Influential philosophers like Burke and Kant both contributed to defining the sublime, but only Burke focused on the physiological aspects, while

Kant explored its transcendental implications through mathematical and dynamic forms.

- C The sublime, characterized by overwhelming grandeur and awe, involves a unique physiological experience according to Burke, in which one's faculties are momentarily suspended, fostering a deep intellectual appreciation.
- D In *Critique of Judgment*, Kant discussed the mathematical and dynamic sublime as profound mental states, but Burke, in 1757, explored the inherent terror and suspension of faculties within sublime encounters.

Question 13

While researching a topic, a student has taken the following notes:

- Anyons are exotic *quasiparticles* existing exclusively within two-dimensional systems, defying traditional fermionic or bosonic classifications.
- Frank Wilczek coined the term "anyon" in 1982, describing particles whose wave function phase shift upon exchange can assume "any" value.
- Unlike fermions or bosons, braiding identical *anyons* in a 2D plane can alter their quantum state and retain a "memory" of interaction.
- This unique characteristic, particularly of non-Abelian *anyons*, is crucial for fault-tolerant topological quantum computation strategies.
- Recent breakthroughs by Google Quantum AI and Quantinuum in 2023 demonstrated manipulation of non-Abelian *anyons* for quantum logic gates.
- Further studies, including by Kwan and Greiner in 2024, explore *anyons'* existence in one-dimensional ultracold gas systems.

The student wants to introduce *anyons* to an audience completely unfamiliar with quantum mechanics or exotic particles. Which choice most effectively uses relevant information from the notes to accomplish this goal?

- A** *Anyons* are unusual *quasiparticles* found only in two-dimensional systems, representing a third category distinct from common fermions and bosons.
- B** Recent work by Google Quantum AI and Quantinuum showcases the manipulation of non-Abelian *anyons* for robust quantum computation, an exciting development.
- C** Coined by Frank Wilczek, *anyons* possess unique exchange statistics, where their wave function phase shifts can adopt "any" value when particles swap places.

- D Researchers are studying *anyons* for advanced quantum memory applications, exploring their behavior beyond two-dimensional systems.

Question 14

While researching a topic, a student has taken the following notes:

- Spintronics, a paradigm of "spin transport electronics," exploits the electron's intrinsic quantum spin in addition to its fundamental charge, diverging from conventional electronics.
- Electron spin, an intrinsic angular momentum, manifests as two discrete quantum states—"spin up" and "spin down"—which are utilized for encoding binary information.
- This approach promises substantial advancements, including accelerated processing speeds, considerably reduced power consumption, and enhanced data storage density.
- Key spintronic devices, such as Magnetic Random-Access Memory (MRAM) and spin transistors, leverage these spin states for non-volatile data storage.
- Research by scientists like Stuart Parkin has been instrumental in developing spin-transfer torque mechanisms crucial for manipulating electron spins effectively.
- Spintronic systems are often implemented in dilute magnetic semiconductors or Heusler alloys, presenting a foundation for future quantum computing architectures.

The student wants to highlight the essential distinction between spintronics and traditional electronics. Which choice most effectively uses relevant information from the notes to accomplish this goal?

- A** Spintronics, a developing field, involves research by scientists like Stuart Parkin, focusing on quantum computing foundations, unlike traditional electronics.
- B** Fundamentally, spintronics utilizes the electron's intrinsic quantum spin for information processing, whereas conventional electronics primarily relies on its charge.
- C** Although both fields are concerned with data manipulation, spintronics enables faster processing speeds and reduced power consumption, a significant advantage.

- D Spintronic systems, often found in dilute magnetic semiconductors and Heusler alloys, are vital for advanced memory devices such as MRAM and spin transistors.

Question 15

While researching a topic, a student has taken the following notes:

- "Unit bias" is a cognitive predisposition influencing individuals to perceive a single unit of an item as the optimal or appropriate quantity to consume, irrespective of its actual size.
- This heuristic significantly affects food intake, as people tend to consume larger quantities when presented with bigger units, even when portion sizes are objectively excessive.
- Pioneering work by Andrew B. Geier, Paul Rozin, and Gheorghe Doros (2006) formally established unit bias as a novel heuristic explaining the pervasive portion-size effect.
- Their experiments demonstrated that participants consumed substantially more pretzels or candies when offered larger individual units compared to smaller ones, even with options for multiple units.
- This bias stems from implicit consumption norms, where the presented unit acts as a mental shortcut or an implicit standard for appropriate quantity, simplifying dietary decisions.
- Though sometimes referred to as a "segmentation effect," dividing food into smaller subunits can paradoxically reduce overall intake by disrupting the perceived singular "unit."

