

Time: 120 Mins

**Important Instructions**

- (i) Total Number of Questions: 68
- (ii) Number of Questions in Verbal Ability and Reading Comprehension (VARC): 24
- (iii) Number of Questions in Data Interpretation and Logical Reasoning (DILR): 22
- (iv) Number of Questions in Quantitative Ability (QA): 22
- (v) 40 minutes are allotted to attempt each section.
- (vi) 4 answer options for each MCQ type question.
- (vii) Answers are typed in the given space on the computer screen for Non-MCQ.
- (viii) For each correct answer: +3 marks
- (ix) Negative marking (Applicable for wrong answers in MCQs): -1 mark

## Verbal Ability and Reading Comprehension (VARC)

**Q. 1. The passage given below is followed by four alternate summaries. Choose the option that best captures the essence of the passage.**

Scientific research shows that many animals are very intelligent and have sensory and motor abilities that dwarf ours. Dogs are able to detect diseases such as cancer and diabetes and warn humans of impending heart attacks and strokes. Elephants, whales, hippopotamuses, giraffes, and alligators use low-frequency sounds to communicate over long distances, often miles. Many animals also display wide-ranging emotions, including joy, happiness, empathy, compassion, grief, and even resentment and embarrassment. It's not surprising that animals share many emotions with us because we also share brain structures, located in the limbic system, that are the seat of our emotions.

- 1. Animals are more intelligent than us in sensing danger and detecting diseases.
- 2. The advanced sensory and motor abilities of animals is the reason why they can display wide-ranging emotions.
- 3. Animals can show emotions which are typically associated with humans.
- 4. The similarity in brain structure explains why animals show emotions typically associated with humans.

**Q. 2. The passage given below is followed by four alternate summaries. Choose the option that best captures the essence of the passage.**

Cartographers design and create maps to communicate information about phenomena located somewhere on our planet. In the past, cartographers did not worry too much about who was going to read their maps. Although some simple "usability" research was done—like comparing whether circle or bar symbols worked best—cartographers knew how to make maps. However, this has changed, due to all kinds of societal and technological developments. Today, map readers are more demanding—mostly because of the tools they use to read maps. Cartographers, who are also influenced by these trends, are now more interested in seeing if their products are efficient, effective, and appreciated.

- 1. Maps are being used for a variety of reasons and therefore map readers have become more demanding.
- 2. Modern mapmakers evaluate a map's effectiveness efficiency and satisfaction of the user through a series of experiments.
- 3. Today, cartographers also need to look into the usability of maps because of the new technological developments.
- 4. New technological developments have prompted cartographers to experiment with their maps by applying these new innovations.

**Q. 3. Five jumbled-up sentences (labelled 1, 2, 3, 4 and 5), related to a topic, are given below. Four of them can be put together to form a coherent**

paragraph. Identify the odd sentence and key in the number of that sentence as your answer.

1. Urbanites also have more and better options for getting around: Uber is ubiquitous; easy-to-rent dockless bicycles are spreading; battery-powered scooters will be next.
2. When more people use buses or trains the service usually improves because public-transport agencies run more buses and trains.
3. Worsening services on public transport, terrorist attacks in some urban metros and a rise in fares have been blamed for this trend.
4. It seems more likely that public transport is being squeezed structurally as people's need to travel is diminishing as a result of smartphones, video-conferencing, online shopping and so on.
5. There has been a puzzling decline in the use of urban public transport in many countries in the west, despite the growth in urban populations and rising employment.

**Q. 4. There is a sentence that is missing in the paragraph below. Look at the paragraph and decide where (option 1, 2, 3, or 4) the following sentence would best fit.**

Sentence: Comprehending a wide range of emotions, Renaissance music nevertheless portrayed all emotions in a balanced and moderate fashion.

Paragraph: A volume of translated Italian madrigals were published in London during the year of 1588. This sudden public interest facilitated a surge of English Madrigal writing as well as a spurt of other secular music writing and publication. \_\_\_(1)\_\_. This music

boom lasted for thirty years and was as much a golden age of music as British literature was with Shakespeare and Queen Elizabeth I. \_\_\_(2)\_\_. The rebirth in both literature and music originated in Italy and migrated to England; the English madrigal became more humorous and lighter in England as compared to Italy. Renaissance music was mostly polyphonic in texture. \_\_\_(3)\_\_. Extreme use of and contrasts in dynamics, rhythm, and tone colour do not occur. \_\_\_(4)\_\_. The rhythms in Renaissance music tend to have a smooth, soft flow instead of a sharp, well-defined pulse of accents.

1. Option 2
2. Option 3
3. Option 1
4. Option 4

**Q. 5. Five jumbled-up sentences (labelled 1, 2, 3, 4 and 5), related to a topic, are given below. Four of them can be put together to form a coherent paragraph. Identify the odd sentence and key in the number of that sentence as your answer.**

1. Animals have an interest in fulfilling their basic needs, but also in avoiding suffering, and thus we ought to extend moral consideration.
2. Singer viewed himself as a utilitarian, and presents a direct moral theory concerning animal rights, in contrast to indirect positions, such as welfarist views.
3. He argued for extending moral consideration to animals because, similar to humans, animals have certain significant interests.
4. The event that publicly announced animal rights as a legitimate issue within contemporary philosophy was Peter Singer's Animal Liberation text in 1975.
5. As such, we ought to view their interests alongside and equal to human interests, which results in humans having direct moral duties towards animals.

### Passage 1

**Directions (Q. 6 to 9):** The passage below is accompanied by four questions. Based on the passage, choose the best answer for each question.

Landing in Australia, the British colonists weren't much impressed with the small-bodied, slender-snouted marsupials called bandicoots. "Their muzzle, which is much too long, gives them an air exceedingly stupid," one naturalist noted in 1805. They nicknamed one type the "zebra rat" because of its black-striped rump.

Silly-looking or not, though, the zebra rat—the smallest bandicoot, more commonly known today as the western barred bandicoot—exhibited a genius for survival in the harsh outback, where its ancestors had persisted for some 26 million years. Its births were triggered by rainfall in the bone-dry desert. It carried its breath-mint-size babies in a backward-facing pouch so mothers could forage for food and dig shallow, camouflaged shelters.

Still, these adaptations did not prepare the western barred bandicoot for the colonial-era transformation of its ecosystem, particularly the onslaught of imported British animals, from cattle and rabbits that damaged

delicate desert vegetation to ravenous house cats that soon developed a taste for bandicoots. Several of the dozen-odd bandicoot species went extinct, and by the 1940s the western barred bandicoot, whose original range stretched across much of the continent, persisted only on two predator-free islands in Shark Bay, off Australia's western coast.

"Our isolated fauna had simply not been exposed to these predators," says Reece Pedler, an ecologist with the Wild Deserts conservation program.

Now Wild Deserts is using descendants of those few thousand island survivors, called Shark Bay bandicoots, in a new effort to seed a mainland bandicoot revival. They've imported 20 bandicoots to a preserve on the edge of the Strzelecki Desert, in the remote interior of New South Wales. This sanctuary is a challenging place, desolate much of the year, with one of the world's most mercurial rainfall patterns—relentless droughts followed by sudden drenching floods.

The imported bandicoots occupy two fenced "enclosures," cleared of invasive rabbits (courtesy of Pedler's sheepdog) and feral cats (which slunk off once the rabbits disappeared). A third fenced area contains the program's Wild Training Zone, where two other rare marsupials (bilbies, a larger type of bandicoot, and mulgaras, a somewhat fearsome fuzzball known for sucking the brains out of prey) currently share terrain with controlled numbers of cats, learning to evade them. It's unclear whether the Shark Bay bandicoots, which are perhaps even more predator-naïve than their now-extinct mainland bandicoot kin, will be able to make that kind of breakthrough.

For now, though, a recent surge of rainfall has led to a bandicoot joey boom, raising the Wild Deserts population to about 100, with other sanctuaries adding to that number. There are also signs of rebirth in the landscape itself. With their constant digging, the bandicoots trap moisture and allow for seed germination so the cattle-damaged desert can restore itself.

They have a new nickname—a flattering one, this time. "We call them ecosystem engineers," Pedler says.

**Q. 6. Which one of the following statements provides a gist of this passage?**

1. The onslaught of animals, such as cattle, rabbits and housecats, brought in by the British led to the extinction of the western barred bandicoot.
2. The negligent attitude of the British colonists towards these bandicoots evidenced by the names given to them led to their annihilation.
3. A type of bandicoots was nearly wiped out by invasive species but rescuers now pin hopes on a remnant island population.
4. Marsupials are going extinct due to the colonial era transformation of the ecosystem which also destroyed natural vegetation.

