

MBA Pro 2024

Verbal Ability and Reading Comprehension

DPP: 10

RC- PYQs 2023

Directions (1-4) Read the following passage and answer the given questions.

The **empty atom** picture is likely the most repeated mistake in popular science. It is unclear who created this myth, but it is sure that Carl Sagan, in his classic TV series **Cosmos** (1980), was crucial in popularising it. After wondering how small the nuclei are compared with the atom, Sagan concluded that

Most of the mass of an atom is in its nucleus; the electrons are by comparison just clouds of moving fluff. Atoms are mainly empty space. Matter is composed chiefly of nothing.

I still remember how deeply these words spoke to me when I heard them as a kid in the early 1980s. Today, as a professional theoretical chemist, I know that Sagan's statements failed to recognise some fundamental features of atoms and molecules.

Yet his reasoning is still influential. While preparing this essay, I ran a poll on Twitter asking whether people agreed with Sagan's quote above. Of the 180 voters, 43 per cent answered that they mostly agreed, and 27 per cent fully agreed. Google 'atoms empty space', and you will find tens of essays, blog posts and YouTube videos concluding that atoms are 99.9 per cent empty space. To be fair, you will also find a reasonable share of articles debunking the idea.

Misconceptions feeding the idea of the empty atom can be dismantled by carefully interpreting quantum theory, which describes the physics of molecules, atoms and subatomic particles. According to quantum theory, the building blocks of matter – like electrons, nuclei

and the molecules they form – can be portrayed either as waves or particles. Leave them to evolve by themselves without human interference, and they act like delocalised waves in the shape of continuous clouds. On the other hand, when we attempt to observe these systems, they appear to be localised particles, something like bullets in the classical realm. But accepting the quantum predictions that nuclei and electrons fill space as continuous clouds has a daring conceptual price: it implies that these particles do not vibrate, spin or orbit. They inhabit a motionless microcosmos where time only occasionally plays a role.

Most problems surrounding the description of the submolecular world come from frustrated attempts to reconcile conflicting pictures of waves and particles, leaving us with inconsistent chimeras such as particle-like nuclei surrounded by wave-like electrons. This image doesn't capture quantum theory's predictions. To compensate, our conceptual reconstruction of matter at the submolecular level should consistently describe how nuclei and electrons behave when not observed – like the proverbial sound of a tree falling in the forest without anyone around.

Q1 In the context of the passage, which of the following statements inaccurately depicts the portrayal of atomic components by quantum theory?

- (A) Atomic components, when not observed, behave as static entities with a predetermined position in space.
- (B)



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Atomic components exhibit characteristics of both waves and particles, contingent upon observational interference.

- (C) Quantum theory posits that atomic components are never in a state of absolute motionlessness.
 - (D) Electrons and nuclei, according to quantum theory, can be depicted as continuous clouds that occupy space.
- Q2** Which of the following arguments, if substantiated, would most compellingly counter the author's critique of the 'empty atom' concept?
- (A) The behavior of atomic components as waves undermines the structural integrity of matter, suggesting a predominantly empty atomic space.
 - (B) Advancements in quantum field theory have conclusively demonstrated that space within atoms is not actually empty but filled with virtual particles.
 - (C) New experimental evidence has shown that electrons occupy a minuscule volume within the atom, reinforcing the notion of emptiness.
 - (D) The observation of atomic components as localized particles contradicts the wave nature of electrons, thus supporting the empty atom viewpoint.
- Q3** If the classical interpretation of atomic structure was validated, which of the following outcomes would most likely be inconsistent with the passage's depiction of atomic behavior?
- (A) Atoms would be considered almost entirely solid, negating any description of them as consisting of empty space.
 - (B) Electrons would be viewed as orbiting the nucleus in fixed paths, analogous to planets around the sun.
 - (C)

The wave-like behavior of electrons would be deemed a misconception, with their positions and velocities determinable.

- (D) Nuclei would be described as the only component of the atom with significant mass, surrounded by largely empty space.

Q4 Which of the following statements, if pronounced by an advocate of the 'empty atom' view, would misconstrue the author's facts?

- (A) The author's critique of the 'empty atom' model arises from a misunderstanding of electron cloud densities.
- (B) The author, despite being a theoretical chemist, subscribes to a dated view of atomic structure, neglecting the spatial significance of electron positioning.
- (C) It is a misconception that the author discredits the mass of electrons; instead, he emphasizes their substantial role in atomic structure.
- (D) The author incorrectly assumes that time plays a consistent role in the behavior of atomic components at the submolecular level.

Directions (5-8) Read the following passage and answer the given questions.

Ukrainians are in a fight for their freedom and their lives, yet they're going out of their way to cast humorous scorn on their invaders. The Moskva incident is not unique. In the early days of the invasion, a Ukrainian woman was filmed offering sunflower seeds to occupiers so that, when they died, flowers would grow from their corpses. That's some pretty dark humour. Likewise, reporters have remarked, with admiration and even wonder, on the Ukrainian president Volodymyr Zelensky's dark sense of humour in the face of the horrors of war.



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Such phenomena illustrate humour's surprising power. A fine-tuned sense of humour helps people to criticise by expressing and appreciating the emotion of contempt. The glee people felt at the humiliation of the Moskva and the stamp mocking it is a clear example. Dictators' militaries become less frightening and intimidating when subjected to deserved mockery, especially when that mockery is grounded in successful resistance.

The sinking of the Moskva and the reissued, trolling stamp demonstrate that Hrybov's dark humour served a purpose

Most Russian partisans did not participate in this glee, which points to another way that a sense of humour can be virtuous. The people who laugh when you laugh – and who don't laugh when you don't laugh – are likely to share your values and worldview. A sense of humour is a great way to establish (and sever) social connections of trust. Laughter is hard to fake and hard to stifle. So if you find yourself snort-laughing at the same Moskva memes as another person, you can probably rely on them to take the same side as you on other geopolitical questions. At the same time, if you find yourself laughing when another is looking stern, that may indicate that your values and worldview diverge. In dark times, it is difficult to envision a worthwhile future when you don't think you can trust others to do their part in collective action. A sense of humour helps engender warranted trust.

Beyond trust, the capacity to enjoy amusement during dark times helps people to cope. The first few months of the Russian invasion of Ukraine were horrific, and the situation will not brighten anytime soon. But as Zelensky said in an interview with ***The Atlantic*** magazine, dark humour in dark times can provide the positive affect people need to keep going: 'I think that any normal person cannot survive without it,' he said. 'If you take it seriously, you might as well go and hang yourself.' As the philosopher

Philippa Foot has emphasised, virtues are traits we need in order to govern our emotional lives in the face of the challenges we inevitably face in life. When Hrybov swore at the Moskva, he no doubt realised that he was about to be captured or killed. Levity in the face of tragedy can enable people to deal with circumstances that would otherwise lead to despair.

Q5 Which of the following statements is NOT supported by the passage's discourse on the utilization of humor amidst conflict?

- (A) Humor serves as a psychological bulwark for individuals facing the grim realities of war.
- (B) Humorous mockery of the enemy weakens the perceived invincibility of authoritarian oppressors.
- (C) Humor, especially in its darker form, can be indicative of a lack of moral sensitivity in times of crisis.
- (D) A shared sense of humor can act as a barometer for aligned values and trust within a community.

Q6 The author cites President Zelensky's assertion: "Dark humour in dark times can provide the positive affect people need to keep going." Which one of the following statements, if true, would NOT reflect the sentiment of this quote?

- (A) Individuals who engage in dark humor may be more resilient to the psychological impacts of traumatic events.
- (B) People lacking a sense of humor are often more susceptible to feelings of despair during adversities.
- (C) Finding humor in dire circumstances is a coping mechanism that undermines the severity of the situation.
- (D) A capacity for levity can be a virtue that enables individuals to face challenging or tragic circumstances.



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- Q7** According to the passage, which statement embodies an ideology that does NOT resonate with the suggested virtuous aspect of humor during adversity?
- (A) Humor is an essential virtue that people use to manage their emotional lives amid life's inevitable challenges.
 - (B) Laughter, being a spontaneous reaction, cannot be employed as a deliberate strategy to foster trust in trying times.
 - (C) The ability to laugh with others during hard times can reinforce social bonds and indicate shared principles.
 - (D) Amusement amidst distress does not only provide solace but also serves as a subtle act of resistance against oppressors.
- Q8** If a new study were to find that expressions of humor in the face of tragedy are a mere byproduct of distress and not a genuine coping strategy, which of the following implications drawn from the passage would be most undermined?
- (A) Humor helps people to criticize and express contempt for their aggressors, diminishing their fearsome image.
 - (B) Shared humor during conflict can reveal common values and establish trustworthy social connections.
 - (C) Humor can be used strategically to sever social connections when shared laughter is absent.
 - (D) People are capable of using dark humor as a mechanism for psychologically surviving through the horrors of war.

