READING SAMPLE

PAPER - 8

Fill In The Blanks (Reading And Writing)

Passage 1:

Fermentation is a metabolic process that_____ (1) sugar into acids, gases, or alcohol. It has played a significant role in human civilization for thousands of years, particularly in the preparation and preservation of food. From early civilizations fermenting grains to produce beer and bread,to the modern-day production of kombucha and sauerkraut, the technique has remained invaluable. The process occurs in the_____ (2) of oxygen, allowing microorganisms such as yeast and bacteria to break down carbohydrates. These microbes thrive under anaerobic conditions and transform the ingredients into new chemical products. Not only does fermentation enhance the taste and texture of food, but it also_____ (3) the shelf life by preventing the growth of harmful bacteria. Additionally, many fermented foods are believed to contain probiotics that can improve gut health and aid digestion. Therefore, fermentation not only plays a role in preservation but also in potentially improving the_____ (4) value of foods. In an age increasingly dominated by industrial processing and fast food,many consumers are rediscovering the nutritional and cultural importance of traditional techniques. Workshops, DIY fermentation kits, and artisanal producers are contributing to a growing movement toward homemade, slow-food methods. As interest in traditional methods grows, fermentation is experiencing a modern_____ (5).

Options:

1. converts, absorbs, divides, digests, transmits
2. presence, abundance, limitation, filtration, absence
3. reduces, blocks, alters, extends, shortens
4. nutritional, historical, aromatic, emotional, physical
5. revival, replacement, decline, deviation, shortage

Passage 2: Architectural Acoustics

Architectural acoustics is the science and engineering of achieving a good sound environment within a building. It applies to a variety of structures, including the atres, schools, offices, and hospitals. Good acoustical design can improve clarity in auditoriums, reduce unwanted noise in open-planoffices, and ensure privacy in clinical or counseling settings. In designing spaces for acoustic performance, architects rely on numerous materials and methods. Surfaces made of_____ (1) tiles and insulation help absorb or block sound waves, reducing echoes and background noise.Architects must also account for sound_____ (2), reflection, and diffraction when designing interior layouts. Even the positioning of furniture, ceilingangles, and wall materials can significantly affect how sound behaves in a room. Acoustics not only impact functionality but also influence emotional comfort and concentration levels.For example, students perform better in classrooms where distractions are minimized, and patients recover faster in quieter hospital rooms. Therefore, acoustic design has a_____ (3) impact on overall human experience. With the rise of open-concept architecture and the increased use of hard surfaces like glass and concrete, addressing sound control has become more critical. Sound design continues to play a_____ (4) role in creating buildings that support productivity, communication, and well-being. As cities grow and urban noise becomes harder to escape, architecture must adapt to preserve a sense of calm and____ (5).

Options:

1. metallic, glossy, acoustic, magnetic, synthetic
2. transmission, division, output, saturation, exposure
3. minimal, reversible, decorative, limiting, significant
4. critical, passive, delayed, predictable, fragile
5. finance, location, comfort, architecture, quality

Passage 3

Marine renewable energy refers to energy harnessed from ocean-based sources, including tidal streams, waves, ocean currents, and thermal gradients. These technologies offer significant potentialfor producing clean, renewable energy without greenhouse gas emissions. Tidal and wave energy systems use underwater turbines or floating devices to_____ (1) kinetic energy from moving water into electricity. Unlike solar or wind, marine energyis highly_____ (2) due to the predictable nature of tides and wave patterns. However, challenges remain in scaling these technologies, including technical limitations, environmental impacts, and high initial costs. Researchers are exploring_____ (3) materials and system designs that reduce drag and withstand harshmarine conditions. Coastalnations with strong tides and abundant wave activity are especially well-positioned to benefit. In addition to electricity generation, marine energy has the potential to _____ (4) desalination and offshore aquaculture operations. As technology improves,marine renewable energy could become an essential component of a_____ (5) energy portfolio.