The student wants to explain the fundamental nature of unit bias and its primary implication for consumption. Which choice most effectively uses relevant information from the notes to accomplish this goal?

- A** Andrew B. Geier, Paul Rozin, and Gheorghe Doros's 2006 research on unit bias showed that larger portions of pretzels and candies led to increased consumption by participants.
- B** The "segmentation effect," which involves dividing food into smaller subunits, can be an effective strategy to reduce overall intake, challenging traditional understandings of unit bias.
- C** Unit bias, identified in behavioral psychology, primarily concerns how

external cues, such as portion sizes, become culturally designated "proper" amounts influencing eating behaviors.

- D Unit bias is a cognitive tendency wherein individuals regard a single available unit as the appropriate amount to consume, which subsequently drives increased intake when units are larger.

Question 16

While researching a topic, a student has taken the following notes:

- Conflict theory, a prominent macro-sociological perspective, conceptualizes societal dynamics as an incessant struggle for scarce resources and power among divergent groups, thereby challenging assumptions of social consensus.
- Karl Marx extensively articulated this framework, asserting that economic structures primarily dictate social organization, manifesting as an inherent class struggle between the bourgeoisie and proletariat (19th century).
- Max Weber later broadened this theoretical lens, arguing that social stratification extends beyond economic class, encompassing status (prestige) and party (political power) as distinct yet interacting dimensions of inequality.
- This perspective posits that social order is fundamentally maintained through the coercion and dominance of powerful factions, rather than mutual agreement or shared values, making stability often tenuous.
- Consequently, radical societal transformations and evolutionary processes typically emanate from this persistent contestation and disequilibrium among vying collectives, advocating for change through confrontation.
- Unlike structural functionalism, which prioritizes social harmony and gradual adaptation, conflict theory views pervasive discord as both endemic and a principal catalyst for profound social evolution.

The student wants to explain the nuanced distinction between Marx's and Weber's contributions to conflict theory regarding the fundamental drivers of societal stratification and conflict. Which choice most effectively uses relevant information from the notes to accomplish this goal?

- A** Conflict theory posits that social order is primarily sustained by dominant groups exerting power, challenging the notion of societal consensus and shared values.
- B** While Karl Marx focused on economic determinism and class conflict as core to society's struggles, Max Weber expanded the theory to include status and political party as additional, significant dimensions of social power and stratification.
- C** Early iterations of conflict theory, significantly advanced by Karl Marx, underscored economic class conflict as society's prime mover, whereas Max Weber later introduced a more multidimensional view, incorporating prestige and political affiliation alongside class to explain societal power dynamics.
- D** Social change, according to conflict theory, often results from persistent societal contestation and disequilibrium among competing collectives, rather than from gradual, harmonious adjustments advocated by functionalism.

Question 17

While researching a topic, a student has taken the following notes:

- Perovskite minerals, first identified in 1837, exhibit a distinct crystal structure named after Russian mineralogist L.A. Perovski.
- In 2009, Tsutomu Miyasaka's team pioneered the integration of a perovskite compound into a dye-sensitized solar cell design.
- This early device recorded a mere 3.8% power conversion efficiency, plagued by rapid degradation using liquid electrolytes.
- Continuous advancements in material science dramatically escalated power conversion efficiency to over 25% by 2021.
- Perovskite solar cells now boast high efficiency and fabrication cost advantages, becoming potent rivals to silicon.
- Nevertheless, long-term stability and environmental concerns regarding lead content persist as critical research foci.

The student wants to introduce perovskite solar cells to an audience *unfamiliar* with the technology. Which choice most effectively uses relevant information from the notes to accomplish this goal?

- A** First described in 1837, perovskite minerals were applied in a rudimentary solar cell by Miyasaka's team, initially achieving 3.8% efficiency.
- B** Perovskite solar cells, leveraging a unique crystal structure, offer high efficiency and low production costs, despite ongoing stability challenges.
- C** While early perovskite solar cells were limited by liquid electrolytes, subsequent advancements have elevated their efficiency beyond 25%.
- D** Researchers are currently addressing the crucial issues of long-term stability and the toxicity associated with the lead content in perovskite solar cells.