Directions (9-12) Read the following passage and answer the given questions.

'Beauty is in the eye of the beholder,' wrote Margaret Wolfe Hungerford in her novel *Molly Bawn* (1878); William Shakespeare made a

similar statement in *Love's Labour's Lost* ('Beauty is bought by judgment of the eye'); and such sentiments have been attributed even to Plato.

Yet, for centuries, people have been trying to find objective ways to characterise this ineffable quality of beauty (more broadly, of aesthetics). Are certain shapes or forms more attractive than others? Can visual appeal be codified, perhaps even predicted, in terms of adherence to some universal norms? Is there a formula for beauty, a rubric, a way to measure it?

These questions have taken on more import in our digital age, with its demands to rate everything on a numerical scale. The quest for a mathematical way to assess beauty has arisen in such diverse contexts as AI websites that spit out attractiveness scores based on uploaded photographs of your face, and medical studies aimed at providing guidelines for plastic surgery.

Some of the earliest attempts to frame beauty and aesthetics in mathematical terms arose during the Renaissance. For instance, this is when Andrea Palladio, inspired by ideas propounded in the 1st century BCE by Vitruvius, came up with detailed quantitative recommendations for architecture that survive to this day. One of the most enduring tropes that gained popularity during this time was that of the Golden Ratio, a number roughly equal to 1.618 that had been known by the ancient Greeks, and discussed in Euclid's monumental 300 BCE work, *The Elements*. Luca Pacioli, an Italian mathematician who studied both art and theology, set this popularisation into motion with the publication of his three-volume book *Divina proportione* (1509), or the 'divine proportion', his appellation for the Golden Ratio.

Pacioli was effusive in his praise of the ratio, using language like 'essential', 'wonderful' and 'supreme' to describe its effects, and touting in



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particular the harmony of the Golden Rectangle, formed by creating a rectangle with sides in the proportion 1:1.618. It probably didn't hurt his message that his friend, the great Leonardo da Vinci, who also learned mathematics from Pacioli, contributed 60 drawings to his book.

Symmetry indicates health and, therefore, suitability to be a reproductive mate; there are no defective facial parts or missing limbs.

Whether da Vinci was enamoured enough by the Golden Ratio to incorporate it in his own work, as some scholars have tried to establish, is a matter of debate. What's undeniable is that the ratio has acquired a mystical quality, not unlike what Pacioli promoted, as a proportion especially pleasing to the human eye. Research (much of it inconclusive) has been conducted to test whether the Golden Rectangle is the rectangular shape most favoured by subjects, and whether faces deemed attractive have proportions closer to the Golden Ratio. The Mona Lisa is often seen on the internet peering out of a Golden Rectangle, to underscore the popular notion that her beauty derives from the ratio.

Q9 Which of the following statements, if proven accurate, would most directly contravene the passage's depiction of beauty's objectification across history?

- (A) The quest to define beauty through measurable standards is exclusively a product of the digital age's influence.
- (B) Renaissance architecture incorporated mathematical principles to enhance aesthetic appeal, reflecting an early attempt at beauty's objectification.
- (C) Beauty scores assigned by AI algorithms are a modern reflection of the age-old pursuit to quantify aesthetic appeal.
- (D) The application of the Golden Ratio in Renaissance art was an early indicator

of the enduring human endeavor to find a universal formula for beauty.

Q10 Which of the following scenarios, if true, would be least congruent with the historical application of the Golden Ratio as indicated by the passage?

- (A) A smartphone app uses the Golden Ratio to suggest hairstyle changes that would enhance one's attractiveness.
- (B) Plastic surgeons use the Golden Ratio as a guideline to achieve symmetry in facial reconstruction procedures.
- (C) Art history classes teach the Golden Ratio as a principle that governed much of Renaissance art and architecture.
- (D) Modern architects eschew the Golden Ratio, preferring asymmetrical designs to evoke unique emotional responses.

Q11 Considering the passage's discussion of the digitization of beauty standards, which of the following outcomes is most unlikely to be a consequence of rating beauty on a numerical scale?

- (A) The standardization of beauty ideals across different cultural contexts due to the pervasive influence of numerical ratings.
- (B) An increased acceptance of diverse beauty standards as numerical ratings emphasize the subjectivity of aesthetics.
- (C) The reinforcement of specific beauty archetypes driven by the highest scores obtained in attractiveness algorithms.
- (D) The potential for numerical beauty assessments to reduce the influence of personal biases in judging attractiveness.

Q12



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If one were to dispute the assumption that Leonardo da Vinci employed the Golden Ratio in his works, which of the following, if established as true, would most robustly support their argument?

- (A) An analysis of da Vinci's artworks reveals proportions deviating significantly from the 1:1.618 Golden Ratio.
- (B) Contemporary critics of da Vinci's time did not recognize or document the use of the Golden Ratio in his work.
- (C) Mathematicians have disproved the existence of a singular 'golden' ratio, instead proposing a range of aesthetically pleasing ratios.
- (D) Art historians confirm that da Vinci's illustrations for Pacioli's "Divina proportione" were metaphorical rather than literal applications of the Golden Ratio.

Directions (13-16) Read the following passage and answer the given questions.

Valerie is a 25-year-old graduate student. She is compassionate, giving, and devoted to local volunteer work with refugees. She always seems to have a smile on her face. But since she was a teenager, Valerie has experienced excruciating periods of depression. When depressed, she is plagued by self-critical thoughts, and struggles to get out of bed. In these moments, she sometimes thinks of her troubled childhood – a time when her mother had also been bedridden with depression. Forced to become the 'parent' of the family, Valerie had to emotionally care for her mother and look after her younger sister. This upbringing affected the entire course of Valerie's emotional development. By the time she had become an adult, she had a feeling of emptiness that was hard to shake. She felt that she had lost herself when she was young. Searching for help, Valerie decided to visit her university's mental health centre and, after

several sessions of cognitive behavioural therapy (CBT), learned new ways of thinking about her mood. But she still felt lost. Something was missing. For her, CBT couldn't develop the submerged aspects of herself that had been pushed aside when she was young. Valerie is not a real person, but I have seen many patients like her in my practice who have found that CBT doesn't resonate with them. Yes, research consistently shows that patients who receive this form of therapy are more likely to experience an improvement in symptoms than those receiving no treatment at all (or receiving placebos). And yes, CBT is one of the most widely used, well-researched and well-funded forms of therapy in the world, accessible through mental health clinics, online therapists, or even apps. But it is not perfect.

Patients like Valerie come looking for an alternative, but often they can't pinpoint what went wrong. I believe their concerns can be best understood if we acknowledge that not all adult emotional problems ultimately stem from failures in thinking and reasoning, as CBT maintains. Not all problems can be solved quickly through what CBT practitioners call 'cognitive restructuring'. Understanding the limits of this popular form of therapy requires us to ask a difficult question: can CBT ever help us to fully develop psychologically?

To answer this question, we need to consider the conceptual scaffolding of CBT. Its philosophical roots go all the way back to ancient Greece, to the age of the Stoics. A faith in the power of reason can be found in most ancient Greek philosophy – and in much philosophy since. When we suffer, the logic goes, it's because we're letting our emotions get the better of us, pulling us away from seeing reality. Reason, these early philosophers argued, allows us to learn about things that truly matter, including how to be happy, live a good life, and free ourselves from negative



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emotions including depression, worry, anger, envy and jealousy.

Q13 Which of the following statements about Cognitive Behavioural Therapy (CBT) is NOT supported by the passage?

- (A) CBT is widely recognized and practiced due to its strong empirical backing.
- (B) CBT may not always facilitate a complete psychological development for individuals with complex emotional histories.
- (C) The philosophical underpinnings of CBT are traceable to contemporary psychological theories.
- (D) CBT has been critiqued for its inability to resonate with every patient seeking treatment.

Q14 Assuming Valerie's condition represents a typical case where CBT's limitations are evident, which of the following assertions, if true, would NOT constitute a contradiction to the passage's depiction of CBT's philosophical roots?

- (A) Suffering is a consequence of allowing emotions to cloud our judgment.
- (B) CBT's methodologies are not reflective of any philosophical traditions.
- (C) Emotions can be managed by exercising rational thought, according to ancient Greek philosophy.
- (D) CBT is ineffective due to its reliance on outdated philosophical concepts.