Options:

1. channel, block, convert, supply, release
2. experimental, delayed, unstable, reliable, accessible
3. durable, reactive, decorative, transparent, synthetic
4. hinder, eliminate, replace, generate, power
5. diverse, unified, obsolete, singular, fragile

Passage 4:

Bioluminescence is the emission of light by living organisms, most commonly foundin deep-sea creatures, fungi, and some insectslike fireflies. This natural glow occurs due to a biochemical reaction involving the enzyme luciferase and a moleculecalled luciferin. These organisms use light production for a variety of purposes—some to_____ (1) predators, others to attract mates or prey.In marine ecosystems, bioluminescence can be observed in jellyfish, plankton, and even certain types of squid. The intensity and _____ (2) of light can vary significantly across species, depending on evolutionary adaptations. Scientists are fascinated by this phenomenon not just for its beauty,but for its potential in medical and technological applications. For example, bioluminescent markers are used in genetic research to track cellular activity. In environmental monitoring, these natural lights can help detect pollutants or___ (3)

toxins in water bodies. As researchers decodethe molecular basisof bioluminescence, there's increasing interestin applying it to energy-efficient lighting or emergency signalling systems. Although bioluminescent capabilities are found in both terrestrial and aquatic environments, the ocean remains the most_____ (4) setting. In the deep sea, where sunlight does not reach, organisms have evolved light-producing organs as a crucial survivaltool. Studying these mechanisms offers insight into_____ (5) evolution and biological innovation.

Options:

1. confuse, attract, eliminate, observe, chase
2. color, frequency, temperature, wavelength, position
3. detect, inject, destroy, magnify, regulate
4. challenging, inland, harmful, visible, prevalent
5. planetary, artificial, academic, adaptive, microscopic

Passage 5:

Urban heat islands (UHIs) refer to metropolitan areas that are significantly warmer than their surrounding rural regions. This phenomenon is primarily driven by human activities and the_____ (1) of naturallandscapes with concrete and asphalt, which absorb and retain heat. Buildings, vehicles, and industrial operations emit heat, further intensifying urban temperatures. Night-time cooling is also_____ (2) due to the thermal properties of city materials. UHIs can lead to increasedenergy consumption, elevated emissionsof air pollutants, and adverse health outcomes, especially among vulnerable populations. To_____ (3) these effects,urban planners are increasingly incorporating green roofs, reflectivesurfaces, and urban forestry.Such interventions not only reduce ambient temperatures but also____ (4)air quality and biodiversity. As climate change progresses, the _____ (5) of UHIs is expected to intensify, making adaptive urban planning essential for sustainable and resilient cities.

Options for each blank

1. revolution, distribution, removal, evaluation, replacement
2. boosted, analyzed, reversed, hindered, minimized
3. mitigate, conceal, encourage, forecast, distribute
4. prevent, reduce, improve, contaminate, resist
5. effect, cause, symptom, benefit,shift

Multiple Choice – Multiple Answers

Question 1:

CRISPR, short for Clustered RegularlyInterspaced Short Palindromic Repeats, is a revolutionary gene-editing tool that has transformed molecularbiology. By harnessing a natural defense mechanism found in bacteria, scientists can now cut, modify, or replace specific DNA sequences with high precision. This technology has broad applications, including potential treatments for genetic disorders like

cystic fibrosis and sickle cell anaemia. In agriculture, CRISPR is used to enhance crop resilience, improve yield, and reduce the need for chemical pesticides. While the technology is powerful, it also raises ethical concerns. Editing the human germline—changes that are inheritable—remains highly controversial. Some worry about unintended consequences or misuse, especially in contexts lacking regulation. Despite this, research continues rapidly, andclinical trials are already underwayfor various diseases. International scientific communities are actively debating policies and frameworks for responsible CRISPRuse. Its precision, efficiency, and low cost make it one of the most promising innovations in biotechnology today.

Which of the following are mentioned as applications or concerns of CRISPR in the passage?

A. Treatment of genetic diseases
B. Editing the human germline
C. Chemical weaponsdevelopment
D. Agricultural crop enhancement
E. Regulation and social debate

Question 2:

Decision fatiguerefers to the deteriorating qualityof decisions made by an individual aftera long session of decision-making. This phenomenon occurs because mentalresources are finite,and each decisiondepletes a portion of cognitive energy.As decision-making continues, people may become overwhelmed and default to easieror riskier choices, or avoid decisions altogether. Studies have shown that judges, for example,tend to grant fewerparoles as the day progresses, favouring the statusquo. In marketing, consumers are more likely to make impulsive purchases or abandon decisions entirely when facedwith too many options. To counteract decision fatigue, some individuals adopt routines or delegate choicesto conserve mental energy. Techniques like limiting daily choicesor scheduling importanttasks earlier in the day are also effective. Understanding how decision fatigue works is vital in high-stakes professions and everydaylife, helping improveproductivity and reduce error.

