

Central Ideas and Details

Question 1

Laurence Sterne's *The Life and Opinions of Tristram Shandy, Gentleman* is an eighteenth-century novel renowned for its unconventional structure and narrative techniques. Rather than adhering to a linear, chronological plot, the novel is characterized by frequent digressions, interruptions, and a self-conscious narrator who directly addresses the reader and comments on the process of writing itself. This departure from traditional storytelling methods creates a fragmented and often non-linear narrative that reflects the subjective and associative nature of memory and thought. The protagonist's life story, which the title suggests is the central focus, is often sidetracked by extended philosophical musings, anecdotes about other characters, and reflections on various topics, demonstrating how the "opinions" of Tristram Shandy often overshadow the events of his life. The innovative approach significantly influenced later literary movements, particularly modernism and postmodernism, by challenging established norms of narrative and encouraging experimental forms.

Which choice best states the main idea of the text?

- A Laurence Sterne's *The Life and Opinions of Tristram Shandy, Gentleman* is a pioneering work that distinguishes itself from conventional eighteenth-century novels through its fragmented and self-aware narrative structure, a characteristic that highlights the subjective nature of human thought and significantly impacted subsequent literary styles.

- B** Although *The Life and Opinions of Tristram Shandy, Gentleman* is known for its digressions and unconventional elements, it ultimately maintains a discernible plot that follows the significant events and philosophical development of the protagonist's life, offering a complex but ultimately coherent narrative for the attentive reader.
- C** *The Life and Opinions of Tristram Shandy, Gentleman* is an eighteenth-century novel that, despite its initial reception as chaotic and difficult to follow, has been reevaluated by modern critics who appreciate its early use of techniques that would become central to twentieth-century literary theories such as postmodernism and deconstruction.
- D** The extensive use of digressions in *The Life and Opinions of Tristram Shandy, Gentleman* serves primarily to explore the eccentric personalities and "hobby-horses" of its various characters, such as Uncle Toby's obsession with military matters and Walter Shandy's philosophical fixations, rather than to contribute to a larger commentary on narrative form.

Question 2

Canis lupus arctos, commonly known as the Arctic wolf, is a subspecies of gray wolf native to the High Arctic. These wolves have developed remarkable morphological and behavioral adaptations to survive in their extremely cold and resource-scarce environment. Notably, they possess a thick double-layered coat providing superior insulation and a countercurrent heat exchange system in their paws to minimize thermal loss on frozen substrates. Unlike many other wolf populations, Arctic wolves rely heavily on hunting large migratory prey, such as *Ovibos moschatus* (muskoxen) and *Rangifer tarandus* (caribou). This dependence on highly mobile prey necessitates a less territorial and more nomadic lifestyle compared to their southern counterparts, often ranging over vast areas to follow food sources.

Which choice best states the main idea of the text?

- A The *Canis lupus arctos* has a unique double-layered coat and a countercurrent heat exchange system in its paws that are essential for minimizing thermal loss in its cold environment.
- B While most wolf populations exhibit territorial behavior, the *Canis lupus arctos* is characterized by a more nomadic lifestyle due to its reliance on hunting large migratory prey like *Ovibos moschatus* and *Rangifer tarandus*.
- C The survival of *Canis lupus arctos* in the High Arctic is facilitated by specific physical and behavioral adaptations, including unique physiological features and a nomadic hunting strategy dictated by the movements of its primary prey.
- D The dependence of *Canis lupus arctos* on large migratory prey, such as *Ovibos moschatus* and *Rangifer tarandus*, is the most significant factor influencing its survival in the High Arctic.

Question 3

The *Epic of Gilgamesh*, one of the oldest known literary works, has captivated scholars for centuries. Composed in ancient Mesopotamia, the various iterations of the narrative, from the Old Babylonian period through the Standard Babylonian version edited by Sîn-lēlî-šumi-āšur, hero-king whose journey reflects universal human concerns. While early scholarship often focused on the striking parallels between the *Epic of Gilgamesh* and the biblical flood narrative, more recent analyses delve into the protagonist's transformation from a tyrannical ruler to a wise leader who grapples with the inevitability of death and the search for meaning in human endeavors, such as constructing the walls of Uruk.

Which choice best states the main idea of the text?

- A Early scholarly examinations of the *Epic of Gilgamesh* primarily concentrated on identifying similarities between its flood account and the biblical story of Noah's Ark.
- B Over time, scholarly interpretations of the *Epic of Gilgamesh* have shifted from focusing on its flood narrative parallels to analyzing the protagonist's evolution and the epic's exploration of profound human themes like mortality and the pursuit of significance.
- C The various versions of the *Epic of Gilgamesh*, including the Old Babylonian and Standard Babylonian editions, highlight the consistent portrayal of Gilgamesh as a wise and just ruler throughout Mesopotamian history.
- D Sîn-lēlî-šumi-āšur's editing of the Standard Babylonian version of the *Epic of Gilgamesh* was the most crucial factor in shifting scholarly attention towards the epic's universal themes of friendship and the human condition.