Q15 In considering the Stoic philosophy that underlies CBT, which of the following situations would most likely challenge the passage's insinuation that modern emotional problems may extend beyond the scope of CBT's conceptual framework?

- (A) A patient finds that understanding the logic behind their emotions doesn't

significantly alter their emotional responses.

(B) Modern therapy patients often require a combination of philosophical reasoning and emotional empathy to recover.

(C) Patients who delve into Stoic philosophy during CBT sessions report greater satisfaction with the therapy's outcomes.

(D) CBT practitioners agree that some emotional issues are deeply rooted in past traumas that CBT cannot address alone.

Q16 Which of the following statements regarding the influence of Stoic philosophy on Cognitive Behavioural Therapy (CBT) can be directly confirmed by the information presented in the passage?

- (A) Stoic philosophy contributes to CBT's focus on controlling one's responses to external events.
- (B) The Stoics were the first to propose the concept of cognitive restructuring that is central to CBT.
- (C) CBT derives its core methodology exclusively from Stoic philosophical teachings.
- (D) Ancient Stoic practices are the only philosophical influence on the development of CBT.

Directions (17-20) Read the following passage and answer the given questions.

It was clear from the start that quantum theory challenged all our previous preconceptions about the nature of matter and how it behaves, and indeed about what science can possibly – even in principle – say about these questions. Over the years, this very slipperiness has made it irresistible to hucksters of various descriptions. I regularly receive ads offering to teach me how



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to make quantum jumps into alternate universes, tap into my infinite quantum self-energy, and make other exciting-sounding excursions from the plane of reason and meaning. It's worth stressing, then, that the theory itself is both mathematically precise and extremely well confirmed by experiment.

Quantum mechanics has correctly predicted the outcomes of a vast range of investigations, from the scattering of X-rays by crystals to the discovery of the Higgs boson at the Large Hadron Collider. It successfully explains a vast range of natural phenomena, including the structure of atoms and molecules, nuclear fission and fusion, the way light interacts with matter, how stars evolve and shine, and how the elements forming the world around us were originally created.

Yet it puzzled many of its founders, including Einstein and Erwin Schrödinger, and it continues to puzzle physicists today. Einstein in particular never quite accepted it. 'It seems hard to sneak a look at God's cards,' he wrote to a colleague, 'but that he plays dice and uses "telepathic" methods (as the present quantum theory requires of him) is something that I cannot believe for a single moment.' In a 1935 paper co-written with Boris Podolsky and Nathan Rosen, Einstein asked: 'Can [the] Quantum-Mechanical Description of Physical Reality Be Considered Complete?' He concluded that it could not. Given apparently sensible demands on what a description of physical reality must entail, it seemed that something must be missing. We needed a deeper theory to understand physical reality fully.

Einstein never found the deeper theory he sought. Indeed, later theoretical work by the Irish physicist John Bell and subsequent experiments suggested that the apparently reasonable demands of that 1935 paper could never be satisfied. Had Einstein lived to see this work, he would surely have agreed that his own search for a deeper theory of reality needed to

follow a different path from the one he sketched in 1935.

Here's the basic problem. While the mathematics of quantum theory works very well in telling us what to expect at the end of an experiment, it seems peculiarly conceptually confusing when we try to understand what was happening during the experiment. To calculate what outcomes we might expect when we fire protons at one another in the Large Hadron Collider, we need to analyse what – at first sight – look like many different stories. The same final set of particles detected after a collision might have been generated by lots of different possible sequences of energy exchanges involving lots of different possible collections of particles. We can't tell which particles were involved from the final set of detected particles.

Now, if the trouble was only that we have a list of possible ways that things could have gone in a given experiment and we can't tell which way they actually went just by looking at the results, that wouldn't be so puzzling.

Q17 NONE of the given inferences would correctly suggest which aspect of quantum theory made it appealing leading to promising abilities like tapping into alternate universes or exploiting infinite self-energy, EXCEPT –

- (A) The precise mathematical nature of the theory
- (B) The established experimental confirmation of its principles
- (C) The theory's difficulty in conceptual understanding despite its predictive success
- (D) The involvement of prominent physicists like Einstein and Schrödinger

Q18 Based on your understanding, which option, IF TRUE, would weaken the assertion that due to the complexity of



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the quantum theory it often leads to misleading presentations?

(A) Physicists recognize quantum theory as complex and hard to grasp
 (B) Recent works suggest quantum theory's concepts are increasingly simple and clear
 (C) Attendees of clarification seminars are more drawn to extraordinary quantum abilities
 (D) Online forums lack discussions about the difficulties of understanding quantum theory.

Q19 NONE other option than this would NOT be supported by the given passage regarding quantum theory -

- (A) Quantum theory lacks mathematical precision and experimental confirmation.
 (B) Physicists found quantum theory puzzling and had reservations about its core principles.
 (C) Quantum theory accurately predicts a wide range of experimental outcomes.
 (D) The challenge lies in understanding the specifics of particle interactions during experiments.

Q20 According to the passage, which option, IF TRUE, can be considered as the key idea that is most likely to be supported by the passage about quantum theory's challenges and successes?

- (A) Quantum theory's mathematical precision and experimental confirmation coexist with conceptual challenges in understanding particle behavior during experiments.
 (B) Quantum theory's successes in predicting experimental outcomes are primarily attributed to its conceptual clarity and lack of ambiguity.
 (C)

Quantum theory's practical applications are hindered by a lack of experimental validation, despite its mathematical precision.

- (D) Quantum theory's limitations in explaining certain natural phenomena are primarily due to its inability to account for randomness and unpredictability at the quantum level.

Directions (21-25) Read the following passage and answer the given questions.

Music has been called a 'universal language' – the language of emotion – but there is a broad range of differences in people's emotional fluency. When listening to music, much like when we listen to a friend who's despairing, angry or elated, some of us seem to pick up on emotions more readily than others. One listener can't help but shudder when they hear a certain Billie Holiday song, sympathetically grasping its tragedy and perhaps feeling a bit of it themselves, while another listener is left cold. One person might feel emboldened and empowered by a joyful pop hit, while you just feel bored. Perhaps these differences are more than just a product of musical taste: is the tendency to contemplate and vicariously experience the emotional content of music related to how attuned someone is to other people's emotions generally, in daily life?

Most people don't often think about the relationship between empathy and musical experiences, but there is good reason to. Scholars have long speculated that music and empathy have a similar function in human social evolution, and that they might have arisen through similar (if not the same) neurocognitive architecture that evolved to bring people together. Indeed, music is often thought of as a form of social communication, as evidenced by its involvement in every human culture throughout known human history. Accounting for the relationship between



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empathy and the experience of music could have major implications for how we understand the function of music in our world, and possibly in our evolutionary past. And if social empathy (feeling or inferring another person's emotions in interpersonal interactions) is closely related to musical empathy (feeling or inferring emotions communicated via music), then the deliberate modulation of one may affect the other.

Research on the link between music and empathy has yielded some intriguing insights: for instance, studies indicate that people who self-report high levels of empathic concern for others – that is, they say they tend to strongly care about other people's feelings – also tend to experience heightened emotional reactivity to music, especially sad music. This may help to account for individual differences in how people respond to teary ballads, for instance. In previous work, one of us (Zachary Wallmark) used fMRI to find that individuals who report being highly empathetic activate cortical areas involved in social processing when listening to familiar music to a higher degree than do lower-empathy individuals. This suggests that music-listening and self-reported empathic processes might share similar circuitry in the brain.

Far less explored, however, has been whether the music-empathy link is borne out by objective behavioural assessments. To assess empathy more directly, psychological scientists commonly employ stimuli such as standardised images or video clips. In the empathic accuracy video task, for instance, participants watch a set of video clips in which people tell personal stories, which range from generally positive in nature (eg, a summer vacation) to generally negative (eg, an ugly breakup). Participants are then asked to rate how positive or negative the person in the video is feeling moment by moment throughout the clip. Researchers can then determine how well participants' ratings correspond with the ratings of the speakers

themselves. This task has been used to show the benefits of empathic accuracy in the development of healthy relationships, and to examine social cognitive ability in healthy and clinical populations.

Q21 In the context of the passage, which of the following inferences is not supported by the information provided regarding the relationship between music and empathy?

- (A) Music universally evokes the same emotional responses across different cultures due to shared empathic abilities.
- (B) Empathy in daily life is directly proportional to the depth of emotional response to music.
- (C) High levels of empathic concern in individuals has a non-negative correlation with their emotional reaction to music.
- (D) Music as a social communication tool has evolved alongside human empathic abilities.