Which of the followingare supported by the passage?

A. People becomemore impulsive when cognitively exhausted
B. Judges tend to be more lenient in the evening
C. Routines can help reducedecision fatigue
D. Consumers may abandon purchaseswhen overwhelmed.
E. Decision fatigue is irrelevant in legal contexts

Reorder Paragraphs

Passage 1:

A. Over centuries, maps have evolved from simple sketches on clay tablets to complex digital renderings.
B. These early maps servednot only navigational purposes but also conveyed political and religious world-views.

A. Cartography, the science of map-making, has played a vital role in human history.
B. Ancient civilizations like the Babylonians and Egyptians createdsome of the earliest knownmaps.
C. Today, modern cartography integrates satellite data, computer modeling, and geospatial analysis.

Passage 2:

A. After hatching, the larvaor caterpillar eatsvoraciously to grow andprepare for metamorphosis.
B. The butterfly life cycle consists of four stages: egg, larva, pupa, and adult.
C. As an adult, the butterfly emerges from the chrysalis, ready to reproduce and continue the cycle.
D. During the pupal stage, the caterpillar undergoes significant transformation inside a chrysalis.
E. The processbegins when a female butterflylays her eggs on host plants.

Reading: Fill in the Blanks

Question 1:

Modern mathematics reliesheavily on notationto express ideasefficiently. Symbols such as =, +, and √ have become universal toolsthat help streamline complex reasoning. Beforestandardized notation, mathematicians wrote lengthyexplanations in prose, making calculations tediousand error-prone. The introduction of algebraic symbols in the 16th and 17th centuries_____ (1) a turning point in mathematical communication. François Viète, René Descartes, and others contributed significantly to symbol development. These innovations not only simplified arithmetic but also_____ (2) abstract thinking in areas like calculus and algebra. Today, mathematical notation is nearlyuniform across languages, although minordifferences still exist. This standardization is especially valuablein academic and international contexts. As math evolveswith technology and interdisciplinary applications, symbolic representation remains a_____ (3) component of clarity and precision.

Options: marked, hindered, enabled,discouraged, manipulated vital, redundant, fragile,

Question 2:

Quantum computing is an emerging field that leverages the principles of quantum mechanics to perform computations far beyond the capability of classical computers. Unlike bits in traditional systems, which exist as 0 or 1, quantum bits—orqubits—can exist in a state of superposition, representing both 0 and 1 simultaneously. This unique property allows quantum computers to_____ (1) complex problems such as molecular modeling, cryptography, and optimization. Major tech companiesand academic institutions are racing to developstable and scalablequantum processors. However, the technology stillfaces substantial challenges, including error correction and_____ (2) coherence over time. Quantum computers are also highly sensitive to environmental disturbances, making them difficultto maintain and operate. Despitethis, recent breakthroughs in quantum supremacy—demonstrating that a quantum device can outperform a classical one—have_____ (3) interest in the field. As development continues, researchers are optimistic about potential applications in medicine, artificial intelligence, and materials science.

Options: tackle, reject, maintaining, equalizing, rekindled, lessened, removed, ignored

Question 3:

Climate models are essential tools for predicting future environmental conditions, helping policymakers make informed decisions about mitigation and adaptation strategies. These models use mathematical formulas to simulate interactions between the atmosphere, oceans, land surface, and ice. However, predicting climate behavior is inherently_____ (1) due to the complexity of Earth's systems and limitations in our understanding.

Scientists rely on both historical data and real-time satellite observations to improve model accuracy. Despite advances,no single model can predict exact outcomes, which is why scientists use ensemble modeling—running multiple scenarios to identify consistent trends. Natural variability, feedback loops, and socioeconomic factors all contribute to model_____ (2). While this uncertainty can be frustrating, it does not invalidate climate science; rather,it highlights the_____ (3) of interpreting results within a broader context.