Question 4

Recent archaeological investigations are shedding new light on the intricacies of 19th-century Chinese trade networks and their far-reaching global connections. Examining shipwreck sites in the South China Sea and coastal settlements in places like East Africa and North America has provided tangible evidence of the movement of goods and people. For instance, the discovery of *Qing Dynasty porcelain* and Chinese coins at disparate locations underscores the extensive reach of Chinese commercial activity during this period. These material remains not only confirm historical accounts of a robust maritime trade but also reveal the types of commodities being exchanged and the potential presence of Chinese migrants in various parts of the world. This archaeological record allows for a more nuanced understanding of the scale and nature of *global trade in the nineteenth century*, highlighting China's significant role beyond traditional Silk Road narratives.

Which choice best states the main idea of the text?

- A** Archaeological evidence from various locations is providing concrete details about the extensive reach and nature of Chinese trade networks in the 19th century.
- B** Shipwreck sites in the South China Sea are the primary source of information regarding the global connections of 19th-century Chinese trade.
- C** The discovery of *Qing Dynasty porcelain* and Chinese coins is the only significant archaeological evidence for 19th-century Chinese trade networks.
- D** Traditional historical accounts of Chinese trade in the 19th century have been largely contradicted by recent archaeological findings.

Question 5

A recent study published in *Animal Cognition* by researchers examining interspecies communication sheds light on the cognitive capabilities of *Canis familiaris* regarding the comprehension of human-produced communicative signals. The research investigated whether domestic dogs could differentiate between intentional and unintentional human actions when presented with cues indicating the location of hidden food. The findings indicated that dogs were significantly more likely to follow pointing gestures and gaze direction when these cues were intentionally given by a human experimenter, as opposed to similar movements performed accidentally. This suggests a sophisticated understanding in dogs of human communicative intent.

Which choice best states the main idea of the text?

- A** A study in *Animal Cognition* demonstrated that *Canis familiaris* possesses the cognitive ability to understand complex human language, including spoken commands and intricate sentence structures.
- B** Research published in *Animal Cognition* suggests that domestic dogs, *Canis familiaris*, can distinguish between purposeful and accidental human cues when interpreting communicative signals related to concealed rewards.
- C** According to a study on interspecies communication, the primary method by which *Canis familiaris* locates hidden food is by following human pointing gestures and gaze direction, irrespective of the intentionality of the human's actions.
- D** The study conducted by researchers in *Animal Cognition* conclusively proves that the cognitive capabilities of *Canis familiaris* in interpreting human communicative signals are equivalent to those of a human child.

Question 6

The Old English epic poem *Beowulf* is structured with a main narrative detailing Beowulf's battles against monsters, yet it also incorporates numerous digressions. These seemingly tangential episodes, such as the account of the Finnsburg Episode or the lengthy genealogies of various Scyldings and other characters, were once viewed by some scholars as evidence of the poem's fragmented composition or the poet's lack of skill. However, contemporary critical analysis increasingly interprets these digressions as integral components that enrich the primary storyline. These narrative interludes often provide crucial historical context, explore parallel thematic concerns like vengeance and loyalty, or offer character foils that highlight aspects of Beowulf's heroism and the values of Anglo-Saxon society, thereby contributing significantly to the artistic and structural complexity of the work.

Which choice best states the main idea of the text?

- A** Early scholarly interpretations of the digressions in *Beowulf* were incorrect in their assessment of the poem's structural integrity and the poet's narrative abilities, focusing too heavily on perceived flaws rather than the intended artistic design.
- B** Although previously considered disruptive or indicative of structural issues, the digressions within the epic poem *Beowulf* are now largely understood by scholars to serve important functions that enhance the main narrative and contribute to the poem's overall thematic and artistic depth.
- C** The *Beowulf* poet strategically employs digressions, such as the Finnsburg Episode and detailed genealogies of various Scyldings and other characters, primarily to offer historical background that helps modern readers understand the social and political context of the Anglo-Saxon era.
- D** The thematic concerns of vengeance and loyalty are exclusively explored through the digressions in *Beowulf*, providing character foils

that serve to highlight Beowulf's heroic attributes in contrast to other figures in Anglo-Saxon society, as demonstrated by contemporary critical analysis.

Question 7

Gothic art, a style that flourished in Europe from the mid-12th century to the 16th century, is renowned for its dramatic shift from the more static and stylized representations of the Romanesque period to figures that exhibit greater naturalism and emotional intensity. This evolution is particularly evident in sculpture and painting. Earlier forms often depicted figures with rigid poses and limited emotional expression, serving primarily as symbolic representations. However, Gothic artists increasingly focused on rendering the human form with greater anatomical accuracy and conveying a wider range of human emotions through facial expressions and body language. This burgeoning naturalism and emphasis on emotional resonance allowed viewers to connect more deeply with the religious narratives depicted, fostering a sense of empathy and devotion.

Which choice best states the main idea of the text?

- A** Gothic art, while exhibiting a marked departure from Romanesque conventions through its incorporation of heightened naturalism and emotional expression, primarily maintained a focus on symbolic representations within religious narratives.
- B** Gothic art represents a significant evolution from the Romanesque style, characterized by a move towards increased naturalism and emotional expressiveness in the depiction of figures, which facilitated a deeper connection with religious themes for the viewer.
- C** The transition from the Romanesque period to the Gothic era saw a complete abandonment of symbolic representation in favor of anatomical accuracy and emotional intensity in artistic depictions of the human form.
- D** While Gothic art is recognized for its emphasis on naturalism and emotional resonance, its duration from the mid-12th century to the 16th century indicates a gradual and inconsistent adoption of these characteristics across different regions of Europe.