Q22 Considering the evolutionary perspective presented in the passage, which of the following statements inaccurately represents the role of music and empathy in human social evolution?

- (A) Music and empathy have evolved independently without any interconnected neurocognitive architecture.
- (B) The evolution of music and empathy in human history is solely attributed to their role in enhancing survival.
- (C) Music has been a form of social communication throughout human history, evolving alongside empathic abilities.
- (D) Neoclassical perspectives on human evolution emphasize the combined



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role of music and empathy in social development.

- Q23** Based on the passage, which statement most accurately reflects the relationship between empathic concern and emotional reactivity to music?
- (A) Individuals with high empathic concern tend to have a diminished emotional response to music.
 - (B) A heightened emotional reaction to music is commonly observed in individuals who report low levels of empathic concern.
 - (C) People who self-report high empathic concern for others also experience heightened emotional reactivity to music.
 - (D) The emotional response to music is universally similar, regardless of the individual's level of empathic concern.

- Q24** Which of the following statements does NOT challenge the passage's discussed findings from fMRI studies on music-listening and empathy findings, and thus would qualify as an accurate assessment of the passage's message?
- (A) Individuals with lower empathy show increased activation in cortical areas involved in social processing while listening to music.
 - (B) fMRI studies indicate an insignificant difference in brain activity between high and low empathy individuals during music listening.
 - (C) Highly empathic individuals activate different brain areas than those involved in social processing when listening to familiar music.
 - (D) Highly empathic individuals show greater activation in cortical areas involved in social processing when listening to familiar music.

- Q25** Regarding the empathic accuracy video task mentioned in the passage, which of the following statements is NOT consistent with its application in music-empathy research?
- (A) The task is used to directly assess the relationship between empathic accuracy and sensitivity to music.
 - (B) Empathic accuracy video tasks have historically been used to evaluate the music-empathy link in clinical populations.
 - (C) This task involves participants rating emotions in personal stories, correlating with their music-empathy levels.
 - (D) Empathic accuracy tasks primarily focus on assessing cognitive abilities unrelated to music.

Directions (26-30) Read the following passage and answer the given questions.

If you suspect that 21st-century technology has broken your brain, it will be reassuring to know that attention spans have never been what they used to be. Even the ancient Roman philosopher Seneca the Younger was worried about new technologies degrading his ability to focus. Sometime during the 1st century CE, he complained that 'The multitude of books is a distraction'. This concern reappeared again and again over the next millennia. By the 12th century, the Chinese philosopher Zhu Xi saw himself living in a new age of distraction thanks to the technology of print: 'The reason people today read sloppily is that there are a great many printed texts.' And in 14th-century Italy, the scholar and poet Petrarch made even stronger claims about the effects of accumulating books:

Believe me, this is not nourishing the mind with literature, but killing and burying it with the weight of things or, perhaps, tormenting it until, frenzied by so many matters, this mind can no



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longer taste anything, but stares longingly at everything, like Tantalus thirsting in the midst of water.

Technological advances would make things only worse. A torrent of printed texts inspired the Renaissance scholar Erasmus to complain of feeling mobbed by 'swarms of new books', while the French theologian Jean Calvin wrote of readers wandering into a 'confused forest' of print. That easy and constant redirection from one book to another was feared to be fundamentally changing how the mind worked. Apparently, the modern mind – whether metaphorically undernourished, harassed or disoriented – has been in no position to do any serious thinking for a long time.

In the 21st century, digital technologies are inflaming the same old anxieties about attention and memory – and inspiring some new metaphors. We can now worry that the cognitive circuitry of the brain has been 'rewired' through interactions with Google Search, smartphones and social media. The rewired mind now delegates tasks previously handled by its in-built memory to external devices. Thoughts dart from idea to idea; hands drift unwittingly toward pockets and phones. It may seem that constant access to the internet has degraded our capacity for sustained attention. This apparent rewiring has been noticed with general uneasiness, sometimes with alarm, and very often with advice about how to return to a better, more supposedly 'natural' way of thinking. Consider these alarming headlines: 'Is Google Making Us Stupid?' (Nicholas Carr, *The Atlantic*, 2007); 'Have Smartphones Destroyed a Generation?' (Jean M Twenge, *The Atlantic*, 2017); or 'Your Attention Didn't Collapse. It Was Stolen' (Johann Hari, *The Observer*, 2022). This longing to return to a past age of properly managed attention and memory is hardly new. Our age of distraction and forgetting joins the many others on historical record: the Roman empire of

Seneca, the Song Dynasty of Zhu, the Reformation of Calvin.

Q26 Which one of the following options best summarizes the central theme of the passage?

- (A) Technological advancements have always been embraced by societies throughout history without reservations.
- (B) Concerns about technology's impact on cognitive abilities, such as attention span and memory, are a recurring theme across different historical periods.
- (C) The historical perspective on technology has been consistently positive, focusing on its benefits for cognitive development.
- (D) Modern digital technologies are the first to cause widespread concern about their impact on human cognition.

Q27 Which underlying ideology accentuating the discourse of technology's impact on attention span and memory would not be circumscribed by which of the following statements?

- (A) Technological advancements invariably lead to cognitive decline.
- (B) Each new technology brings unique challenges and opportunities for cognitive abilities.
- (C) The historical perspective on technology has generally been one of skepticism and fear.
- (D) Concerns about technology affecting attention are unique to the digital age.

Q28 If the statement - "Technological advances would make things only worse for human cognition" - is falsified, then



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what could have been the primary inference?

- (A) Historical figures always viewed technological advances as beneficial for cognitive development.
- (B) Technological advances, while causing concerns, have not consistently deteriorated human cognition.
- (C) The impact of technology on cognition has been negligible throughout history.
- (D) Modern digital technologies are less harmful to cognitive abilities than earlier technological advancements.

Q29 The passage affirms that concerns about technology and attention span are not unique to the modern era. Which of the following options, if NOT FALSE, challenges this assertion?

- (A) Historical concerns about technology were predominantly about its moral implications, not cognitive effects.
- (B) In ancient times, technology was seen solely as a means to enhance cognitive capabilities.

(C) The Renaissance marked the first instance of technology being linked to declines in attention span.

(D) Seneca the Younger's worries about books were unique and not shared by others in his era.

Q30 If one were to challenge the author's stance on technology's impact on attention span and memory, which of the following strategies would likely be the most effective based on the information in the passage?

- (A) Arguing that technological advancements have consistently improved human cognition throughout history.
- (B) Presenting evidence that concerns about technology's cognitive effects are a modern phenomenon.
- (C) Highlighting how different eras embraced technology without concerns about cognitive effects.
- (D) Demonstrating that historical figures often exaggerated the negative impact of technology on cognition.



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Answer Key

Q1 (A)
Q2 (C)
Q3 (C)
Q4 (D)
Q5 (C)
Q6 (C)
Q7 (B)
Q8 (D)
Q9 (A)
Q10 (D)
Q11 (B)
Q12 (A)
Q13 (C)
Q14 (C)
Q15 (A)

Q16 (A)
Q17 (C)
Q18 (C)
Q19 (A)
Q20 (A)
Q21 (A)
Q22 (A)
Q23 (C)
Q24 (D)
Q25 (D)
Q26 (B)
Q27 (D)
Q28 (B)
Q29 (A)
Q30 (A)



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Hints & Solutions

Q1. Text Solution:

The essence of the question's ask: This question targets the aspirant's understanding of quantum theory's representation of atomic components. The challenge is to discern the accurate portrayal of atomic behavior according to quantum theory. It's a moderately difficult question because it requires distinguishing subtle differences between the given options.

The Correct Option here is A.

Explaining the right option: Quantum theory fundamentally challenges the idea that atomic components have static positions when not being observed. Instead, it suggests a probabilistic nature of particles, where their positions are not determined until measured. Option A incorrectly posits a predetermined position, which is a classical perspective, not a quantum one. This statement's falsity is anchored in quantum mechanics' principle of uncertainty, which states that certain pairs of properties, like position and momentum, cannot both be known to infinite precision.

All the incorrect options:

- Option B correctly states the dual nature of atomic components, aligning with the concept of wave-particle duality.
- Option C is accurate because quantum theory indeed posits that particles are never absolutely still.
- Option D accurately reflects the quantum theory description of electrons and nuclei as probability distributions or "clouds."

Trap of the Question: Aspirants might be tempted to choose C due to the abstractness of "absolute motionlessness," which sounds counterintuitive. It's a trap designed to exploit a literal interpretation of movement.