Options: challenging, optional, divergence, precision, importance, impossibility, triviality, rigidity

Question 4:

Neuroscience has made significant strides in uncovering how memories are formed and stored in the human brain. Memory is not a single process but a complex set of mechanisms involving multiple regions of the brain, particularly the hippocampus, amygdala, and prefrontal cortex. When we experience something new, neurons communicate via electrical and chemical signals, creating new synaptic connections—a process known as synaptic plasticity. Repeated exposure or _____(1) of that information helps strengthen these neural pathways, enhancing long-term memory retention. However, memory is not perfectly reliable. It is subject to distortion and_____(2), especially over time or under stress.Factors like emotion,attention, and even sleep play crucial roles in how well memories are encoded and retrieved. Studies have shown that emotional events are often remembered more vividly but not necessarily more accurately. Ongoing research is also exploring how neurodegenerative diseases like Alzheimer's disrupt normal memory formation. Advances in imaging techniques, such as fMRI,allow scientists to observe brain activity during memory tasks and _____(3) which areas are activated. These insights may lead to more effective interventions for memory- related disorders and educational techniques that align better with how the brain naturally processes information.

Options: rehearsal, exposure, manipulation, erosion, enhancement, preservation, determine,

Multiple Choice – Single Answer

Question 1

Mitochondria are double-membraned organelles commonly referred to as the "powerhouses" of the cell because of their role in generating adenosinetriphosphate (ATP)—the primary molecule responsible for energy transfer in most biochemical processes. Through a series of reactions known as cellular respiration, mitochondria break down glucose and oxygen to produce ATP, carbon dioxide, and water. This energy supports countless cellularfunctions, including movement, division, and activetransport across

membranes.Beyond energy production, mitochondria also contribute to several other crucial cellular processes. They play a pivotal role in regulating apoptosis, a form of programmed cell death essentialfor maintaining tissue health and development. Additionally, mitochondria are involved in calcium signalling, fatty acid oxidation, and heat generation in specialized cells. Remarkably, mitochondria possess their own DNA, separatefrom the nuclear genome, suggesting an evolutionary origin tied to a symbiotic relationship between primitive cells and aerobic bacteria.This unique featureenables mitochondria to produce some of their own proteins and replicate independently of the cell cycle. Modernresearch indicates that mitochondrial dysfunction is associated with numerous conditions, including metabolic disorders, neurodegenerative diseases like Parkinson's and Alzheimer's, and even certaincancers. As such, they are a major focus in cellular biology, medicine, and genetics.

What is the primaryrole of mitochondria as described in the passage?

A. They managecell reproduction.
B. They conductphotosynthesis.
C. They generate cellular energy.
D. They produce genetic material.

Question 2:

Behavioral economics is a discipline that merges psychology and economics to study how individuals make decisions in the real world often diverging from the assumptions of traditional economictheory. Classical economics presumes that people are rational actors who make decisions based on perfect information and consistent preferences. However, behavioral economics revealsthat cognitive biases, emotions, and social influences often lead to irrational or inconsistent decision-making.Common cognitive biases include loss aversion, where individuals preferavoiding losses over acquiring equivalent gains; anchoring, where initial information undulyinfluences later judgments; and confirmation bias, the tendencyto favor information that supports existing beliefs. These psychological effects can significantly impact personal finance, consumer behavior, and policy design.One of the most influential contributions of behavioral economicsis the concept of "nudging." Ratherthan mandating behaviors, nudges subtly guidepeople toward betterchoices by altering the way options are presented. For example, automatically enrolling employees in retirement savingsplans—while still allowingthem to opt out—has significantly increased participation rates.Behavioral economics has been appliedin various domains, including health, education, and environmental conservation. Governments and institutions worldwide now use behavioral insights to createmore effective publicpolicies. By acknowledging that people do not always act in their best interest, this field provides tools for improving decision-making at both individual and societal levels.

What is the main idea of the passage?

A. Behavioral economicstries to eliminate human irrationality.
B. Traditional economicsfully explains consumerbehavior.
C. Human decision-making often deviates from rational models.
D. Psychological theoriescannot be appliedto financial choices.

Correct Answers

Reading & Writing: Fill in the Blanks

1. converts, absence, extends, nutritional, revival
2. acoustic, transmission, significant, critical, comfort
3. convert, reliable, durable, power, diverse
4. confuse, wavelength, detect, prevalent, adaptive
5. replacement, hindered, mitigate, improve, effect

Multiple Choice – Multiple Answers

1. A, B, D
2. A, C, D

Reorder Paragraphs

1. C - D - B -A - E
2. B - E - A - D -C

Reading: Fill in the Blanks

1. marked, enabled, vital
2. tackle, maintaining, rekindled
3. challenging, divergence, importance

rehearsal, erosion, determine

Multiple Choice – Single Answer

1. C
2. C