Question 8

Since its initial discovery in 1861, *Archaeopteryx* has been a pivotal genus in understanding the evolutionary transition from non-avian dinosaurs to birds, possessing a mosaic of features from both groups. All known specimens, twelve in total, hail from the Late Jurassic of Bavaria, Germany. Recently, the analysis of the eighth specimen using synchrotron microtomography revealed distinct skeletal characteristics, such as fused cranial bones, a different pectoral girdle, and a reinforced configuration of carpals and metacarpals, that are more akin to modern birds than to earlier *Archaeopteryx lithographica* specimens or other theropod dinosaurs. This specimen, being approximately 400,000 years younger than previously described *Archaeopteryx* finds, was consequently classified as a new species: *Archaeopteryx albersdoerferi*, suggesting a more advanced stage in the acquisition of avian traits, particularly those related to enhanced flight capability.

Which choice best states the main idea of the text?

- A** The application of synchrotron microtomography has revolutionized the study of *Archaeopteryx* fossils, allowing for unprecedented detailed analysis of their internal skeletal structures.
- B** Analysis of a recently classified, younger specimen of *Archaeopteryx*, designated *Archaeopteryx albersdoerferi*, has provided new insights into the evolutionary development of bird-like characteristics, specifically those facilitating more efficient flight.
- C** The discovery of twelve *Archaeopteryx* specimens exclusively in the Late Jurassic deposits of Bavaria, Germany, highlights the region's unique paleontological significance in preserving transitional forms between dinosaurs and birds.
- D** While *Archaeopteryx* has long been considered a crucial transitional fossil, the identification of *Archaeopteryx albersdoerferi* confirms its definitive position as the direct ancestor of modern birds, resolving previous debates about its phylogenetic placement.

Question 9

Complex social phenomena are characterized by their high-dimensionality, nonlinearity, and often computational intractability, making them challenging to study. However, understanding these phenomena is crucial for addressing pressing societal issues. Social scientists utilize a variety of theoretical approaches and methodologies to investigate the interplay between individual agency and overarching social structures, cultural norms, power dynamics, and social interactions. This approach aims to illuminate the intricate connections between individual psychology and broader social phenomena, acknowledging the reciprocal relationship between the individual and the social environment. By examining how individuals and groups are influenced by and, in turn, shape social forces such as culture, norms, values, social class, and institutions, researchers gain insights into the underlying mechanisms driving social order and change. The diversity of theoretical approaches in social science research stems from the recognition that the social world is multifaceted and dynamic.

Which choice best states the main idea of the text?

- A** The study of complex social phenomena in social science is multifaceted and challenging, requiring diverse approaches to understand the dynamic relationship between individuals and societal forces.
- B** Social science research primarily focuses on quantitative methodologies to analyze high-dimensional and nonlinear social phenomena and their computational intractability.
- C** While complex social phenomena are difficult to study due to their computational intractability, social scientists have developed a single, universally applicable theoretical framework to address them.
- D** Individual agency is the sole determinant of social order and change, and social science research focuses exclusively on how individuals

shape cultural norms and institutional structures.

Question 10

The study of extinct organisms known as trilobites (*Class Trilobita*) reveals diverse feeding strategies within this group of Paleozoic marine arthropods. While traditionally inferred from morphology, recent studies analyzing fossilized gut contents provide direct evidence of diet. For example, *Redlichia rex*, a species from the *Order Redlichiida*, is thought to have consumed hard-shelled organisms, based partly on the resemblance of its legs to those of modern horseshoe crabs, which crush prey with similar appendages. However, the diverse forms of their hypostomes—hard mouthparts on the ventral side of the cephalon—such as natant, conterminant, and impendent types, suggest a wider range of feeding behaviors, including predatory-scavenging, filter feeding, and particle feeding among different trilobite species.

Which choice best states the main idea of the text?

- A** The diverse morphology of trilobite hypostomes provides the most reliable evidence for inferring the feeding habits of extinct *Class Trilobita*.
- B** Comparisons between the appendages of *Redlichia rex* and modern horseshoe crabs have definitively proven that some trilobites were durophagous predators.
- C** Although morphological characteristics like the hypostome and appendages offer clues, the feeding strategies of trilobites are best understood through a combination of morphological inference and the analysis of fossilized gut contents.
- D** The prevalence of predatory-scavenging among extant marine crustaceans strongly suggests that this was the primary feeding strategy for the majority of species within the extinct *Class Trilobita*.

Question 11

Studies of the music of the San people of southern Africa, such as those documented by John Brearley in the *British Library Sounds* archive, reveal a complex and highly structured musical heritage. San music is characterized by intricate contrapuntal polyphonies, often featuring the "skipping process" which generates a progressive order of bichords of fourths and fifths within an anhemitonic pentatonic scale, as discussed by Gerhard Kubik in *Theory of African Music*. This complex vocal interaction, along with the use of instruments like the musical bow and rattles, is integral to various social contexts, including healing rituals and games. The transmission of this musical knowledge relies heavily on oral tradition, passed down through generations, demonstrating a rigorous organization based on both social circumstances and distinctive musical features.