Q2. Text Solution:

The essence of the question's ask: This question gauges the aspirant's ability to identify arguments that could potentially challenge the author's critique of the 'empty atom' concept. It is a difficult question because it requires a nuanced understanding of quantum mechanics and the debate around the atom's emptiness.

The Correct Option here is C.

Explaining the right option: If new experimental evidence showed that electrons occupy an extremely small volume within atoms, it would provide weight to the 'empty atom' concept, as it would imply that most of the atom's space is not occupied by matter. This would challenge the author's rejection of the atom's emptiness by adding empirical weight to the argument.

All the incorrect options:

- Option A is incorrect because the wave behavior of atomic components does not necessarily undermine the integrity of matter; rather, it provides a more complex picture of atomic interactions.
- Option B is incorrect as it does not challenge but supports the author's view that atomic space is not empty.
- Option D confuses the two natures of electrons; observation of particles doesn't negate their wave nature due to duality.

Trap of the Question: One might wrongly select D, misunderstanding the complementarity principle in quantum mechanics. This choice preys on the misconception that particle and wave properties cannot coexist - which is refuted by the passage.

Q3. Text Solution:

The essence of the question's ask: This question is designed to assess the aspirant's ability to apply classical interpretations of atomic structure to hypothetical scenarios that contradict quantum descriptions. It's a complex



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question that probes understanding of fundamental physics principles.

The Correct Option here is C.

Explaining the right option: If classical physics were accurate, the description of electrons with determinable positions and velocities would be correct, which is the complete opposite of the quantum mechanical model presented in the passage. The passage assumes a quantum perspective where such precision is fundamentally impossible.

All the incorrect options:

- Option A is incorrect because it presents a scenario that aligns with classical physics but does not contradict quantum theory directly.
- Option B describes an outdated model which, while classical, doesn't directly oppose the quantum description in the passage.
- Option D, although a classical view, doesn't directly conflict with the specific quantum behavior described in the passage.

Trap of the Question: Option B might appear attractive because it evokes the familiar image of the Bohr model, which many aspirants learn early in their studies. This exploits nostalgia and the comfort of familiarity.

Q4. Text Solution:

The essence of the question's ask: The aspirant's critical reading skills are tested here to identify statements that misrepresent the author's position on atomic structure. This question is particularly tricky due to the subtlety of misrepresentations.

The Correct Option here is D.

Explaining the right option: The author is all about quantum mechanics, which says that at the tiny level of atoms, things don't always happen in a predictable way, especially when it comes to time. Option D is sneaky because it suggests that time affects submolecular behavior in a steady, uniform way, but quantum

mechanics says, "Nope, it's not that simple." That's why D is the statement that's not getting the author's point right.

All the incorrect options:

- Option A sounds wrong because it's about electron cloud densities, and while it's a complicated topic, it's not the misconception the question is after.
- Option B throws shade at the author, saying he's out-of-date, but it doesn't actually get his views on atomic structure wrong.
- Option C might sound good because it talks about the mass of electrons, but if you look closely, it's actually on the same page as the author. It's agreeing in an indirect way.

Trap of the Question: Option A might snare aspirants with its reference to electron cloud densities—a concept that's complex and easy to misinterpret under stress.

Q5. Text Solution:

The Correct Option here is C

The essence of the question's ask: This question aims to examine the aspirant's ability to differentiate between supported and unsupported statements regarding the use of humor in conflict within the passage. To effectively approach this question, one must carefully dissect each statement and align it with the passage's narrative about humor in adversity.

Explaining the right option: Option C, which posits that humor could signify a lack of moral sensitivity, is the unsupported statement. It is correct because the passage doesn't suggest that humor during crises is indicative of insensitivity. Instead, the passage implies that humor serves as a coping mechanism and a means of resistance.

All the incorrect options:

- Option A is incorrect because the passage explicitly states that humor acts as a psychological buffer in harsh realities.



- Option B is dismissed as incorrect because humor diminishing the image of oppressors aligns with the passage's view of humor as a tool of resistance.
- Option D is a perfect representation of the passage's portrayal of the utility of humor, and is thus incorrect.

Trap of the Question: Many aspirants might gravitate towards Option C being supported due to its alignment with commonly held beliefs regarding dark humor. However, this statement is incorrect because it does not reflect the nuances of the passage, which portrays humor positively in the context of adversity.

Q6. Text Solution:

The Correct Option here is C

The essence of the question's ask: This question tests the candidate's ability to discern between statements that align with and contradict a given sentiment from the passage. The aspirant must identify the statement that does not correspond with the positive effect of dark humor mentioned in the quote.

Explaining the right option: Option C, which suggests that finding humor in dire situations belittles their seriousness, is the correct choice. This statement does not reflect the quote's sentiment that humor serves as a positive force during challenging times.

All the incorrect options:

- **Option A** asserts that individuals who engage in dark humor may be more resilient to traumatic events' psychological impacts. This statement mirrors the sentiment in Zelensky's quote that dark humor serves a positive role in difficult times. It supports the notion that humor can be a form of psychological armor against adversity, hence it is considered incorrect because it aligns with the passage's message.
- **Option B** implies that a lack of humor correlates with increased susceptibility to despair during adversities. This reflects the

quote's sentiment by negatively framing the absence of humor and thus reinforcing the idea that humor has a protective effect. The statement aligns with the passage's theme that humor is a beneficial force, which is why it's an incorrect choice when looking for a statement that doesn't reflect the positive sentiment.

- **Option D** suggests that maintaining a capacity for levity during challenging or tragic circumstances is a virtue. This statement is directly supportive of Zelensky's assertion, as it implies that humor is a valuable trait that helps people cope with hardship. It echoes the underlying message of the passage that humor has a beneficial role during tough times, which disqualifies it as the correct answer to this question.

Trap of the Question: An examinee might be tempted to choose Option B as the correct answer because it states a negative ("more susceptible to feelings of despair") which could be misinterpreted as not reflecting the positive effect of humor. However, this statement indirectly supports the positive sentiment of the quote by highlighting the benefits of having a sense of humor, thus making it an incorrect option.

Q7. Text Solution:

The Correct Option here is B

The essence of the question's ask: The focus of this question is on understanding the virtues of humor as implied by the passage, and identifying the statement that does not agree with this portrayal. The aspirant must isolate the statement that contradicts the passage's positive depiction of humor.

Explaining the right option: Option B is correct because it states that laughter cannot be deliberately used to foster trust, which goes against the passage's suggestion that humor is a virtuous and intentional strategy in difficult times.



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All the incorrect options:

- **Option A** is not the answer because it aligns with the passage's positive portrayal of humor as a virtue used to navigate emotional turmoil in life's challenges. This statement endorses the role of humor in emotional management, which the passage suggests is a virtuous attribute, hence making it an incorrect option.
- **Option C** suggests that humor strengthens social bonds and signifies shared values during hard times. This statement is congruent with the passage's viewpoint that humor has a unifying, socially constructive role in adversity. It emphasizes the community-building aspect of humor that the passage upholds, so it's incorrect for our purposes of finding the non-resonating ideology.
- **Option D** indicates that humor is not only a source of comfort but also a form of subtle resistance. This idea is strongly supported in the passage, which posits that humor can be an act of defiance against oppressors. Therefore, this option is also aligned with the passage's sentiments and cannot be the answer.

Trap of the Question: Option C may seem like a contender for the correct answer, as the idea of reinforcing social bonds through laughter could be interpreted as a byproduct, rather than a deliberate use, of humor. However, the passage suggests that humor and laughter are intentional strategies for fostering trust and shared principles during trying times, thus making Option C incorrect.

Q8. Text Solution:

The Correct Option here is D

The essence of the question's ask: This question challenges the aspirant to predict the impact of a hypothetical study on the passage's assertions about humor. The correct approach is to identify which implication about humor as

a coping strategy would be most challenged if humor were found to be an involuntary byproduct of distress.

Explaining the right option: Option D is the correct answer. If humor were merely an involuntary reaction to distress, the notion that individuals use dark humor strategically to endure the horrors of war would be significantly undermined.

All the incorrect options:

- **Option A** posits that humor helps criticize and express contempt for aggressors, thereby diminishing their fearsome image. This statement could still hold true under the findings of the new study, as humor being a byproduct does not invalidate its role in diminishing the image of the oppressors. It does not specifically claim humor as a coping mechanism but rather as a natural reaction that has a particular effect, so it's not the answer.
- **Option B** suggests that shared humor during conflict can reveal common values and establish trustworthy social connections. This statement doesn't necessarily rely on humor being a deliberate coping strategy. Even if humor were found to be an involuntary byproduct, it could still incidentally reveal shared values and foster connections, so this option is incorrect.
- **Option C** suggests that humor can strategically sever social connections when there is no shared laughter. This statement remains plausible regardless of whether humor is intentional or involuntary. It addresses the absence of humor, rather than its presence, and implies an effect on social connections that doesn't depend on the nature of humor as a coping mechanism, making it incorrect.