**Q. 7. Which one of the following options does NOT represent the characteristics of the western barred bandicoot?**

1. Look of a rat but with a baby pouch and a slender snout

2. Smallest black striped marsupial that uses camouflage and dig
3. Long thin nose, black striped back, pouch for joeys
4. Shallow diggers having an elongated muzzle

**Q. 8. According to the text, the western barred bandicoots now have a flattering name because they have**

1. led to a surge and increase of rainfall.
2. grown fivefold in terms of population.
3. led a revival in preserving the species.
4. aided in altering an arid environment.

**Q. 9. The text uses the word 'enclosures' because Wild Deserts has adopted a measure of**

1. barring the entry of invasive species.
2. excluding animals to make the islands predator-free.
3. restoring cattle damaged deserts to green landscapes.
4. ridding the main desert of feral cats and large bilbies.

## Passage 2

**Directions (Q. 10 to 13):** The passage below is accompanied by four questions. Based on the passage, choose the best answer for each question.

Oftentimes, when economists cross borders, they are less interested in learning from others than in invading their garden plots. Gary Becker, for instance, pioneered the idea of human capital. To do so, he famously tackled topics like crime and domesticity, applying methods honed in the study of markets to domains of nonmarket life. He projected economics outward into new realms: for example, by revealing the extent to

which humans calculate marginal utilities when choosing their spouses or stealing from neighbours. At the same time, he did not let other ways of thinking enter his own economic realm: for example, he did not borrow from anthropology or history or let observations of nonmarket economics inform his *homo economicus*. Becker was a picture of the imperial economist in the heyday of the discipline's bravura.

Times have changed for the once almighty discipline. Economics has been taken to task, within and beyond its ramparts. Some economists have reached out, imported, borrowed, and collaborated—been less imperial, more open. Consider Thomas Piketty and his outreach to historians. The booming field of behavioral economics—the fusion of economics and social psychology—is another case. Having spawned active subfields, like judgment, decision-making and a turn to experimentation, the field aims to go beyond the caricature of Rational Man to explain how humans make decisions....

It is important to underscore how this flips the way we think about economics. For generations, economists have presumed that people have interests—"preferences," in the neoclassical argot—that get revealed in the course of peoples' choices. Interests come before actions and determine them. If you are hungry, you buy lunch; if you are cold, you get a sweater. If you only have so much money and can't afford to deal with both your growling stomach and your shivering, which need you choose to meet using your scarce savings reveals your preference.

Psychologists take one look at this simple formulation and shake their heads. Increasingly, even some mainstream economists have to admit that *homo economicus* doesn't always behave like the textbook maximizer; irrational behaviour can't simply be waved away as extra-economic expressions of passions over interests, and thus the domain of other disciplines.... This is one place where the humanist can help the economist. If narrative economics is going to help us understand how rivals duke it out, who wins and who loses, we are going to need much more than lessons from epidemiological studies of viruses or intracranial stimuli.

Above all, we need politics and institutions. Shiller (the Nobel prize winning economist) connects perceptions of narratives to changes in behaviour and thence to social outcomes. He completes a circle that was key to behavioral economics and brings in storytelling to make sense of how perceptions get framed. This cycle (perception to behaviour to society) was once mediated or dominated by institutions: the political parties, lobby groups, and media organizations that played a vital role in legitimating, representing, and excluding interests. Yet institutions have been stripped from Shiller's account, to reveal a bare dynamic of emotions and economics, without the intermediating place of politics.

**Q. 10. In the first paragraph the author is making the point that economists like Becker**

1. had begun to borrow concepts from other disciplines but were averse to the latter applying economic principles.
2. benefitted from the application of their principles and concepts to non-economic phenomena.
3. used economics to analyse non-market behaviour, without incorporating perspectives from other areas of inquiry.
4. tended to guard their discipline from poaching by academics from other subject areas.

**Q. 11. "Times have changed for the once almighty discipline." We can infer from this statement and the associated paragraph that the author is being**

1. sarcastic about how economists, who earlier shunned other disciplines, are now beginning to incorporate them in their analyses.

2. disparaging of economists' inability to precisely predict market behaviour, and are now borrowing from other disciplines to remedy this.
3. judgemental about the ability of economic tools to accurately manage crises leading to the downfall of this lofty science.
4. critical of economists' openly borrowing and collaborating across disciplines to explain how humans make decisions.

**Q. 12. We can infer from the passage that the term "homo economicus" refers to someone who**

1. is not influenced by the preferences and choices of others.
2. maximises their opportunities based on nonmarket choices.
3. believes in borrowing and collaborating with other disciplines in their work.
4. makes rational decisions based on their own preferences.

**Q. 13. The author critiques Schiller's approach to behavioural economics for**

1. ignoring the marginal role that media and politics play in influencing people's behaviour.
2. linking emotions and rational behaviour without considering the mediation of social institutions.
3. relying excessively on storytelling as the main influence on the formation of perceptions.
4. denigrating the role of institutions while creating a link between behavioural economics and perceptions.

### Passage 3

**Directions (Q. 14 to 17):** The passage below is accompanied by four questions. Based on the passage, choose the best answer for each question.

... [T]he idea of craftsmanship is not simply nostalgic. . . . Crafts require distinct skills, an all-round approach to work that involves the whole product, rather than individual parts, and an attitude that necessitates devotion to the job and a focus on the communal interest. The concept of craft emphasises the human touch and individual judgment.

Essentially, the crafts concept seems to run against the preponderant ethos of management studies which, as the academics note, have long prioritised efficiency and consistency. . . . Craft skills were portrayed as being primitive and traditionalist.

The contrast between artisanship and efficiency first came to the fore in the 19<sup>th</sup> century when British manufacturers suddenly faced competition from across the Atlantic as firms developed the "American system" using standardised parts. . . . the worldwide success of the Singer sewing machine showed the potential of a mass-produced device. This process created its own reaction, first in the form of the Arts and Crafts movement of the late 19<sup>th</sup> century, and then again in the "small is beautiful" movement of the 1970s. A third crafts movement is emerging as people become aware of the environmental impact of conventional industry.

There are two potential markets for those who practise crafts. The first stems from the existence of consumers who are willing to pay a premium price for goods that are deemed to be of extra quality. . . . The second market lies in those consumers who wish to use their purchases to support local workers, or to reduce their environmental impact by taking goods to crafts people to be mended, or recycled.

For workers, the appeal of craftsmanship is that it allows them the autonomy to make creative choices, and thus makes a job far more satisfying. In that sense, it could offer hope for the overall labour market. Let the machines automate dull and repetitive tasks and let workers focus purely on their skills, judgment and imagination. As a current example, the academics cite the "agile" manifesto in the software sector, an industry at the heart of technological change. The pioneers behind the original agile manifesto promised to prioritise "individuals and interactions over processes and tools". By bringing together experts from different teams, agile working is designed to improve creativity.

But the broader question is whether crafts can create a lot more jobs than they do today. Demand for crafted products may rise but will it be easy to retrain workers in sectors that might get automated (such as truck drivers) to take advantage? In a world where products and services often have to pass through regulatory hoops, large companies will usually have the advantage.

History also suggests that the link between crafts and creativity is not automatic. Medieval craft guilds were monopolies which resisted new entrants. They were also highly hierarchical with young men required to spend long periods as apprentices and journeymen before they could set up on their own; by that time the innovative spirit may have been knocked out of them. Craft workers can thrive in the modern era, but only if they don't get too organised.

**Q. 14. The most recent revival in interest in the crafts is a result of the emergence of all of the following EXCEPT:**

1. support for individual creations as opposed to mass-produced objects.
2. concerns about the environmental impact of mass production.

3. a niche market for discerning buyers of quality products.
4. a greater interest in buying locally produced goods.

**Q. 15. The author questions the ability of crafts to create substantial employment opportunities presently because**

1. regulatory requirements could make it difficult for small crafts outfits to compete.
2. the low scale of crafts production will not be able to absorb the mass of redundant labour.
3. crafts guilds tend to resist new entrants and are unlikely to accept large numbers of trainees.
4. workers made redundant by automation are unlikely to opt for crafts-related work.

**Q. 16. Which one of the following statements is NOT inconsistent with the views stated in the passage?**

1. The agile movement in software is a throwback to the tenets of the medieval crafts guilds.
2. The Arts and Crafts movement was initially inspired by the "American system" of production.
3. Creativity in the crafts could be stifled if the market for artisan goods becomes too organised.
4. We need to support the crafts; only then can we retain the creativity intrinsic to their production.