Which choice best states the main idea of the text?

- A** John Brearley's extensive documentation in the *British Library Sounds* archive provides the most comprehensive record of the musical traditions of the San people, focusing specifically on the instrumentation used in healing rituals and games.
- B** The musical practices of the San people, characterized by complex vocal techniques and instrumental accompaniments used in various social contexts, represent a highly organized and orally transmitted cultural heritage.
- C** Gerhard Kubik's analysis in *Theory of African Music* is the definitive work on the anhemitonic pentatonic scale and the "skipping process" as the primary organizing principles of San contrapuntal polyphonies.
- D** The reliance on oral tradition for transmitting musical knowledge among the San people, while vital for cultural continuity, presents challenges in preserving the intricate details of their contrapuntal polyphonies and instrumental techniques across generations.

Question 12

Research into linguistic adaptation, the process by which individuals adjust their language use in response to their social environment, reveals a complex interplay of factors. Studies, including those focusing on intergroup communication, demonstrate that this phenomenon is not merely a passive mirroring of an interlocutor's speech patterns but an active process influenced by social identity, motivations, and the perceived relationship between communicators. For example, a study by Dragojevic, Gasiorek, and Giles in 2014 highlights how individuals strategically converge or diverge from others' linguistic styles depending on whether they wish to emphasize similarity or difference between groups. Furthermore, the broader sociohistorical context, encompassing the history of interactions and prevailing norms between groups, significantly shapes these linguistic adjustments, indicating that macro-level social dynamics play a crucial role in micro-level communicative behaviors.

Which choice best states the main idea of the text?

- A** Linguistic adaptation is a straightforward process of mirroring the language patterns of those with whom one is interacting.
- B** The primary factor influencing linguistic adaptation is the individual's innate ability to acquire and use language effectively in diverse contexts.
- C** Linguistic adaptation is a dynamic process shaped by individual motivations, social identities, and the larger sociohistorical context of intergroup relations.
- D** Studies on linguistic adaptation, such as the one by Dragojevic, Gasiorek, and Giles (2014), primarily focus on the automatic and unconscious ways people adjust their communication.

Question 13

Ants are considered ecosystem engineers due to their significant impact on soil properties. Research indicates that various ant species, such as *Formica aquilonia* and *Solenopsis invicta*, alter the physical and chemical composition of the soil in and around their nests. These alterations include changes in soil pH, nutrient content (like nitrogen and phosphorus), organic matter, and soil moisture. For instance, studies have shown an increase in soil pH towards neutral values in some ant nests, as well as a higher concentration of organic matter and specific nutrients compared to the surrounding soil. This modification of the soil environment can influence microbial communities and vegetation patterns in the vicinity of ant mounds.

Which choice best states the main idea of the text?

- A** The foraging behavior of ant species like *Formica aquilonia* and *Solenopsis invicta* significantly increases the presence of essential nutrients in the soil around their nests, leading to altered soil chemistry.
- B** The impact of ants as ecosystem engineers is primarily evident in their ability to physically restructure the soil through the construction of intricate nest mounds and subterranean tunnel systems.
- C** Specific ant species, including *Formica aquilonia* and *Solenopsis invicta*, are known to create noticeable changes in local plant life and soil microbial populations as a direct consequence of their nesting activities.
- D** Ants, acting as ecosystem engineers, substantially modify the physical and chemical characteristics of the soil in and around their nests, as demonstrated by research on species such as *Formica aquilonia* and *Solenopsis invicta*.

Question 14

Academic investigations into the impact of the Black Death (1346-1353) on subsequent aesthetic production in Western Europe have historically focused on macabre and pessimistic themes in visual art and literature, aligning with the immediate devastation and societal upheaval wrought by the pandemic. However, recent scholarship, including analysis by art historian Dr. Eleanor Wainwright in her *Studies in Medieval Iconography* (2021), suggests a more nuanced and multifaceted artistic response. Wainwright's examination of illuminated manuscripts and church architecture from the late 14th and 15th centuries reveals not only expressions of grief and mortality but also a surprising prevalence of themes of renewal, community resilience, and fervent religious devotion, indicating a broader spectrum of creative interpretations than previously acknowledged.

Which choice best states the main idea of the text?

- A** The Black Death resulted in a monolithic artistic focus on themes of death and despair in Western European visual art and literature.
- B** Contrary to earlier interpretations, recent academic analysis indicates that Western European artistic responses to the Black Death included themes of hope and community in addition to expressions of grief.
- C** Dr. Eleanor Wainwright's *Studies in Medieval Iconography* is a groundbreaking work that completely overturns all previous understandings of the Black Death's influence on medieval art.
- D** Illuminated manuscripts and church architecture are the only reliable sources for understanding the multifaceted artistic responses to the Black Death in late 14th and 15th century Western Europe, according to Dr. Eleanor Wainwright.