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Trap of the Question: The primary trap in this question lies in failing to distinguish between the effects of humor as a coping strategy and its other potential roles. Option C might appear to be the correct answer because it presents a strategic use of humor. However, on closer examination, it discusses the strategic absence of humor, rather than its presence as a coping mechanism, which is the focus of the hypothetical study described in the question.

Q9. Text Solution:

The Correct Option here is A.

The essence of the question's ask: The question gauges the aspirant's ability to discern how the notion of objectifying beauty is not a mere product of the modern digital era but a historical continuum. The difficulty level is moderate, requiring the aspirant to comprehend the passage's timeline of beauty objectification. To solve this, aspirants must not conflate chronology with exclusivity.

Explaining the right option: Option A posits that the quest to define beauty with measurable standards is exclusively modern. However, the passage implies a historical pursuit of quantifying beauty, thus making Option A directly contradict the passage. We know, for instance, that beauty's objectification is not a newfangled concept - historical evidence shows it has long been a human endeavor.

All the incorrect options:

- **Option B** is a trap, seeming plausible because it uses the passage's context. However, it supports the passage's claims rather than contradicting them.
- **Option C** may seem correct as it discusses the contemporary aspect of the issue, but it actually aligns with the passage's notion of a historical quest.

- **Option D** is also aligned with the passage, indicating the Golden Ratio as a historical attempt at objectifying beauty.

Trap of the Question: The key trap here is the use of "exclusively" which might slip past an exhausted aspirant. It suggests a standalone modern phenomenon, disregarding the historical perspective. Aspirants should be vigilant against such absolute terms that distort the passage's broader assertions.

Q10. Text Solution:

The Correct Option here is D.

The essence of the question's ask: This question probes the aspirant's understanding of the Golden Ratio's application and relevance throughout history. The challenge level is high, requiring the differentiation between historical consistency and modern deviation.

Explaining the right option: Option D is the least congruent with the historical application of the Golden Ratio, which was seen as a tool to achieve harmony and beauty. Eschewing it for asymmetry would be in direct opposition to its historical use, making it the correct answer.

All the incorrect options:

- **Option A** is incorrect because it illustrates a modern application in line with the Golden Ratio's principles of enhancing attractiveness.
- **Option B** is a practical application of the Golden Ratio in modern medicine, not unlike its historical applications for ideal proportions.
- **Option C** might catch some off guard, but it is a straightforward educational use, true to the passage's content.

Trap of the Question: This question's pitfall is embedded in Option C, which seems like a straightforward rejection but actually reinforces the passage's view. Option D's correctness lies in its deviation from historical practices, a nuance that can be overlooked by aspirants.



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not carefully weighing each option against the passage's specifics.

Q11. Text Solution:

The Correct Option here is B.

The essence of the question's ask: This question targets the aspirant's understanding of the implications of digitizing beauty standards. A nuanced question, its difficulty arises from the counterintuitive nature of the correct answer in the context of societal trends.

Explaining the right option: Option B is correct because it posits an outcome that is most unlikely—increased acceptance of diverse beauty standards due to numerical ratings. The essence of digital beauty ratings leans toward standardization, not diversification, making Option B the least likely consequence and the correct answer.

All the incorrect options:

- **Option A** is incorrect as it reflects a probable consequence of numerical ratings—homogenization of beauty ideals.
- **Option C** is plausible because algorithms could reinforce certain archetypes by scoring them highly.
- **Option D** could be mistakenly chosen, assuming numerical assessments are objective, but this option is more likely than increased acceptance of diversity.

Trap of the Question: The trap is the seemingly progressive outlook of Option B. Without a careful reading, aspirants may select it, equating numerical assessment with objectivity and fairness, not recognizing that such ratings often reinforce prevailing beauty standards rather than diversifying them.

Q12. Text Solution:

The Correct Option here is A.

The essence of the question's ask: The question examines the aspirant's ability to critically assess historical assumptions regarding da Vinci's use of the Golden

Ratio. It's a challenging question that requires the aspirant to consider historical evidence against contemporary belief.

Explaining the right option: Option A presents a strong argument against da Vinci's use of the Golden Ratio by providing direct evidence from his artworks. If the proportions do not align with the ratio, it substantiates the argument against its use in his works.

All the incorrect options:

- **Option B** is incorrect, albeit tempting, because the lack of contemporary documentation does not necessarily refute the use of the Golden Ratio.
- **Option C** presents a general statement on the Golden Ratio, which, while interesting, does not specifically address da Vinci's works.
- **Option D** suggests a metaphorical use, which neither confirms nor denies the literal application in his art.

Trap of the Question: Many might lean towards Option D, mistaking the metaphorical for the non-literal. However, the question seeks direct evidence against da Vinci's employment of the ratio. Option A is the only one that provides this, making it the correct choice. Students should watch out for options that appear intellectually appealing but do not directly answer the question's challenge.

Q13. Text Solution:

The Correct Option here is C.

The essence of the question's ask: This question examines the aspirant's comprehension of the passage, particularly CBT's history and underpinnings. It's of moderate difficulty as it requires differentiation between what is explicitly stated and what is inferred.

Explaining the right option: Option C is correct because the passage does not support the idea that the philosophical underpinnings of



CBT are traceable to contemporary psychological theories. Rather, it attributes CBT's philosophical roots to ancient Greek philosophy, particularly Stoicism.

All the incorrect options:

- Option A is incorrect because the passage mentions that CBT has strong empirical backing, which is why it's widely recognized and practiced.
- Option B is plausible because the passage suggests CBT may not facilitate complete psychological development for everyone.
- Option D is mentioned in the passage, as it states that CBT doesn't resonate with every patient.

Trap of the Question: The aspirant might be tempted to select Option D because it's a critique of CBT and thus seems likely to be unsupported. However, that critique is explicitly presented in the passage.

Q14. Text Solution:

The Correct Option here is C.

The essence of the question's ask: This question tests the candidate's ability to identify contradictions. It's designed to be tricky by including statements that seem plausible but are not supported by the passage.

Explaining the right option: Option C aligns with the Stoic perspective mentioned in the passage, which emphasizes the role of rational thought in managing emotions. This assertion is consistent with the passage's depiction of CBT's philosophical roots and would not constitute a contradiction.

All the incorrect options:

- Option A could contradict the passage if it suggests that emotions alone are responsible for suffering, rather than the interaction between emotions and rational thinking as proposed by Stoic philosophy.
- Option B could contradict the passage if it denies any connection between CBT's methodologies and philosophical traditions,

whereas the passage explicitly mentions the influence of ancient Greek philosophy, including Stoicism, on CBT.

- Option D could contradict the passage if it suggests that CBT's reliance on philosophical concepts is outdated, whereas the passage highlights the enduring influence of ancient Greek philosophy on CBT.

Trap of the Question: Some might erroneously select D, misinterpreting the passage's critique of CBT as evidence that it considers the philosophy outdated, rather than debating the scope of CBT's effectiveness.

Q15. Text Solution:

The Correct Option here is A.

The essence of the question's ask: The question challenges the aspirant to apply the passage's concepts to hypothetical situations. It's complex because it requires understanding the limitations of CBT's scope as suggested by the passage.

Explaining the right option: Option A is correct because if understanding the logic behind emotions does not change emotional responses, it challenges the Stoic philosophy and by extension CBT's approach, as mentioned in the passage.

All the incorrect options:

- Option B is incorrect because it introduces a potential supplement to CBT rather than challenging its framework.
- Option C is incorrect since it would actually support the passage's depiction of CBT's philosophical roots.
- Option D acknowledges a limitation of CBT, which is in line with the passage's sentiments, thus not challenging the conceptual framework.

Trap of the Question: Option D could be a trap due to its mention of "past traumas," which seems to align with Valerie's case, but the question asks for a challenge to CBT's



framework, not an acknowledgment of its limitations.

Q16. Text Solution:

The Correct Option here is A.

The essence of the question's ask: This is a question about direct confirmation from the passage, which is deceptively simple but tests the aspirant's memory and understanding of the passage's details.

Explaining the right option: Option A is correct as it aligns with the Stoic philosophy mentioned in the passage that focuses on controlling responses to external events, which is a part of CBT's approach.