**Q. 17. We can infer from the passage that medieval crafts guilds resembled mass production in that both**

1. discouraged innovation by restricting entry through strict rules.
2. focused excessively on product quality.
3. did not always employ egalitarian production processes.
4. did not necessarily promote creativity.

**Q. 18. The passage given below is followed by four alternate summaries. Choose the option that best captures the essence of the passage.**

Certain codes may, of course, be so widely distributed in a specific language community or culture, and be learned at so early an age, that they appear not to be constructed – the effect of an articulation between sign and referent – but to be 'naturally' given. Simple visual signs appear to have achieved a 'near-universality' in this sense: though evidence remains that even apparently 'natural' visual codes are culture specific. However, this does not mean that no codes have intervened; rather, that the codes have been profoundly naturalized. The operation of naturalized codes reveals not the transparency and 'naturalness' of language but the depth, the habituation and the near-universality of the codes in use. They produce apparently 'natural' recognitions. This has the

(ideological) effect of concealing the practices of coding which are present.

1. Not all codes are natural but certain codes are naturalized and made to appear universal. Ideology aims to hide the mechanism of coding behind signs.
2. All codes, linguistic and visual, have a natural origin but some are so widespread that they become universal. This is what hides the mechanism of coding behind signs.
3. Language and visual signs are codes. However, some of the codes are so widespread that they not only seem naturally given but also hide the mechanism of coding behind the signs.
4. Learning linguistic and visual signs at an early age makes all such codes appear natural. This naturalization of codes is the effect of ideology.

**Q. 19. There is a sentence that is missing in the paragraph below. Look at the paragraph and decide where (option 1, 2, 3, or 4) the following sentence would best fit.**

Sentence: The brain isn't organized the way you might set up your home office or bathroom medicine cabinet.

Paragraph: \_\_\_(1)\_\_. You can't just put things anywhere you want to. The evolved architecture of the brain is haphazard and disjointed, and incorporates multiple systems, each of which has a mind of its own. \_\_\_(2)\_\_. Evolution doesn't design things and it doesn't build systems—it settles on systems that, historically, conveyed a survival benefit. There is no over arching, grand planner engineering the systems so that they work harmoniously together. \_\_\_(3)\_\_. The brain is more like a big, old house with piecemeal renovations done on every floor, and less like new construction. \_\_\_(4)\_\_.

- |             |             |
|-------------|-------------|
| 1. Option 2 | 2. Option 4 |
| 3. Option 1 | 4. Option 3 |

**20. There is a sentence that is missing in the paragraph below. Look at the paragraph and decide where (option 1, 2, 3, or 4) the following sentence would best fit.**

Sentence: Understanding central Asia's role helps developments make more sense not only across Asia but in Europe, the Americas and Africa.

Paragraph: The nations of the Silk Roads are sometimes called 'developing countries', but they are actually some of the world's most highly developed countries, the very

crossroads of civilization, in advanced states of disrepair. \_\_\_(1)\_\_. These countries lie at the centre of global affairs: they have since the beginning of history. Running across the spine of Asia, they form a web of connections fanning out in every direction, routes along which pilgrims and warriors, nomads and merchants have travelled, goods and produce have been bought and sold, and ideas exchanged, adapted and refined. \_\_\_(2)\_\_\_

.They have carried not only prosperity, but also death and violence, disease and disaster. \_\_\_(3)\_\_. The Silk Roads are the world's central nervous system, connecting otherwise far-flung peoples and places.... \_\_\_(4)\_\_. It allows us to see patterns and links, causes and effects that remain invisible if one looks only at Europe, or North America.

1. Option 1
2. Option 3
3. Option 2
4. Option 4

#### Passage 4

**Directions (Q. 21 to 24):** *The passage below is accompanied by four questions. Based on the passage, choose the best answer for each question.*

In the summer of 2022, subscribers to the US streaming service HBO MAX were alarmed to discover that dozens of the platform's offerings – from the Covid-themed heist thriller *Locked Down* to the recent remake of *The Witches* – had been quietly removed from the service. . . The news seemed like vindication to those who had long warned that streaming was more about controlling access to the cultural commons than expanding it, as did reports (since denied by the show's creators) that Netflix had begun editing old episodes of *Stranger Things* to retroactively improve their visual effects.

What's less clear is whether the commonly prescribed cure for these cultural ills – a return to the material pleasures of physical media – is the right one. While the makers of Blu-ray discs claim they have a shelf life of 100 years, such statistics remain largely theoretical until they come to pass, and are dependent on storage conditions, not to mention the continued availability of playback equipment. The humble DVD has already proved far less resilient, with many early releases already beginning to deteriorate in quality. Digital movie purchases provide even less security. Any film "bought" on iTunes could disappear if you move to another territory with a different rights agreement and try to re-download it. It's a bold new frontier in the commodification of art: the birth of the product recall. After a man took to Twitter to bemoan losing access to *Cars 2* after moving from Canada to Australia, Apple clarified that users who downloaded films to their devices would retain permanent access to those downloads, even if they relocated to a hemisphere where the [content was] subject to a different set of rights agreements. Thanks to the company's ironclad digital rights management technology, however, such files cannot be moved or backed up, locking you into watching with your Apple account.

Anyone who does manage to acquire Digital Rights Management free (DRM-free) copies of their favourite films must nonetheless grapple with ever-changing file format standards, not to mention data decay – the gradual process by which electronic information slowly but surely corrupts. Only the regular migration of files from hard drive to hard drive can delay the inevitable, in a sisyphian battle against the ravages of digital time.

In a sense, none of this is new. Charlie Chaplin burned the negative of his 1926 film *A Woman of the Sea* as a tax write-off. Many more films have been lost through accident, negligence or plain indifference. During a heatwave in July 1937, a Fox film vault in New Jersey burned down, destroying a majority of the silent films produced by the studio.

Back then, at least, cinema was defined by its ephemerality: the sense that a film was as good as gone once it left your local cinema. Today, with film studios keen to stress the breadth of their back catalogues (or to put in Hollywood terms, the value of their IPs), audiences may start to wonder why those same studios seem happy to set the vault alight themselves if it'll help next quarter's numbers.

**Q. 21. Which of the following statements is suggested by the sentence "Back then, at least, cinema was defined by its ephemerality: the sense that a film was as good as gone once it left your local cinema"?**

1. Cinema is now no longer as ephemeral as it used to be earlier, because the technology used for creating and preserving films has improved manifold.
2. Presently, there is no reason why film studios should remove access to films once they have left the local cinema.
3. Today, films are expected to be available for a long time, since they are no longer tied solely to their stay at the local cinema.
4. Around a century ago, people were more accepting of not having access to films once they left the local cinema.

**Q. 22. Which one of the following statements, if true, would best invalidate the main argument of the passage?**

1. Recent research has irrefutably proven that Blu-Ray discs have a shelf life of at least 100 years.
2. Improved cloud storage services have made it possible for movie collections to now be preserved in perpetuity, without the need to keep migrating the files.
3. Studios and streaming services have committed to giving customers perpetual and platform-independent access to the original digital content they have paid for.
4. When moving to a different geographical location, customers can easily use Virtual Private Networks (VPNs) to bypass geo-blocking and regain access to their content on any streaming service.

**Q. 23. "Netflix had begun editing old episodes of Stranger Things to retroactively improve their visual effects." What is the purpose of this example used in the passage?**

1. To show a practice that justifies the fears of people who feel streaming services cannot be trusted to be custodians of cultural artefacts like film.
2. To show that streaming services are controlling access to the cultural commons rather than expanding it.

3. To show that art in the digital age, specifically film, is no longer sacrosanct, and may be changed to suit changing tastes or technology.

4. To show how unsubstantiated reports are leading to an increase in the level of distrust towards streaming services.

**Q. 24. Which one of the following statements about art best captures the arguments made in the passage?**

1. Works of art belong to the cultural commons and hence must remain available in perpetuity, irrespective of who pays for access to them.

2. As art is increasingly created, stored and distributed digitally, access to it is counterintuitively likely to be made more difficult by the rapid churn in technology and the whims of host platforms.

3. In the age of online subscription services, it is time to change our understanding of classic works of art being primarily immutable and easily available to the public.

4. Accepting retroactive changes to works of art is dangerous because it will encourage creators to not put enough effort into the original attempt, given that they can always edit or update their work later.