Question 15

Cognitive load, the mental effort used in working memory, significantly impacts decision-making. High cognitive load can lead to decision fatigue and less optimal choices. Research indicates that under increased cognitive load, individuals tend to rely on automatic processes and heuristics rather than effortful, controlled cognitive processing when making complex decisions. For instance, studies have shown that cognitive load decreases the accuracy of behavioral choices based on graphical displays of uncertainty information. This suggests that while simpler judgments may not be affected, more deliberative processing, necessary for navigating complex choices, is negatively impacted. Thus, managing intrinsic cognitive load—the inherent difficulty of the information—and extraneous cognitive load—challenges from information presentation—is crucial for effective decision-making, particularly in complex scenarios.

Which choice best states the main idea of the text?

- A** High levels of cognitive load negatively influence the process of making complex decisions by promoting reliance on automatic cognitive processes and heuristics rather than deliberate thought.
- B** The complexity of graphical displays of uncertainty information is the primary factor contributing to decreased accuracy in behavioral choices under high cognitive load.
- C** Managing intrinsic and extraneous cognitive load is solely the responsibility of individuals to improve their decision-making abilities in all situations.
- D** While cognitive load affects decision-making, its impact is limited to simple judgments and does not significantly impair the processing required for complex choices.

Question 16

The marginal lappets of the moon jellyfish (*Aurelia aurita*) are small, triangular projections flanking the rhopalia, which are sensory structures located around the bell margin. These lappets, along with other structures like the rhopalial hood, protect the rhopalium. While the rhopalium itself contains various sensory organs such as statocysts for gravity detection, chemoreceptors, and ocelli for photoreception, the marginal lappets also play a role in the jellyfish's feeding. Studies indicate that these lappets are involved in capturing minute organisms, such as protozoans. Ciliary currents on the jellyfish's body surface help transport small food particles towards the margin, where the lappets collect them and transfer them to the mouth, often with the aid of mucus entanglement.

Which choice best states the main idea of the text?

- A** The rhopalial lappets of the *Aurelia aurita* are primarily protective structures for the delicate rhopalium, shielding its essential sensory organs from environmental damage.
- B** While primarily known for protecting the rhopalium, the marginal lappets of the *Aurelia aurita* also serve a function in the process of food acquisition by directing particles towards the mouth.
- C** The *Aurelia aurita* possesses a complex sensory system, including rhopalia with statocysts, chemoreceptors, and ocelli, which is solely responsible for detecting prey and navigating the environment.
- D** Ciliary currents are the main mechanism by which *Aurelia aurita* captures food, and the marginal lappets are merely passive structures that collect particles as they are transported along the bell margin.

Question 17

Scholarly analysis by Dr. Alistair Black in 2000 in *The Public Library in Britain 1914-2000* delves into the historical evolution and societal impact of public libraries in Britain throughout the 20th century. Black meticulously examines the multifaceted roles these institutions have played, transitioning from centers of educational uplift to providers of popular reading material and eventually to comprehensive information hubs grappling with the advent of digital technologies and changing governmental priorities. His work highlights how the architecture, funding, and public perception of libraries have continuously adapted to the shifting sociopolitical landscape, reflecting broader changes in British society's relationship with knowledge, culture, and community access. This detailed historical investigation underscores the enduring, albeit transformed, significance of the public library as a vital social institution.

Which choice best states the main idea of the text?

- A** Dr. Alistair Black's 2000 analysis, *The Public Library in Britain 1914-2000*, primarily focuses on the architectural styles and funding models that influenced British public libraries during the 20th century.
- B** Dr. Alistair Black's scholarly analysis details the consistent and unchanging role of British public libraries as centers of educational uplift throughout the 20th century, despite technological advancements.
- C** *The Public Library in Britain 1914-2000* by Dr. Alistair Black argues that the most significant challenge faced by British public libraries in the 20th century was adapting to the introduction of digital technologies.
- D** The scholarly analysis by Dr. Alistair Black provides a comprehensive historical account of how British public libraries transformed over the 20th century in response to societal changes, maintaining their importance as social institutions.

Question 18

Tardigrades, also known as water bears or moss piglets, are microscopic metazoans renowned for their extraordinary ability to survive extreme environmental conditions through a state of suspended animation known as cryptobiosis. This ametabolic state allows them to tolerate desiccation, freezing, radiation, vacuum, and pressure extremes that would be lethal to most other life forms. During anhydrobiosis, a form of cryptobiosis induced by dehydration, tardigrades contract into a desiccated form called a tun, expelling nearly all intracellular water. This remarkable desiccation tolerance is partly attributed to the synthesis of intrinsically disordered proteins, such as cytoplasmic-abundant heat-soluble (CAHS) proteins, and the sugar trehalose, which help protect cellular structures. Beyond anhydrobiosis, tardigrades can also enter other cryptobiotic states, including cryobiosis (in response to cold), osmobiosis (in response to high osmotic pressure), and anoxybiosis (in response to lack of oxygen), further highlighting their exceptional resilience.

Which choice best states the main idea of the text?