All the incorrect options:

- Option B is incorrect because the passage does not claim Stoics were the first to propose cognitive restructuring.
- Option C is incorrect as it suggests exclusivity, which the passage does not support.
- Option D is also incorrect because the passage does not state that Stoicism is the only influence on CBT.

Trap of the Question: The trap here is in Options B, C, and D, which contain elements of truth but are absolute statements that go beyond what the passage confirms. This can mislead an aspirant who does not carefully parse the passage's specific claims.

Q17. Text Solution:

Essence of the Question: This is an inference-based question where you are required to critically read the passage and find how the quantum theory became so appealing that it started to lead to situations that promised advanced abilities.

Correct Answer: C

Explanation: The passage discusses the quantum theory's success in predictions and experimental validations but highlights the conceptual challenges it poses, making it an attractive target for misleading presentations

promising extraordinary abilities. As this option correctly suggests what's stated in the passage, this becomes the correct answer.

Incorrect Answers:

A) This choice is not the focal point of the passage. While the theory's mathematical precision is mentioned, the passage emphasizes the confusion in understanding the theory. Hence, this answer is not accurate.

B) The passage acknowledges the theory's success in predicting and explaining various phenomena through experimental verification. However, this option fails to address the aspect where the theory's conceptual confusion led to misleading promises which is the main idea. Hence, this option is incorrect.

D) The passage references the puzzlement experienced by Einstein and Schrödinger regarding quantum theory. However, their involvement is not directly linked to why the theory became a target for misleading presentations promising extraordinary abilities. Therefore, this answer is not accurate.

Trap: While answering this question, do keep in mind that you are supposed to identify the cause that led to the successful acceptance of quantum theory and its application for developing more possibilities. This question includes the "NONE -EXCEPT" trap which ensures that there is one most accurate answer.

Q18. Text Solution:

Essence of the Question: This is an idea-weakening question of a difficult level that is asking you to identify the option that weakens the given assertion in the question. In order to answer it correctly, find the option that if considered true would go against the given assertion regarding quantum theory.

Correct Answer: C

Explanation: This option weakens the given assertion that the prevalence of misleading presentations about extraordinary quantum-related abilities is solely due to the conceptual



challenges of quantum theory. If educational seminars result in an increased belief in these misleading promises, it indicates that the source of attraction to such misleading presentations might not solely stem from the conceptual difficulties within the theory. Hence, this is the correct answer.

Incorrect Answers:

- A) This statement reinforces the idea that quantum theory is complex but it does not necessarily challenge the assumption that the complexity of the theory is the primary reason behind misleading presentations. Therefore, the answer is incorrect.
- B) This option suggests that quantum theory's concepts are becoming more straightforward, which doesn't challenge the assumption that the theory's complexity leads to misleading presentations, hence, this option is incorrect.
- D) While the lack of discussions on online forums might suggest a lack of awareness or public conversation about the difficulties in understanding quantum theory, it doesn't directly challenge the assertion regarding the primary reason for the prevalence of misleading presentations making the answer incorrect.

Trap: The trap in this question lies in the question itself. In order to solve the question, first you are supposed to critically analyse the given assertion, and based on that you have to identify which of the options is going against it. Make sure to not go hand in hand with the assertion and avoid all the options that are either aligned with the assertion or irrelevant to this question.

Q19. Text Solution:

Essence of the Question: This is a negation-based question that is asking you to find the option that is not supported by the given information in the passage regarding quantum theory.

Correct Answer: A

Explanation: This statement contradicts the passage. The passage emphasizes the mathematical precision of quantum theory and its extensive experimental confirmations, ranging from X-ray scattering to the discovery of the Higgs boson at the Large Hadron Collider.

Incorrect Answers:

- B) This option perfectly aligns with the passage. The passage mentions the puzzlement and skepticism among physicists toward quantum theory's core principles. Therefore, this option is incorrect.
- C) This option is also consistent with the information provided in the passage. The passage supports the idea that quantum theory accurately predicts a vast array of experimental outcomes making the option incorrect.
- D) This option is also aligned with the information given in the passage. The passage points out that the challenge with quantum theory is the conceptual confusion when trying to comprehend what occurred during the experiments, hence, this answer is also incorrect.

Trap: This question puts forth the trap in double negation form. Carefully decode the question to get the right interpretation. The question asks about the option which is not supported by the passage or the option which is in contrast with the passage., don't let the negation words confuse you.

Q20. Text Solution:

Correct answer: A. Quantum theory's mathematical precision and experimental confirmation coexist with conceptual challenges in understanding particle behavior during experiments.

Essence of the Question:

The essence of the question revolves around



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understanding the relationship between the strengths and limitations of quantum theory, particularly concerning its mathematical precision and experimental validation, and the conceptual challenges it presents in comprehending particle behavior during experiments.

Explanation for the Correct Answer:

Option A correctly captures the nuanced nature of quantum theory as described in the passage. Quantum theory is praised for its mathematical precision and successful experimental validation. However, the passage also highlights the ongoing conceptual challenges in fully understanding the behavior of particles during experiments. These conceptual challenges do not diminish the theory's mathematical precision or experimental confirmation but rather coexist with them.

Explanation for Incorrect Answers:

B. Quantum theory's successes in predicting experimental outcomes are primarily attributed to its conceptual clarity and lack of ambiguity. This option is incorrect because it contradicts the passage, which acknowledges the conceptual challenges and lack of clarity in understanding particle behavior during experiments, despite the theory's successes in predicting outcomes.

C. Quantum theory's practical applications are hindered by a lack of experimental validation, despite its mathematical precision.

This option is incorrect because it misrepresents the passage. The passage emphasizes that quantum theory has been well-confirmed by experiment, thus contradicting the notion of a lack of experimental validation hindering its practical applications.

D. Quantum theory's limitations in explaining certain natural phenomena are primarily due to its inability to account for randomness and unpredictability at the quantum level.

This option is incorrect because it focuses on a

specific aspect of quantum theory's limitations (inability to account for randomness) while overlooking the broader discussion in the passage. The passage discusses conceptual challenges in understanding particle behavior during experiments but does not solely attribute these limitations to the theory's inability to account for randomness.

Trap of the Question:

One potential trap in this question is to overlook the nuanced portrayal of quantum theory presented in the passage. Candidates might focus solely on its successes or limitations without considering the coexistence of mathematical precision, experimental confirmation, and conceptual challenges as described in the passage. This could lead to selecting an option that misinterprets or oversimplifies the passage's message.

Q21. Text Solution:

Essence of the Question: This question probes the reader's ability to identify unsupported inferences about the relationship between music and empathy, as depicted in the passage. It's a critical reasoning question, requiring careful differentiation between stated and implied ideas.

Approach to the Solution:

- Scrutinize the passage for information about the music-empathy relationship.
- Evaluate each option against this information.

Explaining the Right Option (Option A): Option A is correct. The passage does not support the inference that music universally evokes the same emotional responses across different cultures due to shared empathic abilities. The passage instead highlights individual differences in emotional fluency and responses to music.

Analysis of Incorrect Options:

- **Option B:** Supported by the passage, which suggests a connection between empathy in



daily life and emotional response to music.

- **Option C:** Also supported, as the passage indicates a positive correlation between empathic concern and emotional reaction to music.
- **Option D:** This is in line with the passage's theme that music and empathy may have evolved through similar neurocognitive architectures.

Trap of the Question: The trap here is to assume a universal response to music (Option A), which is a common misconception. The passage, however, emphasizes individual differences, which refutes this universality.

Q22. Text Solution:

Essence of the Question: This question examines the reader's comprehension of the role of music and empathy in human social evolution, as described in the passage. It's a factual comprehension question that requires attention to the evolutionary perspective presented.

Approach to the Solution:

- Recall the passage's discussion on the evolution of music and empathy.
- Assess each statement's alignment with this discussion.

Explaining the Right Option (Option A): Option A is correct. The passage implies that music and empathy might have evolved through similar, if not the same, neurocognitive architecture, which contradicts the statement that they evolved independently.

Analysis of Incorrect Options:

- **Option B:** Misleading but not directly contradicted by the passage.
- **Option C:** Supported, as the passage discusses music's role in social communication.
- **Option D:** Not mentioned in the passage, but not as directly contradicted as Option A.

Trap of the Question: The potential pitfall is to overemphasize the survival aspect (Option B)

while ignoring the neurocognitive link between music and empathy, which is more directly refuted by the passage.

Q23. Text Solution:

Essence of the Question: This question seeks to ascertain the correct relationship between empathic concern and emotional reactivity to music as presented in the passage. It's a detail-oriented question, requiring careful recall of specific information.

Approach to the Solution:

- Remember the passage's findings on empathic concern and music.
- Compare these findings with each statement.