## Data Interpretation and Logical Reasoning (DILR)

### Passage 1

**Directions (Q. 1 to 5):** Read the instructions given and answer the questions that follow:

The game of QUIET is played between two teams. Six teams, numbered 1, 2, 3, 4, 5, and 6, play in a QUIET tournament. These teams are divided equally into two groups. In the tournament, each team plays every other team in the same group only once, and each team in the other group exactly twice. The tournament has several rounds, each of which consists of a few games. Every team plays exactly one game in each round.

The following additional facts are known about the schedule of games in the tournament.

1. Each team played against a team from the other group in Round 8.
2. In Round 4 and Round 7, the match-ups, that is the pair of teams playing against each other, were identical. In Round 5 and Round 8, the match-ups were identical.
3. Team 4 played Team 6 in both Round 1 and Round 2.
4. Team 1 played Team 5 ONLY once and that was in Round 2.
5. Team 3 played Team 4 in Round 3. Team 1 played Team 6 in Round 6.
6. In Round 8, Team 3 played Team 6, while Team 2 played Team 5.

**Q. 1. How many rounds were there in the tournament?**

**Q. 2. What is the number of the team that played Team 1 in Round 5?**

**Q. 3. Which team among the teams numbered 2, 3, 4, and 5 was not part of the same group?**

1. 5            2. 4            3. 3            4. 2

**Q. 4. What is the number of the team that played Team 1 in Round 7?**

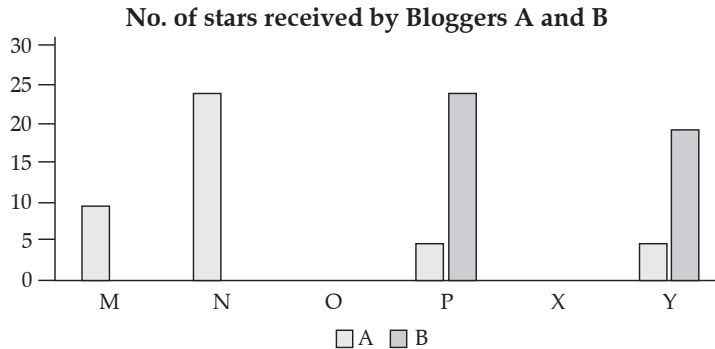
**Q. 5. What is the number of the team that played Team 6 in Round 3?**



**Passage 2**

**Directions (Q. 6 to 9):** Answer the questions on the basis of the information given below.

Six web surfers M, N, O, P, X, and Y each had 30 stars which they distributed among four bloggers A, B, C, and D. The number of stars received by A and B from the six web surfers is shown in the figure below.



The following additional facts are known regarding the number of stars received by the bloggers from the surfers.

- The numbers of stars received by the bloggers from the surfers were all multiples of 5 (including 0).
- The total numbers of stars received by the bloggers were the same.
- Each blogger received a different number of stars from M.
- Two surfers gave all their stars to a single blogger.
- D received more stars than C from Y.

**Q. 6.** What was the total number of stars received by D?

**Q. 7.** What was the number of stars received by D from Y?

- cannot be determined
- 10
- 5
- 0

**Q. 8.** How many surfers distributed their stars among exactly 2 bloggers?

**Q. 9.** Which of the following can be determined with certainty?

**Statement-1:** The number of stars received by C from M.

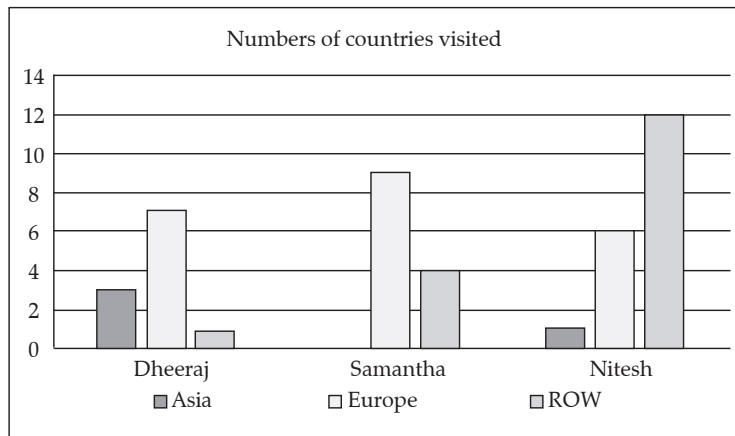
**Statement-2:** The number of stars received by D from O.

- Only I
- Neither I nor II
- Only II
- Both I and II

**Passage 3**

**Directions (Q. 10 to 13):** Answer the questions based on the following information.

The chart below provides complete information about the number of countries visited by Dheeraj, Samantha and Nitesh, in Asia, Europe and the rest of the world (ROW).



The following additional facts are known about the countries visited by them.

- 32 countries were visited by at least one of them.
- USA (in ROW) is the only country that was visited by all three of them.

3. China (in Asia) is the only country that was visited by both Dheeraj and Nitesh, but not by Samantha.
4. France (in Europe) is the only country outside Asia, which was visited by both Dheeraj and Samantha, but not by Nitesh.
5. Half of the countries visited by both Samantha and Nitesh are in Europe.

**Q. 10. How many countries in Asia were visited by at least one of Dheeraj, Samantha and Nitesh?**

**Q. 11. How many countries in Europe were visited only by Nitesh?**

**Q. 12. How many countries in the ROW were visited by both Nitesh and Samantha?**

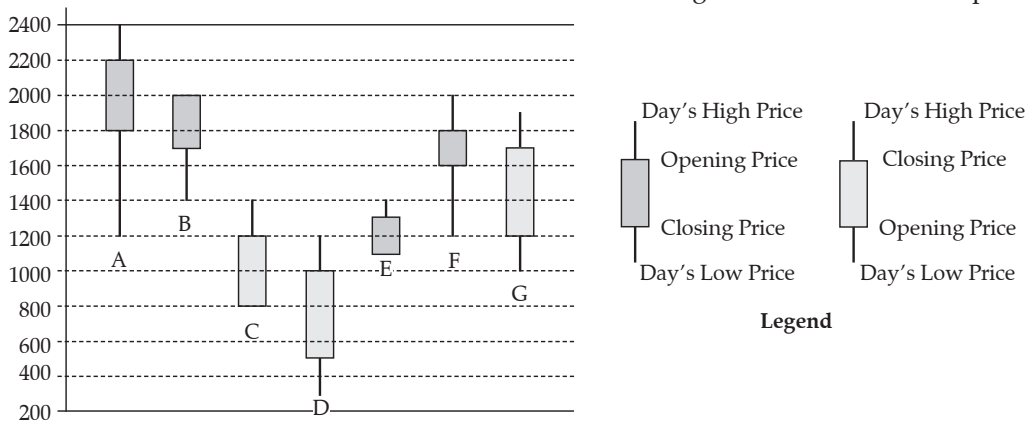
**Q. 13. How many countries in Europe were visited by exactly one of Dheeraj, Samantha and Nitesh?**

1. 12      2. 14      3. 10      4. 5

#### Passage 4

**Directions (Q. 14 to 17):** Answer the questions based on the following information.

The chart below shows the price data for seven shares – A, B, C, D, E, F, and G as a candlestick plot for a particular day. The vertical axis shows the price of the share in rupees. A share whose closing price (price at the end of the day) is more than its opening price (price at the start of the day) is called a bullish share; otherwise, it is called a bearish share. All bullish and bearish shares are shown in green and red colour respectively.



**Q. 14. Daily Share Price Variability (SPV) is defined as  $(\text{Day's high price} - \text{Day's low price}) / (\text{Average of the opening and closing prices during the day})$ . Which among the shares A, C, D and F had the highest SPV on that day?**

1. D      2. F      3. C      4. A

**Q. 15. Daily Share Price Variability (SPV) is defined as  $(\text{Day's high price} - \text{Day's low price}) / (\text{Average of the opening and closing prices during the day})$ . How many shares had an SPV greater than 0.5 on that day?**

**Q. 16. Daily loss for a share is defined as  $(\text{Opening price} - \text{Closing price}) / (\text{Opening price})$ . Which among the shares A, B, F and G had the highest daily loss on that day?**

1. G      2. F      3. A      4. B

**Q. 17. What would have been the percentage wealth gain for a trader, who bought equal numbers of all bullish shares at opening price and sold them at their day's high?**

1. 80%      2. 72%      3. 50%      4. 100%

#### Passage 5

**Directions (Q. 18 to 21):** Read the instructions given and answer the questions that follow:

Two students, Amiya and Ramya are the only candidates in an election for the position of class representative. Students will vote based on the intensity level of Amiya's and Ramya's campaigns and the type of campaigns they run. Each campaign is said to have a level of 1 if it is a staid campaign and a level of 2 if it is a vigorous campaign. Campaigns can be of two types, they can either focus on issues, or on attacking the other candidate.