- A** Tardigrades are exceptionally resilient microscopic metazoans that survive extreme environmental conditions by entering a state of suspended animation called cryptobiosis, facilitated by various physiological and molecular adaptations including the formation of a tun and the action of specific proteins like cytoplasmic-abundant heat-soluble proteins and the sugar trehalose.
- B** The formation of a tun during anhydrobiosis is the primary mechanism by which tardigrades survive extreme dehydration, a process that involves the expulsion of intracellular water and is crucial for their ability to tolerate environments with limited water availability.
- C** While tardigrades are known for surviving extreme conditions like radiation and the vacuum of space through cryptobiosis, the specific molecular mechanisms, such as the function of cytoplasmic-abundant heat-soluble proteins and the role of trehalose, are still not fully

understood by scientists.

- D** Cryptobiosis, a state of suspended animation involving minimal metabolic activity, is a unique survival strategy employed by

tardigrades, allowing them to tolerate a wide range of unfavorable conditions including cryobiosis, osmobiosis, and anoxybiosis, in addition to the more commonly studied anhydrobiosis.

Question 19

Tetranychus urticae, commonly known as the two-spotted spider mite, is a globally significant agricultural pest due to its wide host range and rapid development of pesticide resistance. These mites are known for their prolific silk production, depositing continuous threads as they move. While it is established that this silk serves various functions such as providing physical support for locomotion and aiding in aerial dispersal, recent research highlights an additional crucial role. Studies on related social spider mites, such as *Stigmaeopsis longus*, reveal that silk threads are actively used for nest sanitation, functioning as an "adhesive cleaner" to remove dust and waste products, thus maintaining a clean habitat essential for their aggregative social lives. This suggests a broader adaptive significance of silk production in Tetranychidae than previously understood, extending beyond movement and dispersal to encompass critical social and hygienic functions.

Which choice best states the main idea of the text?

- A** The extensive host range and rapid development of pesticide resistance in *Tetranychus urticae* contribute significantly to its status as a major agricultural pest worldwide.
- B** The nanometer-scale diameter and exceptionally high Young's modulus of *Tetranychus urticae* silk fibers distinguish them as a novel and promising source for biomaterials.
- C** Recent studies on related species suggest that beyond established roles in locomotion and dispersal, silk production in spider mites of the family Tetranychidae also serves vital social and hygienic purposes.
- D** The study of silk production in *Tetranychus urticae* and related species offers valuable insights into the evolution of host range, plant-herbivore interactions, and mechanisms of xenobiotic resistance.

Question 20

The family Stenostiridae, also known as fairy flycatchers, comprises small passerine birds found in Africa and Asia. Proposed as a result of recent molecular systematics discoveries, this family includes genera such as *Stenostira*, *Elminia*, *Culicicapa*, and *Chelidorhynx*. Birds in this family were formerly placed in different families, including Old World flycatchers (Muscicapidae), fantails (Rhipiduridae), and Monarchidae. Genetic analyses, like those performed by Fuchs et al. (2009), revealed that these seemingly disparate groups form a distinct, related clade. For example, the *Grey-headed Canary-flycatcher* (*Culicicapa ceylonensis*), once considered an Old World flycatcher, and the *Yellow-bellied fantail* (*Chelidorhynx hypoxanthus*), previously a fantail, are now both classified within the Stenostiridae family based on this genetic evidence.

Which choice best states the main idea of the text?

- A** The *Grey-headed Canary-flycatcher* (*Culicicapa ceylonensis*) and the *Yellow-bellied fantail* (*Chelidorhynx hypoxanthus*) are two examples of species whose classification has been updated based on new genetic evidence.
- B** The use of molecular systematics has led to the discovery of a new family of small passerine birds called Stenostiridae, or fairy flycatchers, which includes species previously placed in different avian families.
- C** The Stenostiridae family consists of small passerine birds found in Africa and Asia, and recent discoveries in molecular systematics have clarified their evolutionary relationships.
- D** Recent advances in molecular systematics have resulted in the reclassification of several bird species into the newly established family Stenostiridae, demonstrating how genetic analysis can revise taxonomic understanding.

Answers

Question 1

Correct Answer: A

The passage describes *The Life and Opinions of Tristram Shandy, Gentleman* as a novel that breaks from tradition with its fragmented and self-aware narrative, focusing on the subjective nature of thought and influencing later literary movements. This aligns with choice (A), which states the novel is a pioneering work notable for its structure and influence, reflecting subjective thought. Choices (B), (C), and (D) present aspects of the novel discussed in the passage but are too narrow or misinterpret the main purpose of the novel's structure and techniques.

Question 2

Correct Answer: C

The passage discusses how Arctic wolves survive in their harsh environment. It mentions their physical adaptations, such as their coat and paws, and their behavioral adaptation of being nomadic hunters who follow their prey. This leads to the main idea being about the various ways Arctic wolves are adapted for survival, which is reflected in option (C). Option (A) is too narrow, only focusing on physical adaptations. Option (B) focuses only on behavioral adaptations. Option (D) claims that dependence on migratory prey is the "most significant factor," which is not stated in the passage.

Question 3

Correct Answer: B

The passage discusses how the study of the *Epic of Gilgamesh* has changed. It used to focus on the flood story, but now it looks at how

Gilgamesh changes and what the epic says about life and death. This matches option (B).