Question 18

While researching a topic, a student has taken the following notes:

- Ephemera encompasses transient documentary materials, such as tickets or broadsides, originally produced without an intention for long-term retention or archival permanence.
- The term's etymological roots trace to the Greek "ephemeron," denoting something existing for merely one day, underscoring its inherently fleeting characteristic.
- Despite their intended transience, these artifacts offer profound, unmediated insights into popular culture and daily life that are frequently absent from conventional records.
- Traditionally, the heterogeneous nature and perceived inconsequence of ephemera presented substantial challenges for systematic acquisition and descriptive cataloging in institutions.
- Contemporary scholarship increasingly recognizes ephemera as crucial primary sources, facilitating nuanced analyses across cultural, social, and historical research domains.
- The expansion to include digital artifacts complicates classification, extending the study of ephemera into new frontiers of unstable informational media.

The student wants to summarize the primary reason ephemera has become a significant subject of academic study despite its inherent design. Which choice most effectively uses relevant information from the notes to accomplish this goal?

- A** Though initially conceived as fleeting, ephemera's critical importance lies in providing unmediated, granular insights into societal intricacies often overlooked by more formal historical documentation.
- B** Ephemera, derived from a Greek term for transience, has expanded into digital forms, presenting new complexities for its classification and preservation within institutional frameworks.

- C The challenges associated with the systematic acquisition and descriptive cataloging of ephemera have historically been substantial due to its diverse and transient nature.
- D Contemporary scholarly endeavors have increasingly recognized the nuanced analytical potential of these diverse materials across various humanities and social science disciplines.

Question 19

While researching a topic, a student has taken the following notes:

- Blue holes are marine caverns or sinkholes formed primarily by karst processes, like limestone dissolution during past ice ages when sea levels were significantly lower.
- Characteristically, these submerged geological features exhibit distinct stratification, featuring an overlying freshwater lens above denser, more saline anoxic deepwater layers.
- Such anoxic conditions foster unique extremophilic microbial communities, including anoxygenic phototrophs like *Chlorobi*, adapted to thrive in oxygen-depleted environments.
- Research, notably by Iliffe and Gonzalez (2011), reveals high microbial diversity, including potentially novel species, suggesting evolutionary pathways analogous to early Earth's sulfidic oceans.
- Consequently, blue holes represent vital natural laboratories for studying geomicrobiology, climate change records, and potential astrobiological implications of anaerobic life.

The student wants to provide a comprehensive overview of the unique environmental characteristics and profound scientific significance of blue holes. Which choice most effectively uses relevant information from the notes to accomplish this goal?

- A** Blue holes, formed during glacial periods through karst processes, possess distinct anoxic stratification that nurtures extremophilic microbial communities, making them invaluable for research into early Earth, astrobiology, and paleoclimate.
- B** Iliffe and Gonzalez (2011) discovered diverse microbial species, including novel ones, within the anoxic layers of blue holes, confirming their importance for geomicrobiological studies.
- C** These marine sinkholes formed by limestone erosion contain stratified water columns with freshwater overlaying denser anoxic saltwater, supporting unique microbial life in their depths.

- D Vital for understanding climate change and geological processes, blue holes are unique marine caverns that arose from karst dissolution, providing records of ancient environments.

Question 20

While researching a topic, a student has taken the following notes:

- Digital Humanities (DH) emerged as an interdisciplinary field, applying computational methodologies to traditional humanities inquiry.
- Historically rooted in "Humanities Computing," DH evolved beyond instrumental application of tools to encompass critical engagement with digital culture.
- Core methods include *text mining* and *distant reading*, analyzing extensive corpora rather than individual texts, which contrasts with traditional close reading.
- This macroscopic approach discerns broad patterns, trends, and latent structures within cultural artifacts that elude phenomenological interpretation.
- Pioneering projects like Franco Moretti's work on *distant reading* and the *Mapping the Republic of Letters* visualize large-scale historical networks.
- The concept of computational hermeneutics explores how digital affordances transform meaning-making and scholarly understanding.