If Amiya and Ramya both run campaigns focusing on issues, then

- The percentage of students voting in the election will be 20 times the sum of the levels of campaigning of the two students. For example, if Amiya and Ramya both run vigorous campaigns, then  $20 \times (2+2)\%$ , that is, 80% of the students will vote in the election.

- Among voting students, the percentage of votes for each candidate will be proportional to the levels of their campaigns. For example, if Amiya runs a staid (i.e., level 1) campaign while Ramya runs a vigorous (i.e., level 2) campaign, then Amiya will receive  $1/3$  of the votes cast, and Ramya will receive the other  $2/3$ .

The above-mentioned percentages change as follows if at least one of them runs a campaign attacking their opponent.

- If Amiya runs a campaign attacking Ramya and Ramya runs a campaign focusing on issues, then 10% of the students who would have otherwise voted for Amiya will vote for Ramya, and another 10% who would have otherwise voted for Amiya, will not vote at all.
- If Ramya runs a campaign attacking Amiya and Amiya runs a campaign focusing on issues, then 20% of the students who would have otherwise voted for Ramya will vote for Amiya, and another 5% who would have otherwise voted for Ramya, will not vote at all.
- If both run campaigns attacking each other, then 10% of the students who would have otherwise voted for them had they run campaigns focusing on issues, will not vote at all.

- Q. 18.** If both of them run staid campaigns attacking the other, then what percentage of students will vote in the election?  
1. 60%    2. 64%    3. 36%    4. 40%
- Q. 19.** What is the minimum percentage of students who will vote in the election?  
1. 40%    2. 32%    3. 36%    4. 38%
- Q. 20.** If Amiya runs a campaign focusing on issues, then what is the maximum percentage of votes that she can get?  
1. 44%    2. 48%    3. 40%    4. 36%
- Q. 21.** If Ramya runs a campaign attacking Amiya, then what is the minimum percentage of votes that she is guaranteed to get?  
1. 30%    2. 15%    3. 18%    4. 12%
- Q. 22.** What is the maximum possible voting margin with which one of the candidates can win?  
1. 29%    2. 26%    3. 20%    4. 28%

## Quantitative Aptitude (QA)

- Q. 1.** Two places A and B are 45 kms apart and connected by a straight road. Anil goes from A to B while Sunil goes from B to A. Starting at the same time, they cross each other in exactly 1 hour 30 minutes. If Anil reaches B exactly 1 hour 15 minutes after Sunil reaches A, the speed of Anil, in km per hour, is  
1. 12    2. 16    3. 18    4. 14
- Q. 2.** Consider two sets  $A = \{2, 3, 5, 7, 11, 13\}$  and  $B = \{1, 8, 27\}$ . Let  $f$  be a function from  $A$  to  $B$  such that for every element  $b$  in  $B$ , there is at least one element  $a$  in  $A$  such that  $f(a) = b$ . Then, the total number of such function  $f$  is  
1. 537    2. 540    3. 665    4. 667
- Q. 3.** ABCD is a rectangle with sides  $AB = 56$  cm and  $BC = 45$  cm, and E is the midpoint of side CD. Then, the length, in cm, of radius of incircle of  $\triangle ADE$  is
- Q. 4.** In September, the incomes of Kamal, Amal and Vimal are in the ratio  $8 : 6 : 5$ . They rent a house together, and Kamal pays 15%, Amal pays 12% and Vimal pays 18% of their respective incomes to cover the total house rent in that month. In October, the house rent remains unchanged while their incomes increase by 10%, 12% and 15%, respectively. In October, the percentage of their total income that will be paid as house rent, is nearest to  
1. 15.18    2. 14.84    3. 13.26    4. 12.75
- Q. 5.** Suppose  $x_1, x_2, x_3, \dots, x_{100}$  are in arithmetic progression such that  $x_5 = -4$  and  $2x_6 + 2x_9 = x_{11} + x_{13}$ . Then  $x_{100}$  equals  
1. 206    2. 204    3. -194    4. -196
- Q. 6.** An amount of ₹10000 is deposited in bank A for a certain number of years at a simple interest of 5% per annum. On maturity, the total amount received is deposited in bank B for another 5 years at a simple interest of 6% per annum. If the interests received from bank A and bank B are in the ratio 10 : 13, then the investment period, in years, in bank A is  
1. 5    2. 6    3. 4    4. 3
- Q. 7.** If  $x$  is a positive real number such that  $4 \log_{10} x + 4 \log_{100} x + 8 \log_{1000} x = 13$ , then the greatest integer not exceeding  $x$ , is
- Q. 8.** Let  $x, y$  and  $z$  be real numbers satisfying  
 $4(x^2 + y^2 + z^2) = a$ ,  
 $4(x - y - z) = 3 + a$ .  
Then  $a$  equals  
1.  $\frac{1}{3}$     2. 1    3. 3    4. 4
- Q. 9.** The sum of all four-digit numbers that can be formed with the distinct non-zero digits  $a, b, c$ , and  $d$ , with each digit appearing exactly once in every number, is  $153310 + n$ , where  $n$  is a single digit natural number. Then, the value of  $(a + b + c + d + n)$  is
- Q. 10.** A fruit seller has a total of 187 fruits consisting of apples, mangoes and oranges. The number of apples and mangoes are in the ratio 5 : 2. After she sells 75 apples, 26 mangoes and half of the oranges, the ratio of number of unsold apples to number of unsold oranges becomes 3 : 2. The total number of unsold fruits is
- Q. 11.** When  $10^{100}$  is divided by 7, the remainder is  
1. 3    2. 4    3. 6    4. 1



## Answers and Explanations

## Verbal Ability and Reading Comprehension (VARC)

1. **Option (4) is correct.**

The passage highlights that animals have sensory and motor capabilities that exceed those of humans and share similar emotions due to shared brain structures in the limbic system. The correct answer is (4) because it directly connects the scientific findings of shared brain structures with animals' emotions, which are associated with human emotions.

The passage explains that animals can express emotions such as joy, empathy, compassion, and grief, and these emotions are linked to the common brain structures they share with humans. This supports option (4), which states that the similarity in brain structure explains why animals show emotions typically associated with humans.

Option (1) focuses on animals' intelligence related to sensing danger and disease, which is part of the passage but does not address the connection to emotions.

Option (2) claims that advanced sensory and motor abilities are the reason for wide-ranging emotions, which is not mentioned in the passage. The text emphasizes brain structures, not sensory or motor abilities, as the basis for emotional similarities.

Option (3) states that animals show emotions that are associated with humans, which is accurate, but it does not capture the main explanation given in the passage—the shared brain structures.

Thus, it can be concluded that option (4) correctly captures the essence of the passage by connecting the shared brain structures to the emotional behaviours displayed by animals, emphasising the biological basis for this connection.

2. **Option (3) is correct.**

The most suitable answer is (3): Today, cartographers also need to consider how

usable their maps are due to advancements in technology and societal changes. This answer aligns with the passage, which states that due to these developments, cartographers are now more focused on whether their maps are efficient, effective, and well-received.

Option (1) suggests that the varied use of maps is the reason for more demanding readers. While the passage does mention increased demands, it specifies that these are due to technological and societal changes, not just the varied reasons maps are used for.

Option (2) indicates that modern mapmakers use experiments to assess map effectiveness, efficiency, and user satisfaction. Although evaluating usability is mentioned in the passage, the text does not say that cartographers use experiments to do so. It simply states that they are concerned with these aspects.

Option (4) shows that new technological advancements have driven cartographers to experiment with maps. While technological and societal trends have indeed influenced cartographers to prioritize usability, the passage does not specify that experimentation is the main method they use.

Thus, option (3) best explains the passage's main point, that technological and societal changes have shifted cartographers' focus toward assessing map usability and user satisfaction.

3. **Correct answer is [2].**

The passage discusses the decline in the use of urban public transport and the potential reasons for this trend. The logical order of the sentences should be:

- There has been a puzzling decline in the use of urban public transport in many countries in the west, despite the growth in urban populations and rising employment.

- Worsening services on public transport, terrorist attacks in some urban metros, and a rise in fares have been blamed for this trend.
- It seems more likely that public transport is being squeezed structurally as people's need to travel is diminishing as a result of smartphones, video-conferencing, online shopping, and so on.
- Urbanites also have more and better options for getting around: Uber is ubiquitous; easy-to-rent dockless bicycles are spreading; battery-powered scooters will be next.