Option (A) is too narrow because it only talks about the early focus on the flood story and not the shift in scholarship.

Option (C) contradicts the passage, which states Gilgamesh transforms from a tyrannical ruler.

Option (D) is too narrow and places too much emphasis on one editor, implying he was the main reason for the shift in scholarly focus. The passage does not support this.

Question 4

Correct Answer: A

The passage talks about how recent archaeological findings, such as items from shipwrecks and coastal settlements, give us solid proof and specific information about how widespread and what kind of trading the Chinese did in the 1800s. This matches choice (A).

Choice (B) is too narrow because the passage mentions findings from coastal settlements in addition to shipwrecks. Choice (C) is too extreme because the passage states that porcelain and coins are examples, not the only evidence. Choice (D) is incorrect because the passage says the archaeological findings confirm historical accounts, they don't contradict them.

Question 5

Correct Answer: B

The passage talks about a study on dog communication. The study shows that dogs can tell if a human's signal, like pointing, is on purpose or an accident. This helps the dogs find hidden food. The main idea is about dogs understanding human signals.

(A) is incorrect because the passage only talks about understanding cues, not complex language or sentences.

(C) is incorrect because the passage says dogs are *more* likely to follow intentional cues, not that they follow them regardless of intention.

(D) is incorrect because the passage does not compare the dogs' abilities to a human child's abilities and does not claim conclusive proof of equivalence.

Question 6

Correct Answer: B

The passage discusses how scholars used to think the extra stories in *Beowulf* were not important. However, now scholars think these stories are actually important parts of the poem that make the main story better and add deeper meanings. This matches choice (B). Choice (A) talks about early scholars being wrong but doesn't fully capture the modern understanding of the digressions' purpose. Choice (C) focuses too much on historical context and genealogies, which is only one aspect of the digressions' function. Choice (D) incorrectly states that themes like vengeance and loyalty are *only* in the digressions and doesn't encompass all the ways digressions function.

Question 7

Correct Answer: B

The passage explains that Gothic art is different from Romanesque art because Gothic art shows people in a more realistic way and with more feelings. This helped people feel closer to the religious stories. So, the main idea is that Gothic art changed from Romanesque art by being more natural and emotional, which helped people connect with the art.

(A) is wrong because the passage says Gothic art moved away from just symbolic pictures.

(C) is wrong because the passage doesn't say that Gothic art completely stopped using symbols.

(D) is wrong because the passage doesn't talk about how these features were adopted differently in different places or if it was inconsistent.

Question 8

Correct Answer: B

The passage talks about a new type of *Archaeopteryx* called *Archaeopteryx albersdoerferi*. It says that studying this new type helped scientists learn more about how birds evolved, especially how they got better at flying. So, the main idea is that studying this specific new fossil helped us understand more about bird evolution and flight. Looking at the options, (B) matches this idea perfectly. (A) talks about a method used, not the main finding. (C) talks about where the fossils were found, which is a detail, not the main point. (D) makes a strong claim about *Archaeopteryx* being the *definitive* ancestor, which the passage does not fully support; it only suggests a more advanced stage.

Question 9

Correct Answer: A

The passage discusses how complex social phenomena are difficult to study. It explains that social scientists use many different ways to study how people and society affect each other. The main idea is that studying these complex things is hard and needs different methods to understand how individuals and society interact. (A) matches this idea. (B) is wrong because the passage mentions various approaches, not just quantitative ones. (C) is wrong because the passage states there is a diversity of theoretical approaches, not a single one. (D) is wrong because the passage highlights the *reciprocal* relationship between individuals and social forces, not that individual agency is the sole determinant.

Question 10

Correct Answer: C

The passage is about how scientists figure out what trilobites ate. It talks about looking at their body parts (morphology) and also looking inside their fossilized guts. The main idea is that using both methods together gives the best understanding.

(A) is wrong because the passage says both morphology and gut contents are used, not just morphology.

(B) is wrong because the passage says the comparison suggests, not definitively proves, that *Redlichia rex* ate hard-shelled things.

(D) is wrong because while the passage mentions comparing to modern crustaceans, it doesn't say this strongly suggests most trilobites were predatory-scavengers; it focuses on the different methods of studying trilobite diets.

Question 11

Correct Answer: B

The passage talks about the music of the San people. It mentions that their music has complex parts, uses instruments, and is part of their social life like healing dances and games. It also says that they teach their music by telling and showing, not by writing it down. The main idea is that San music is complicated and important to their culture, and they pass it down by talking and doing.

Choice A is too focused on John Brearley and specific instruments.

Choice C is too focused on Gerhard Kubik and a specific musical theory.

Choice D talks about challenges, which are not the main focus of this passage.

Choice B covers all the main points: the music is complex, used in social events, and passed down through talking.

Question 12

Correct Answer: C

The passage discusses how people change their language based on who they are talking to. It says this change is not just copying but is affected by who they feel they are, why they are talking to the other person, and how their groups have gotten along in the past. So, the main idea is that language change is active and depends on personal and group factors.

(A) is wrong because the passage says language change is not just copying.

(B) is wrong because the passage focuses on social and group reasons for language change, not just a person's natural ability with language.