Explaining the Right Option (Option C): Option C is accurate. The passage states that individuals who self-report high levels of empathic concern also tend to experience heightened emotional reactivity to music.

Analysis of Incorrect Options:

- **Option A:** Contradicts the passage, which associates high empathic concern with increased emotional response to music.
- **Option B:** Also contradicts the passage, which links high empathic concern with heightened emotional reactivity, not low empathic concern.
- **Option D:** Misleading, as the passage emphasizes individual differences in response to music based on empathic concern.

Trap of the Question: A common misunderstanding might lead one to think that empathic concern dampens emotional response to music (Option A), but the passage clearly states the opposite. Remember, it's about the intensity of the emotional reaction.

Q24. Text Solution:

Essence of the Question: This question tests the reader's ability to identify statements that align with or challenge the findings from fMRI studies on music-listening and empathy, as discussed



in the passage. It's an analytical question focused on interpreting research findings.

Approach to the Solution:

- Recall the fMRI study findings from the passage.
- Determine which statement is consistent with these findings.

Explaining the Right Option (Option D): Option D is correct. The passage indicates that highly empathetic individuals show greater activation in cortical areas involved in social processing when listening to familiar music, making this statement an accurate assessment of the passage's message.

Analysis of Incorrect Options:

- **Option A:** Contradictory, as the passage suggests the opposite.
- **Option B:** Misleading, as the passage indicates a difference in brain activity between high and low empathy individuals.
- **Option C:** Incorrect, as the passage states that highly empathetic individuals do activate brain areas involved in social processing.

Trap of the Question: The trap could be a misunderstanding of the fMRI study's results (Option B), leading to the incorrect belief that there's no significant difference in brain activity.

Q25. Text Solution:

Essence of the Question: This question targets the reader's comprehension of the application of the empathic accuracy video task in music-empathy research, as described in the passage. It's a question of understanding research methodology in context.

Approach to the Solution:

- Reflect on the description and application of the empathic accuracy video task in the passage.
- Evaluate each statement for consistency with this description.

Explaining the Right Option (Option D): Option D is correct. The passage discusses the empathic accuracy video task in the context of

assessing empathy, not cognitive abilities unrelated to music. This makes Option D inconsistent with the passage's application of the task.

Analysis of Incorrect Options:

- **Option A:** While not explicitly stated, it's implied that the task could assess the music-empathy relationship.
- **Option B:** Not directly stated, but not inconsistent with the potential applications of the task.
- **Option C:** This aligns with the passage's description of the task involving participants rating emotions in personal stories.

Trap of the Question: A possible misunderstanding is assuming the task's focus is entirely on cognitive abilities unrelated to music and empathy, which would lead to choosing the wrong answer. However, the passage links this task to understanding empathic abilities, including in relation to music.

Q26. Text Solution:

Essence of the Question: This question seeks to identify the central theme of the passage. It's a moderate-level question testing the aspirant's ability to distill the main idea from a comprehensive discussion on a topic.

Approach to Solve:

- Remember the overall message conveyed throughout the passage about technology's impact on cognition. Determine which option encapsulates the passage's central theme accurately.

Explanation for the Correct Answer (Option b):

- The correct answer is Option b: "Concerns about technology's impact on cognitive abilities, such as attention span and memory, are a recurring theme across different historical periods."
- The passage talks about historical concerns about technology's impact on attention span and memory, showcasing a pattern that persists across various eras.



Explanation for Incorrect Options:

- **Option a:** Incorrect as the passage does not imply that technological advancements were always embraced without reservations. It focuses on concerns raised about these advancements.
- **Option c:** This is misleading because the passage discusses the concerns and apprehensions about technology, not a consistently positive view.
- **Option d:** Incorrect as the passage highlights that concerns about technology and cognition are not unique to modern times but have historical precedence.

Trap of the Question:

- The main trap in this question is to overlook the historical context and assume the concerns are unique to the modern era or that technology has always been viewed positively; this is a view that many people hold, and the trap here is to miss the author's stance on it.

Q27. Text Solution:

Essence of the Question: This question is about identifying an ideology that does not fit the discourse regarding technology's impact on attention and memory. It's a moderate difficulty level question, testing the aspirant's ability to discern statements that contradict the passage's theme.

Approach to Solve:

- Focus on the general perspective on technology's impact as conveyed in the passage. Look for the option that does not align with the passage's discussion.

Explanation for the Correct Answer (Option d):

- The correct answer is Option d: "Concerns about technology affecting attention are unique to the digital age."
- The passage demonstrates that concerns about technology's impact on attention and memory are not unique to the digital age but

have been a recurring theme throughout history.

Explanation for Incorrect Options:

- **Option a:** Although extreme, this option reflects a historical skepticism about technology's impact on cognition.
- **Option b:** This aligns with the passage's theme that each technology brings its own challenges and opportunities.
- **Option c:** Incorrect but plausible, as the passage does present a historical perspective of skepticism and fear towards technological advancements.

Trap of the Question:

- The trap is to assume that historical concerns about technology were similar in nature to modern concerns. Option d contradicts the passage's emphasis on the long-standing nature of these concerns.

Q28. Text Solution:

Essence of the Question: This question explores the implication if the statement about technology worsening human cognition is proven false. It's a moderately challenging question that tests the aspirant's ability to infer implications contrary to a given statement.

Approach to Solve:

- Consider the implication if the negative impact of technological advances on cognition is disproved. Determine which option would be a logical inference if the given statement is false.

Explanation for the Correct Answer (Option b):

- The correct answer is Option b: "Technological advances, while causing concerns, have not consistently deteriorated human cognition."
- If the statement about technology worsening cognition is false, it implies that while concerns exist, they have not led to a consistent deterioration in human cognition.

Explanation for Incorrect Options:

- **Option a:** Incorrect as the passage does not suggest that historical figures universally viewed technology as beneficial.
- **Option c:** Misleading because the passage indicates that technology's impact on cognition has been significant, albeit not consistently negative.
- **Option d:** This option is speculative and does not align with the implications of disproving the statement.

Trap of the Question:

- The trap here is to oversimplify the implications of falsifying the statement. Aspirants might be tempted by options that present extreme viewpoints rather than a nuanced understanding.

Q29. Text Solution:

Essence of the Question: This question asks which option, if true, would challenge the assertion that concerns about technology and attention span are not unique to the modern era. It's a moderately challenging question testing the aspirant's ability to identify statements that contradict the passage's message.

Approach to Solve:

- Remember the passage's claim that concerns about technology and attention span are historical. Look for an option that, if true, would challenge this assertion.

Explanation for the Correct Answer (Option a):

- The correct answer is Option a: "Historical concerns about technology were predominantly about its moral implications, not cognitive effects."
- If historical concerns were primarily moral rather than cognitive, this would challenge the passage's assertion that worries about technology's impact on cognition are longstanding.

Explanation for Incorrect Options:

- Option b:** Incorrect as the passage suggests that even in ancient times, technology was

seen as impacting cognitive abilities, not just enhancing them.

- Option c:** Misleading because the passage indicates that concerns about technology's impact on attention span predate the Renaissance.
- Option d:** Incorrect as the passage shows that Seneca's worries were not unique but part of a recurring historical theme.

Trap of the Question:

- The trap is failing to recognize the distinction between moral and cognitive concerns. Aspirants might be misled by options that align with the general theme of technological impact but miss the specific focus on cognitive effects.

Q30. Text Solution:

Essence of the Question: This question involves determining the most effective strategy to challenge the author's stance on technology's impact on attention span and memory. It's a moderate difficulty level question, testing the aspirant's critical thinking and ability to argue against the passage's viewpoint.

Approach to Solve:

- Recall the passage's perspective on technology's impact. Assess which option would most effectively challenge the author's viewpoint.

Explanation for the Correct Answer (Option a):

- The correct answer is Option a: "Arguing that technological advancements have consistently improved human cognition throughout history."
- Since the passage discusses concerns about technology's negative impact on cognition, arguing that technology has consistently improved cognition would be a direct and effective challenge to this view.

Explanation for Incorrect Options:

- Option b:** Misleading, as the passage already establishes that concerns are not just a modern phenomenon.



- **Option c:** Incorrect because the passage suggests that each era had its concerns, not an uncritical embrace of technology.
- **Option d:** This option, while plausible, does not directly challenge the author's stance as effectively as arguing for consistent cognitive improvement.

Trap of the Question:

- The main trap is choosing an option that aligns with the passage's theme but does not effectively challenge the author's stance. Aspirants need to focus on directly countering the passage's viewpoint.



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