Sentence (2), "When more people use buses or trains, the service usually improves because public transport agencies run more buses and trains," does not fit in with the main objective of the passage. It mentions that the increased use of public transport leads to improved services, which contradicts the overall message of the paragraph which discusses about the decline in public transport usage discussed in the other sentences.

In a nutshell, sentence (2) is the odd one out as it does not align with the theme of the passage, which is the decline in public transport use and its contributing factors.

**4. Option (2) is correct.**

The paragraph primarily discusses the influence and evolution of Renaissance music in England, highlighting its emergence, characteristics, and stylistic differences from its Italian counterparts. The sentence "Comprehending a wide range of emotions, Renaissance music nevertheless portrayed all emotions in a balanced and moderate fashion" fits best in the blank 3. This placement reinforces the idea that the music boom was comparable to the golden age of British literature, underscoring how Renaissance music maintained emotional balance and moderation, similar to the balanced expression found in literature during the same period. The sentence's placement in Option 2 seamlessly connects the discussion of music's emergence and significance with the characteristic style of Renaissance music. This choice complements the narrative by emphasizing that, like the literary works of the era, the music was characterized by a nuanced and controlled portrayal of emotions.

**5. Correct answer is [1].**

The odd sentence is (1). The focus of the paragraph is on Peter Singer's contribution to

animal rights and utilitarianism, as well as his reasoning for extending moral consideration to animals. Sentences (2), (3), (4), and (5) harmonize together to explain Singer's position and the impact of his work. Sentence (1) is unrelated to Singer's theory and does not fit with the overall discussion of his philosophy. It talks about a general moral perspective on animals, without tying it specifically to Singer's utilitarian views or his arguments. Therefore, sentence (1) is the odd one out. The correct sequence to the paragraph is: 4235.

**6. Option (3) is correct.**

The correct answer is (3). This statement correctly summarizes the main idea of the passage, which focuses on the decline of the western barred bandicoot due to invasive species brought by British colonists and the subsequent conservation efforts to revive the population using a remnant island population. Option (1) is incorrect as it only mentions the onslaught of animals like cattle, rabbits, and housecats without referring to the conservation efforts. Option (2) is incorrect because while the British colonists had a negligent attitude towards the bandicoots, this does not fully encompass the passage's main focus, which is the impact of invasive species and the conservation effort. Option (4) is also incorrect because, although it mentions the colonial transformation of the ecosystem, it does not highlight the ongoing conservation efforts or the focus on the Shark Bay bandicoots' survival and revival.

**7. Option (2) is correct.**

The correct answer is (2). The passage does not describe the western barred bandicoot as the "smallest black striped marsupial that uses camouflage and digs." While the bandicoot is indeed small and has a black-striped back, the passage does not emphasize that it is the "smallest black striped marsupial," nor does it state that it uses "camouflage" as a key characteristic.

Option (1) describes the bandicoot's look as having the appearance of a rat with a slender snout and a pouch for carrying its young. Option (3) is correct because it describes the bandicoot as having a long, thin nose, a black-striped back, and a pouch for its babies. Option (4) is also accurate as it mentions that the

bandicoot is a shallow digger with an elongated muzzle. Thus, option (2) is the only choice that does not correctly represent the characteristics described in the passage.

**8. Option (4) is correct.**

The correct answer is (4), as the western barred bandicoots have earned the nickname "ecosystem engineers" because of their significant role in altering the arid environment of the desert. Their constant digging helps trap moisture, which aids in seed germination and supports the restoration of the cattle-damaged desert landscape. This ecological contribution highlights their importance in maintaining and revitalizing the ecosystem, making them essential to the health of their habitat. The other options do not correctly reflect this role; for instance, the bandicoots did not increase rainfall, their population growth is mentioned but not in a fivefold manner, and while they contribute to conservation, their primary impact is on the environment's regeneration.

**9. Option (1) is correct.**

The correct answer is (1) "barring the entry of invasive species." In the passage, the term "exclosures" refers to fenced areas where certain animals are prevented from entering. The purpose of these exclosures is explained when it says that they were "cleared of invasive rabbits (courtesy of Pedler's sheepdog) and of feral cats (which slunk off once the rabbits disappeared)." This means that the exclosures are meant to block or prevent invasive species (like rabbits and feral cats) from entering and impacting the ecosystem within these protected areas. Option (2), "excluding animals to make the islands predator-free," is related to the original islands in Shark Bay where the western barred bandicoots once survived predator-free. However, in the context of the passage, the exclosures being used in the mainland sanctuary are specifically about preventing invasive animals from disrupting the environment and harming the bandicoots, not just making it predator-free.

Option (3), "restoring cattle-damaged deserts to green landscapes," is not correct because the exclosures are not directly used for the purpose of restoring landscapes. The digging behavior of bandicoots helps trap moisture and promote seed germination, but the exclosures' main

function is to protect the bandicoots from predators and invasive species.

Option (4), "ridding the main desert of feral cats and large bilbies," is also not entirely accurate. While the passage mentions ridding the exclosures of feral cats, it does not indicate that the exclosures are used specifically for removing bilbies or managing the main desert as a whole. Therefore, answer (1), "barring the entry of invasive species," is the most accurate explanation for why the passage uses the term "exclosures."

**10. Option (3) is correct.**

The correct answer is (3) "used economics to analyse non-market behaviour, without incorporating perspectives from other areas of inquiry." In the first paragraph, the author describes Gary Becker as an economist who expanded the field of economics by applying economic methods to nonmarket aspects of life, such as crime and domesticity. However, Becker did not incorporate ideas or approaches from other disciplines, like anthropology or history. This is highlighted in the passage when it states, "he did not borrow from anthropology or history or let observations of nonmarket economics inform his homoeconomicus." This shows that Becker used economics to study non-market behavior without integrating perspectives from other fields, making answer (3) the best choice. The other options are incorrect as: Option (1): "had begun to borrow concepts from other disciplines but were averse to the latter applying economic principles." This is incorrect because the passage states Becker did not borrow from other disciplines, rather than being opposed to their application of economic principles. Option (2): "benefitted from the application of their principles and concepts to non-economic phenomena." While Becker did apply economic principles to non-economic phenomena, the passage emphasizes that he did not incorporate perspectives from other disciplines, which makes this option incomplete. Option (4): "tended to guard their discipline from poaching by academics from other subject areas." This choice is misleading, as the passage does not indicate that Becker or economists were protecting their field from being influenced by other disciplines, but rather Becker did not use other disciplines'

insights within his work. Therefore, answer (3) correctly captures the author's point that economists like Becker studied non-market behavior using economic principles alone, without drawing from other fields.

**11. Option (1) is correct.**

The correct answer is (1) "sarcastic about how economists, who earlier shunned other disciplines, are now beginning to incorporate them in their analyses." The statement "Times have changed for the once almighty discipline" sets a tone suggesting that the author is pointing out the shift in economics from being an insular field to one that embraces ideas from other disciplines. The author refers to Gary Becker's previous approach of not incorporating perspectives from other areas and contrasts it with modern economists who are now borrowing and collaborating with other fields. This tone implies sarcasm, highlighting how the discipline, once self-assured and closed off, has had to adapt and expand its boundaries. The passage does not criticize economists for failing to predict market behaviour or managing crises, nor does it suggest a negative view of borrowing across disciplines; instead, it acknowledges a significant change in economic thought.

**12. Option (4) is correct.**

The correct answer is (4) "makes rational decisions based on their own preferences." The term "homo economicus" refers to the concept of an individual who acts rationally, making decisions to maximize their utility based on their own preferences. The passage mentions that for generations, economists have assumed people have "preferences" that determine their actions, implying that "homo economicus" is a rational actor who chooses according to these preferences. The passage also critiques this view by stating that irrational behavior exists and cannot be ignored, suggesting that "homo economicus" as a purely rational being doesn't always align with real human behaviour. The other options do not align with the passage's explanation of "homo economicus."

**13. Option (2) is correct.**

The correct answer is (2): "linking emotions and rational behaviour without considering the mediation of social institutions." The author critiques Shiller's approach by highlighting

how his account strips away the role of institutions like political parties, lobby groups, and media organizations. These institutions historically mediated the relationship between perceptions, behaviour, and societal outcomes, yet Shiller's framework reduces the dynamic to emotions and economics, bypassing this intermediating role. This omission is seen as a critical shortcoming in Shiller's approach to behavioral economics. The other options misrepresent the critique or do not fully address the focus on the absence of institutional mediation.