The student wants to introduce the multifaceted nature of Digital Humanities to an audience largely unfamiliar with the field. Which choice most effectively uses relevant information from the notes to accomplish this goal?

- A** Digital Humanities is a dynamic interdisciplinary field utilizing computational methods to analyze extensive cultural data, thereby revealing macroscopic patterns beyond traditional textual interpretation.
- B** Evolving from "Humanities Computing," Digital Humanities now engages critically with digital culture, including pioneering projects like *Mapping the Republic of Letters*.
- C** While some foundational methods include *text mining* and Franco Moretti's *distant reading*, the field truly explores the profound implications of computational hermeneutics.

- D Digital Humanities employs digital technologies, like *text mining* and *distant reading*, to analyze large corpora, representing a significant shift from close reading methods in humanities scholarship.

Answers

Question 1

Correct Answer: D

For Students' Notes questions, you should as always start by reading the question. Here, the student wants to explain the interconnected factors that primarily contribute to the occurrence of the winner's curse.

Looking at the answers:

- (A) discusses the origin and prevalence of the winner's curse, not its contributing factors.
- (B) explains the consequences of the winner's curse and a strategy to avoid it, rather than its causes.
- (C) focuses on a strategy to counteract the winner's curse, not the reasons it happens in the first place.
- (D) directly addresses the question by identifying the main contributing factors: information asymmetry, optimistic overestimation, and cognitive biases.

Hence, (D) is the correct answer.

Question 2

Correct Answer: B

For Students' Notes questions, you should as always start by reading the question. Here, the student wants to present the study and its findings.

Looking at the answers:

- (A) mentions the reason for the study and its method but fails to include the actual findings.
- (B) presents the 2021 study, the specific evidence found in the ink, and the resulting conclusion.

- (C) introduces the map and mentions it was the focus of a study without providing any details or findings.
- (D) discusses the researchers' knowledge and the study's method but omits the study's conclusion.

Hence, **(B)** is the correct answer because it is the only choice that identifies both the study itself and its specific findings regarding the map's age.

Question 3

Correct Answer: C

For Students' Notes questions, you should as always start by reading the question. Here, the student wants to explain the psychological basis for why the 'Ben Franklin effect' occurs.

Looking at the answers:

- (A) explains what the effect is and who noted it, but not the psychological reason behind it.
- (B) provides an example of a study that demonstrated the effect, but it doesn't explain the psychological mechanism.
- (C) directly addresses the psychological basis by mentioning cognitive dissonance and self-perception theory, which are the reasons provided in the notes for why the effect works.
- (D) contrasts the effect with a common assumption, but it does not explain the underlying psychological cause.

Hence, (C) is the correct answer.

Question 4

Correct Answer: B

For Students' Notes questions, you should as always start by reading the question. Here, the student wants to explain the primary scientific mechanism by which living concrete forms its structural integrity.

Looking at the answers:

- (A) explains the composition of living concrete and its environmental benefit but not the mechanism of how it gains its strength.
- (B) directly explains the scientific process: photosynthesis leads to calcium carbonate, which acts as a binder, thus forming the structure.
- (C) mentions the researcher and the material's properties (self-healing, regenerative) but not the core scientific mechanism of its formation.
- (D) focuses on the benefits and advantages of living concrete over traditional concrete, not the scientific mechanism.

Hence, (B) is the correct answer.

Question 5

Correct Answer: D

For Students' Notes questions, you should as always start by reading the question. Here, the student wants to explain *how the Jules Falk Stradivarius got its name*.

Looking at the answers:

- (A) simply states a fact about Jules Falk but doesn't connect him to the violin's name.
- (B) provides general information about the number of Stradivarius violins, which doesn't explain the naming of a specific one.
- (C) discusses the quality of Stradivarius violins but doesn't address the naming convention.
- (D) directly answers the question by combining two key pieces of information from the notes: that many violins are named for a previous owner and that the Jules Falk Stradivarius is named for Jules Falk.

Hence, (D) is the correct answer because it most effectively uses the relevant information to accomplish the student's goal.

Question 6

Correct Answer: A

For Students' Notes questions, you should as always start by reading the question. Here, the student wants to introduce the discovery and development of penicillin.