(D) is wrong because the passage talks about people actively choosing to change their language for reasons like showing if they are similar to or different from others.

Question 13

Correct Answer: D

The passage states that ants are ecosystem engineers and that they change the soil around their nests. It also mentions research on species like *Formica aquilonia* and *Solenopsis invicta* as examples of this. The main idea is that ants significantly alter soil properties as ecosystem engineers.

(D) matches this prediction by mentioning ants as ecosystem engineers and their modification of soil characteristics, using the given ant species as examples. (A) is too narrow because it only focuses on nutrient increase due to foraging. (B) is too narrow because it only focuses on physical restructuring. (C) is too broad and not fully supported as the passage focuses on soil changes, not the consequences on plant life and microbial populations.

Question 14

Correct Answer: B

The passage discusses how historical studies of the Black Death's effect on art focused on death and sadness. However, it then introduces newer research, like that by Dr. Eleanor Wainwright, which looked at different art forms and found themes of hope and community too. This means the main idea is that the artistic response was more varied than thought before, including positive themes. (B) states this clearly. (A) is wrong because it only mentions the old, limited view. (C) is too strong; the passage says the new research suggests a *more nuanced* view, not a complete overturn of all previous understanding. (D) is wrong because it says illuminated manuscripts and church architecture are the *only* reliable sources, which the passage does not claim.

Question 15

Correct Answer: A

The passage explains that high cognitive load makes it harder to make good decisions, especially complex ones. It says that people use quick, automatic thinking instead of careful thinking when their minds are busy. This is the main point the passage is trying to make. (A) matches this idea because it says high cognitive load hurts complex decisions by making people use automatic thinking instead of thinking carefully. (B) is too specific; graphical displays are just one example. (C) is incorrect because the passage doesn't say it's *solely* up to individuals to manage cognitive load, and it doesn't say it applies to *all* situations. (D) contradicts the passage, which states that complex choices are negatively impacted by cognitive load, not just simple judgments.

Question 16

Correct Answer: B

The main idea is what the whole passage is about. The passage talks about the rhopalial lappets of the *Aurelia aurita*. It says they protect the rhopalium but also help with feeding. So the main idea is about both roles of the lappets.

Choice (A) is too narrow because it only mentions the protective role and not the feeding role.

Choice (C) is incorrect because it states the sensory system is solely responsible for detecting prey and navigating, while the passage discusses the lappets' role in feeding.

Choice (D) contradicts the passage by saying the lappets are merely passive structures; the passage states they collect and transfer food.

Choice (B) includes both the protective role and the feeding role of the marginal lappets, which is what the passage focuses on.

Question 17

Correct Answer: D

The passage is about Dr. Alistair Black's book which looks at how British public libraries changed from 1914 to 2000 because of changes in society. The book shows that even though libraries changed, they stayed important social places.

(A) is incorrect because the passage says the book looks at many things, not just buildings and money.

(B) is incorrect because the passage says the libraries changed a lot, they were not consistent and unchanging.

(C) is incorrect because the passage mentions digital technology as one challenge, but not the most significant one, and the book covers a longer period and other changes.

(D) is correct because it says the book is a history of how libraries changed with society and stayed important, which matches the main point of the passage.

Question 18

Correct Answer: A

The passage describes tardigrades and their ability to survive extreme conditions by entering cryptobiosis. It also explains some of the ways they achieve this, like forming a tun and using special proteins and sugars. (A) covers all these points: tardigrades are resilient, they use cryptobiosis to survive extremes, and this is helped by adaptations like the tun, CAHS proteins, and trehalose. (B) is too narrow; it only focuses on anhydrobiosis and the tun. (C) mentions that mechanisms are not fully understood, which is not the main point of this passage, and also brings up radiation and space which are details, not the main idea. (D) lists different types of cryptobiosis but doesn't fully encompass the explanation of *how* they survive, which is a key part of the passage.

Question 19

Correct Answer: C

The passage discusses the known functions of silk in *Tetranychus urticae*, like movement and dispersal, and then introduces new research showing silk is also used for cleaning in related spider mites. This new research suggests that silk has important social and cleaning jobs, not just for moving around.

(A) is incorrect because while the passage mentions the pest status of *Tetranychus urticae*, it is not the main idea. The main idea is about the functions of silk.

(B) is incorrect because the passage does not discuss the physical properties of *Tetranychus urticae* silk or its potential as a biomaterial.

(D) is incorrect because while the passage mentions that studying *Tetranychus urticae* can provide insights into those areas, the main focus is on the functions of silk.

Question 20

Correct Answer: D

The passage discusses how new genetic studies led to the creation of the Stenostiridae family and the reclassification of birds previously in other families into this new group. This shows how genetic analysis changes how we classify organisms.

Choices (A) is too narrow because it only focuses on two specific examples of birds reclassified and doesn't fully capture the broader impact of molecular systematics on creating a new family.

Choices (B) is mostly correct but the phrase "new family of small passerine birds proposed as a result of recent discoveries" doesn't fully capture the reclassification aspect mentioned throughout the passage.

Choices (C) describes the family and the role of molecular systematics but doesn't emphasize the core idea of reclassification, which is a significant outcome discussed.