**14. Option (1) is correct.**

The correct answer is (1): "support for individual creations as opposed to mass-produced objects." While the passage discusses the contrast between crafts and mass production, it does not mention a specific revival of interest driven by support for individual creations. Instead, it emphasizes concerns about the environmental impact of mass production (point 2), the niche market for discerning buyers willing to pay for quality products (point 3), and an interest in supporting local goods and workers (point 4). These are explicitly identified as reasons for the renewed interest in craftsmanship, but point 1 is not directly discussed in the passage as a reason for this revival.

**15. Option (1) is correct.**

The correct answer is (1): "regulatory requirements could make it difficult for small crafts outfits to compete." The author highlights the challenges faced by crafts in creating substantial employment opportunities, particularly noting that regulatory hurdles and the dominance of large companies make it difficult for small craft operations to thrive. This concern is explicitly mentioned in the passage: "In a world where products and services often have to pass through regulatory hoops, large companies will usually have the advantage." While other options touch on related issues, but are not as directly emphasized in the passage as (1).

**16. Option (3) is correct.**

The correct answer is (3): "Creativity in the crafts could be stifled if the market for artisan goods becomes too organised." This aligns with the passage, which warns that excessive organization in the crafts market may hinder



innovation and creativity, as seen in the statement, "Craft workers can thrive in the modern era, but only if they don't get too organised." The other options are inconsistent with the passage: the agile movement is linked to creativity in modern software, not medieval guilds; the Arts and Crafts movement was a reaction to, not inspired by, the "American system"; and while supporting crafts is valuable, the passage emphasizes that support alone is insufficient to retain their creativity.

**17. Option (4) is correct.**

The correct answer is (4): "did not necessarily promote creativity." The passage notes that medieval crafts guilds were hierarchical and monopolistic, often stifling innovation and creativity due to their rigid structure, just as mass production prioritizes efficiency and standardization over creative processes. This similarity highlights how both systems, despite their differences, can limit opportunities for fostering creativity. Option (1) can be negated on the ground that it is nowhere mentioned that mass production involves restriction of entry through strict rules. Whereas, option (2) is incorrect in its interpretation of mass production prioritizing quality, in fact it was efficiency and standardization. The argument of mass production employing egalitarian production processes is unwarranted.

**18. Option (3) is correct.**

The correct answer is (3): "Language and visual signs are codes. However, some of the codes are so widespread that they not only seem naturally given but also hide the mechanism of coding behind the signs." This captures the emphasis of the passage on the constructed nature of codes, their naturalization through widespread use, and how this conceals the underlying practices of coding, aligning closely with the essence of the passage.

**19. Option (3) is correct.**

The missing sentence fits best at position (1) which is at option (3) because it provides a general introduction to the idea that the brain is not systematically organized, unlike a home, office or a bathroom, medicine cabinet. This sets the stage for the rest of the paragraph. The reference to the brain as 'haphazard and disjointed' stems from the missing statement that the brain is unorganized. The subsequent

sentences further explain how evolution, rather than deliberate design, has led to the brain's piecemeal structure, likening it to an old house with unplanned renovations rather than a newly constructed, well-coordinated system. Placing the sentence at position (1) helps create a logical flow and coherence in the argument as it synchronises perfectly with the theme of the paragraph.

**20. Option (4) is correct.**

The missing sentence fits best at position (4). Placing the sentence here emphasizes the broader significance of understanding Central Asia's role in shaping global developments. The paragraph starts by highlighting the historical and geographical importance of the Silk Roads, their connections, and their influence on global affairs. It then explains the exchanges—both positive and negative—that have occurred through these routes. Concluding with the missing sentence at position (4) links the argument seamlessly, emphasizing that understanding this region's significance helps to reveal patterns and connections that are critical to comprehending historical and contemporary developments worldwide.

**21. Option (3) is correct.**

The sentence "Back then, at least, cinema was defined by its ephemerality: the sense that a film was as good as gone once it left your local cinema" suggests a contrast between the past and the present. Historically, films were transient experiences, tied to their limited run in cinemas. Today, however, advancements in technology and the rise of digital platforms have created an expectation that films will remain accessible long after their theatrical release. This expectation is central to the idea that cinema is no longer defined by its fleeting nature. Option (1) does not deem fit as there is no comparison of the technology used in the past with that in the present. While option (2) does not cater to the reason or justification behind the transient nature of a film. Option (4) is not relevant, as it focuses on past acceptance rather than the present-day expectations.

**22. Option (3) is correct.**

The main argument of the passage revolves around the idea that the digital era, particularly streaming services and digital purchases, does not guarantee perpetual

access to content due to factors like digital rights management (DRM), geo-blocking, and corporate decisions to remove or edit content. If studios and streaming services have committed to giving customers perpetual and platform-independent access to the original digital content they have paid for, it would directly invalidate the argument that digital media is ephemeral and access is controlled or uncertain. This commitment would address the primary concerns highlighted in the passage, undermining its central thesis.

**23. Option (1) is correct.**

The example of Netflix editing old episodes of *Stranger Things* to improve their visual effects is used to highlight the concerns of those who argue that streaming services cannot be trusted

as reliable custodians of cultural artifacts like films. This aligns with the broader theme of the passage, which discusses how digital platforms exert control over access to content, sometimes altering or removing it, thereby undermining their role as preservers of cultural heritage.

**24. Option (2) is correct.**

The passage argues that while digital platforms have made it easier to create, store, and distribute art, access to these works is paradoxically becoming more difficult due to technological obsolescence, the policies of streaming platforms, and digital rights management. This aligns most closely with option (2), which emphasizes the counterintuitive nature of restricted access to art in the digital age.

### Data Interpretation and Logical Reasoning (DILR)

**1. Correct answer is [8].**

There are 2 groups of 3 teams each. So,

Case I: When each team play in the same group

No. of games =  $2 \times {}^3C_2 = 6$

Case II: when each team plays in the other group

No. of games =  $2 \times 3 \times 3 = 18$

So, total no. of games =  $6 + 18 = 24$

Hence, no. of rounds =  $\frac{24}{1+2} = \frac{24}{3} = 8$

**Solution for Questions 2-5:** From the given information, we have

Rounds	Teams pair 1	Teams pair 2	Teams pair 3
1	(4, 6)	(3, 5)	(1, 2)
2	(4, 6)	(1, 5)	(2, 3)
3	(3, 4)	(5, 6)	(1, 2)
4	(6, 2)	(1, 3)	(5, 4)
5	(3, 6)	(2, 5)	(1, 4)
6	(1, 6)	(2, 4)	(3, 5)
7	(6, 2)	(1, 3)	(5, 4)
8	(3, 6)	(2, 5)	(1, 4)

and Group 1 contains teams 1, 5 and 6

Also, Group 2 contains teams 4, 3 and 2

**2. Correct answer is [4].**

In round 5, Team 1 played team 4

**3. Option (1) is correct.**

Team 5 belongs to other group.

**4. Correct answer is [3].**

In round 7, Team 1 played team 3

**5. Correct answer is [5].**

In round 3, Team 6 played team 5

**Solution for Questions 6 to 9:** From the given information, we have the following table:

Surfers \ Bloggers	A	B	C	D
M	10	0	15	5
N	25	0	0	5
O	0	0	30 or 0	0 or 30
P	5	25	0	0
X	0	0	0 or 30	30 or 0
Y	5	20	0	5

**6. Correct answer is [45].**

Total no. of stars =  $30 \times 6 = 180$

No. of bloggers = 4

So, no. of stars each blogger received

$$= \frac{180}{4} = 45$$

**7. Option (3) is correct.**

5 Stars are received by D from Y.

**8. Correct answer is [2].**

Surfers N and P distribute their stars among exactly 2 bloggers

**9. Option (1) is correct.**

Statement (I) can be determined with certainty

**Solution for Questions 10-13:** From the given information, we have

Persons\Continents	Asia	Europe	Row
Dheeraj	2	6	0
Samantha	0	4	0
Nitish	0	2	8
Dheeraj & Samantha	0	France	0
Samantha & Nitish	0	4	3
Dheeraj & Nitish	China	0	0
All Dheeraj, Nitish & Samantha	0	0	1 (USA)

10. **Correct answer is [3].**

Required no. of countries = 2 + 1 = 3

11. **Correct answer is [2].**

Nitish visited 2 countries in Europe.

12. **Correct answer is [4].**

4 countries in ROW (including USA) was visited by Nitish & Samantha.