Looking at the answers:

- (A) mentions both the discovery by Fleming and the later development by Florey and Chain.
- (B) focuses on the discovery by Fleming and its impact, but not its development.
- (C) details a specific sequence of events (publication leading to purification) but doesn't provide a broad introduction.
- (D) mentions the mold and its importance in WWII but omits the key figures involved in the discovery and development.

Since the goal is to introduce both the discovery and the development, the answer must mention both parts. Choice (A) effectively summarizes both key stages mentioned in the notes: Fleming's discovery and Florey and Chain's subsequent development for medical use. Hence, (A) is the correct answer.

Question 7

Correct Answer: C

For Students' Notes questions, you should as always start by reading the question. Here, the student wants to emphasize the fundamental objective of conducting breaching experiments. The keywords are "fundamental objective".

Looking at the answers:

- (A) introduces the experiments and who developed them but does not state their main goal.

- (B) provides an example of a breaching experiment and its result, but doesn't explain the overall objective.
- (C) directly states the primary objective of these experiments, which is to expose the underlying structures of social order.
- (D) describes how ethnomethodology uses the experiments, which is close, but doesn't focus on the core objective of the experiments themselves as clearly as (C) does.

Hence, (C) is the correct answer because it most directly and effectively addresses the student's goal of emphasizing the fundamental objective of the experiments.

Question 8

Correct Answer: C

For Students' Notes questions, you should as always start by reading the question. Here, the student wants to introduce the Third Wave experiment.

Looking at the answers:

- (A) focuses on what the students did during the experiment but lacks context about what the experiment was or who ran it.
- (B) mentions who conducted the experiment and its conclusion but doesn't explain what the experiment actually was.
- (C) provides a comprehensive introduction: it names the experiment, states who conducted it and when, and explains what it demonstrated.
- (D) mentions the location and a key finding but omits important introductory details like the conductor's name and the experiment's central theme of fascism.

Hence, (C) is the correct answer because it most effectively introduces the experiment by summarizing the key information from the notes: the name, the teacher, the year, and the core concept being demonstrated.

Question 9

Correct Answer: C

For Students' Notes questions, you should always start by reading the question. Here, the student wants to introduce skyquakes to an audience unfamiliar with the phenomenon. This means the best answer will define what skyquakes are in a clear, introductory way.

Looking at the answers:

- (A) focuses on the research and the lack of a definitive explanation, but it doesn't first explain what skyquakes are.
- (B) details a specific study's findings, which is too specific for a general introduction.
- (C) provides a clear definition of skyquakes, mentioning their sound, global nature, and the mystery of their origin, which is perfect for an audience that knows nothing about them.
- (D) describes an effect of skyquakes (rattling windows) rather than defining the phenomenon itself.

Hence, (C) is the correct answer because it directly defines and introduces the concept of skyquakes to an unfamiliar audience, which is precisely the student's goal.

Question 10

Correct Answer: B

For Students' Notes questions, you should as always start by reading the question. Here, the student wants to explain the principal challenges confronting efforts to preserve digital information for the long term.

Looking at the answers:

- (A) introduces the concept of the 'digital dark age' and its originator.
- (B) summarizes the three main challenges mentioned in the notes: technological obsolescence, data degradation ('fragility of storage media'),

and loss of metadata.

- (C) compares the longevity of analog and digital records.
- (D) mentions the preservation strategies used by institutions but doesn't detail the core challenges.

The goal is to explain the 'principal challenges.' (B) directly addresses this by listing the key issues identified in the notes: technological obsolescence, data degradation (bit rot/fragility), and the absence of metadata. (A) only defines the problem, (C) makes a comparison, and (D) focuses on the solutions rather than the problems themselves. Hence, (B) is the correct answer.

Question 11

Correct Answer: A

For Students' Notes questions, you should as always start by reading the question. Here, the keyword in the question is "when she collected both of the samples." This indicates a need to highlight the collection dates of both specimens. We should look for an answer that specifies the times of collection for both mentioned samples. Looking at the answers:

- (A) mentions the collection date for *Baccharis dentata* (September 1930) and *Senecio chapalensis* (January 1927), and it also emphasizes the order of collection.
- (B) only mentions the collection of *Baccharis dentata* and its date, without mentioning the other sample.
- (C) focuses on the locations where the samples were found and their shared family, not the dates of collection.
- (D) discusses the current location of her samples (online at the C. V. Starr Virtual Herbarium), not when they were collected.

Hence, (A) is the correct answer. It directly addresses the prompt's focus on "when she collected both of the samples" by providing specific dates for each.

Question 12

Correct Answer: A

For Students' Notes questions, you should as always start by reading the question. Here, the student wants to summarize Edmund Burke's concept of the sublime and contrast it with other aesthetic experiences.

Looking at the answers:

- (A) focuses on Burke's idea that the sublime comes from fear and danger, creating a "delightful horror," and contrasts this with the pleasantness of beauty.
- (B) compares Burke's and Kant's general philosophies on the sublime but doesn't focus solely on summarizing Burke's concept.
- (C) describes Burke's concept of the physiological experience of the sublime but doesn't contrast it with other aesthetic experiences like beauty.
- (D) primarily focuses on Kant's ideas and only briefly mentions Burke's in a comparative way, failing to summarize Burke's concept as the main goal.

Hence, (A) is the correct answer. It directly addresses both parts of the student's goal: it summarizes Burke's concept (originating from fear/danger) and contrasts it with another aesthetic experience (beauty's pleasantness), using key details from the notes.

Question 13

Correct Answer: A

For Students' Notes questions, you should as always start by reading the question. Here, the student wants to introduce anyons to an audience that is completely unfamiliar with quantum mechanics. This means the best answer will provide a simple, foundational definition and avoid technical jargon.

Looking at the answers:

- (A) gives a simple definition of anyons, explaining what they are and how

they differ from other particle types in a straightforward way.

- (B) focuses on a specific, complex application (quantum computation) and recent experiments, which is too advanced for a completely unfamiliar audience.
- (C) uses highly technical terms like "exchange statistics" and "wave function phase shifts," which would be confusing for beginners.
- (D) discusses advanced applications and current research directions, which assumes the audience already knows what anyons are.

Hence, (A) is the correct answer. It provides the most accessible introduction by defining anyons in basic terms and distinguishing them from other particles without overwhelming a new audience with complex details.

Question 14

Correct Answer: B

For Students' Notes questions, you should as always start by reading the question. Here, the student wants to highlight the essential distinction between spintronics and traditional electronics. The keyword is "distinction," which is a synonym for "difference." Therefore, we should look for an answer choice that compares the two fields, likely using words like "unlike," "while," or "whereas."

Looking at the answers:

- (A) mentions a scientist and the application of spintronics, but doesn't clearly state the core difference from traditional electronics.
- (B) directly compares the fundamental principles of spintronics (using electron's spin) and conventional electronics (using its charge) using the comparative word "whereas."
- (C) compares the performance advantages of spintronics, not the fundamental operational difference.
- (D) describes the materials and devices used in spintronics without comparing it to traditional electronics.

Hence, (B) is the correct answer because it most effectively and directly addresses the core distinction between the two fields as described in the notes.

Question 15

Correct Answer: D

For Students' Notes questions, you should as always start by reading the question. Here, the student wants to explain two things: the fundamental nature of unit bias and its primary implication for consumption.

Looking at the answers:

- (A) focuses only on the experimental findings of the researchers, which serves as an example of unit bias, but does not explain what the bias fundamentally is.
- (B) explains the 'segmentation effect,' a related concept, but not the fundamental nature of unit bias itself.
- (C) discusses the cultural aspect of portion sizes, which is related but doesn't capture the core definition of unit bias or its primary implication as clearly as the correct choice does.
- (D) provides a clear definition of unit bias ('a cognitive tendency wherein individuals regard a single available unit as the appropriate amount to consume') and then states its main effect ('which subsequently drives increased intake when units are larger').

Hence, (D) is the correct answer because it directly and effectively addresses both parts of the student's goal: defining unit bias and explaining its main consequence.

Question 16

Correct Answer: C

For Students' Notes questions, you should as always start by reading the

question. Here, the student wants to explain the nuanced distinction between Marx's and Weber's contributions to conflict theory. The keywords are "distinction," "Marx," and "Weber." We need to find the answer that best compares and contrasts their ideas based on the notes.

Looking at the answers:

- (A) provides a general definition of conflict theory but doesn't mention Marx or Weber.
- (B) compares Marx and Weber but is less detailed and uses less precise language ("focused on economic determinism," "expanded the theory") than (C).
- (C) directly compares Marx's and Weber's contributions, accurately reflecting the notes by stating that Marx focused on economic class conflict and Weber later introduced a more multidimensional view that included prestige (status) and political affiliation (party).
- (D) explains how social change occurs according to conflict theory and contrasts it with functionalism, but does not mention Marx or Weber.

Hence, (C) is the correct answer because it most effectively and accurately captures the specific distinction between the two theorists as described in the notes.

Question 17

Correct Answer: B

For Students' Notes questions, you should as always start by reading the question. Here, the student wants to introduce perovskite solar cells to an audience unfamiliar with the technology. This means the best choice will provide a general overview of what these cells are, their key features, and their current status, rather than focusing on a single historical detail or a highly specific issue.

Looking at the answers:

- (A) focuses on the historical beginning of the technology, mentioning the first mineral discovery and the initial low efficiency.

- (B) provides a broad introduction, mentioning the unique structure, the main advantages (high efficiency, low cost), and a current challenge (stability).
- (C) focuses on a specific technical detail: the improvement in efficiency from early models to later ones.
- (D) focuses only on the current problems or challenges researchers are trying to solve.

Hence, (B) is the correct answer because it gives the most comprehensive and effective introduction for someone who knows nothing about perovskite solar cells. It summarizes their core concept, their benefits, and their main drawback, which is exactly what a good introduction should do.

Question 18

Correct Answer: A

For Students' Notes questions, you should as always start by reading the question. Here, the student wants to summarize the primary reason why ephemera is now significant for academic study, despite being designed to be temporary.

Looking at the answers:

- (A) explains that ephemera is important because it provides direct insights into society that are often missing from formal records.
- (B) focuses on the origins of the term and the challenges of classifying digital ephemera.
- (C) highlights the historical difficulties institutions faced in collecting and cataloging ephemera.
- (D) mentions that scholars now recognize the potential of ephemera in research but doesn't explain *why* it's so valuable.

The question asks for the *primary reason* for ephemera's significance despite its temporary nature. (A) directly addresses this by stating that ephemera offers "unmediated, granular insights into societal intricacies often overlooked by more formal historical documentation," which aligns

perfectly with the notes. (B) and (C) focus on challenges, not the reason for its importance. (D) states that it's important but is less specific about the reason than (A).

Hence, (A) is the correct answer.

Question 19

Correct Answer: A

For Students' Notes questions, you should as always start by reading the question. Here, the student wants to provide a comprehensive overview of both the unique environmental characteristics and the profound scientific significance of blue holes.

Looking at the answers:

- (A) covers all the key points: how blue holes are formed, their distinct water layers, the unique life they support, and their scientific importance (research into early Earth, astrobiology, and paleoclimate).
- (B) focuses only on the findings of Iliffe and Gonzalez and one aspect of the scientific significance (geomicrobiology), which is too specific for a comprehensive overview.
- (C) describes the environmental characteristics (formation, water layers, microbial life) but completely omits the scientific significance.
- (D) mentions the scientific significance (understanding climate change and ancient environments) and formation, but leaves out the unique characteristics like water stratification and the extremophilic life.

Therefore, (A) is the correct answer because it is the only choice that comprehensively addresses both the unique environmental features and the broad scientific importance of blue holes as outlined in the notes.

Question 20

Correct Answer: A

For Students' Notes questions, you should as always start by reading the question. Here, the student wants to introduce the multifaceted nature of Digital Humanities to an audience that is unfamiliar with the field. This means the best answer will provide a broad, comprehensive overview, touching upon several key aspects mentioned in the notes, without getting too specific or assuming prior knowledge.

Looking at the answers:

- (A) gives a broad definition of the field, mentions its methods, what it analyzes, and its goal of finding large patterns, which covers multiple facets.
- (B) focuses on the field's evolution and mentions a specific project, which is too narrow for a general introduction.
- (C) focuses on specific methods and a complex concept (computational hermeneutics), which isn't suitable for an unfamiliar audience.
- (D) primarily contrasts Digital Humanities with traditional methods, which is only one aspect of the field.

Hence, (A) is the correct answer. It effectively combines several key points from the notes—its interdisciplinary nature, use of computational methods, analysis of large-scale data, and the goal of revealing broad patterns—to create a comprehensive introduction for a new audience.