13. **Option (1) is correct.**

Required no. of countries = 6 + 4 + 2 = 12

**Solution for Questions 14 to 17:**

Stocks	High price	Low price	Opening price	Closing price
A	2400	1200	2200	1800
B	2000	1400	2000	1700
C	1400	800	800	1200
D	1200	300	500	1000
E	1400	1100	1300	1100
F	2000	1200	1800	1600
G	1900	1000	1200	1700

14. **Option (1) is correct.**

$$\text{SPV of A} = \frac{2400 - 1200}{\left(\frac{2200 + 1800}{2}\right)} = \frac{3}{5}$$

$$\text{SPV of C} = \frac{1400 - 800}{\left(\frac{800 + 1200}{2}\right)} = \frac{3}{5}$$

$$\text{SPV of D} = \frac{1200 - 300}{\left(\frac{500 + 1000}{2}\right)} = \frac{6}{5}$$

$$\text{SPV of F} = \frac{2000 - 1200}{\left(\frac{1800 + 1600}{2}\right)} = \frac{8}{17}$$

So, SPV of D is highest.

15. **Correct answer is [4].**

SPV of A = 0.6

SPV of B = 0.32

SPV of C = 0.6

SPV of D = 1.2

SPV of E = 0.25

SPV of F = 0.470

SPV of G = 0.620

So, stocks A, C, D and G have an SPV greater than 0.5.

16. **Option (3) is correct.**

$$\text{Daily loss of A} = \frac{2200 - 1800}{2200} = \frac{2}{11}$$

$$\text{Daily loss of B} = \frac{2000 - 1700}{2000} = \frac{3}{20}$$

$$\text{Daily loss of F} = \frac{1800 - 1600}{1800} = \frac{1}{9}$$

Daily loss of G = 0, as G gained on that day

So, A has the highest daily loss.

17. **Option (1) is correct.**

Bullish shares are C, D and G

Total investment (Opening price) of C, D and G = 800 + 500 + 1200 = 2500

Total money get after selling = 1400 + 1200 + 1900 = 4500

$$\therefore \text{Required percentage} = \frac{4500 - 2500}{2500} \times 100 = 80\%$$

**Solution for Questions 18 to 22:** From the given information, we have

**Case I:** If both run staid campaign on issues,

Then, %age of votes = 20(1 + 1) = 40%

**Case II:** If both run vigorous campaign on issues,

Then, %age of votes = 20(2 + 2) = 80%

**Case III:** If one runs staid campaign and other runs vigorous on issue,

Then %age of votes = 20(1 + 2) 60%

18. **Option (3) is correct.**

If both runs staid campaign, then total no. of votes = 40%

Also, if both are attacking then they lose 10% of votes

So, required %age of votes = (40 - 10% of 40)% = 36%

19. **Option (3) is correct.**

Since maximum loss = 10% of votes

So, required %age of votes = 36%

20. **Option (2) is correct.**

If Amiya runs a campaign focusing on issues, then either Ramya runs a campaign focusing

on issues also or Ramya runs a campaign on attacking.

Ramya focusing on issue, e.g., vigorous campaign

Then, Amiya get 40% votes

If Ramya is attacking, then she lose 20% of her votes to Amiya.

$$\begin{aligned} \therefore \text{maximum number of votes Amiya gets} \\ &= (40 + 20\% \text{ of } 40)\% \\ &= 48\% \end{aligned}$$

**21. Option (2) is correct.**

If Ramya runs campaign attacking Amiya.

Then, required minimum votes Ramya will get

$$= (20, -20\% \text{ of } 20 - 5\% \text{ of } 20)\% = 15\%$$

**22. Option (1) is correct.**

For this, let Amiya runs vigorous campaign on issues and Ramya runs staid campaign (attacking) then

Total votes = 60%

$$\text{Also, Ramya gets } \frac{1}{3} \text{ of } 60\% = 20\%$$

$$\text{and Amiya gets } \frac{2}{3} \text{ of } 60\% = 40\%$$

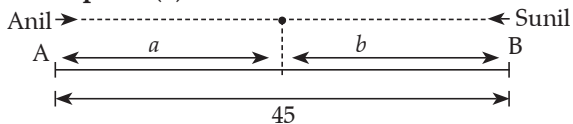
Again Ramya loss 20% of 20 and 5% of 20 votes  
So, total votes Ramya gets = 15%

And, total votes Amiya gets = 40% + (20% of 20)% = 40% + 4% = 44%

So, required difference = 44% - 15% = 29%

### Quantitative Aptitude (QA)

**1. Option (1) is correct.**



Let Sunil reach at A in  $t$  hours then

Anil reach at B in  $t + \frac{5}{4}$  hours

$$\therefore \text{Speed of Sunil} = \frac{45}{t}$$

$$\text{and Speed of Anil} = \frac{45}{t + \frac{5}{4}}$$

$$\therefore \frac{45}{t} \times \frac{3}{2} + \frac{45}{t + \frac{5}{4}} \times \frac{3}{2} = 45$$

$$\Rightarrow 3\left(t + t + \frac{5}{4}\right) = 2t \left(t + \frac{5}{4}\right)$$

$$\Rightarrow 6t + \frac{15}{4} = 2t^2 + \frac{5t}{2}$$

$$\Rightarrow 2t^2 - \frac{7t}{2} - \frac{15}{4} = 0$$

$$\Rightarrow 8t^2 - 7t - 15 = 0$$

$$\Rightarrow t = \frac{5}{2}$$

$$\text{Hence, speed of Anil} = \frac{45}{\frac{5}{2} + \frac{5}{4}} = 12$$

**2. Option (2) is correct.**

Let  $f: A \rightarrow B$

If  $n(A) = n$  and  $n(B) = m$

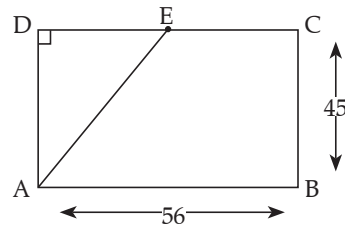
then total number of onto functions are given as,

$$(m)^n - {}^m C_1 \cdot (m-1)^n + {}^m C_2 \cdot (m-2)^n - \dots$$

Hence, total number of functions

$$\begin{aligned} &= 3^6 - 3(2)^6 + 3(1)^6 \\ &= 729 - 192 + 3 = 540 \end{aligned}$$

**3. Correct answer is [10].**



$$DE = 28$$

$$AD = 45$$

$$AE = \sqrt{(28)^2 + (45)^2}$$

$$\therefore AE = 53$$

$$\text{In } \triangle ADE, \text{ semi perimeter} = \frac{28 + 45 + 53}{2} = 63$$

$$\begin{aligned} \text{in-radius} &= (r - a) \tan \frac{A}{2} \\ &= (63 - 53) \tan 45^\circ = 10 \end{aligned}$$

**4. Option (3) is correct.**

Let income of Kamal is  $8x$

Income of Amal is  $6x$

Income of Vimal is  $5x$

$\therefore$  House rent paid by them

$$= \frac{15 \times 8x + 12 \times 6x + 18 \times 5x}{100}$$

$$= (120 + 72 + 90) \frac{x}{100}$$

$$= \frac{282x}{100}$$

In October month total income of all three persons =  $8x \times 1.1 + 6x \times 1.12 + 5x \times 1.15$

percentage of their is total income that will be paid as house rent =  $\frac{282x \times 100}{100(8.8x + 6.72x + 5.75x)}$

$$= \frac{282}{21.27}$$

$$\approx 13.26$$

5. **Option (3) is correct.**

Let common difference of  $A.P. = d$

$$\therefore x_5 = x_1 + 4d = -4 \quad \dots(i)$$

Given,  $2x_6 + 2x_9 = x_{11} + x_{13}$

$$\Rightarrow 2x_1 + 10d + 2x_1 + 16d = x_1 + 10d + x_1 + 12d$$

$$\Rightarrow 2x_1 + 4d = 0$$

$$\therefore x_1 = -2d$$

from equation (i) we get,  $-2d + 4d = -4$

$$d = -2$$

$$x_{100} = x_1 + 99d$$

$$= -2d + 99d = 97d$$

$$\Rightarrow x_{100} = -194$$

6. **Option (2) is correct.**

Let he invested in bank A for  $t$  years.

Interest from bank A =  $\frac{10000 \times 5t}{100}$

$$= 500t$$

Interest from bank B =  $(10000 + 500t) \times \frac{5 \times 6}{100}$

$$= 3000 + 150t$$

$$\Rightarrow \frac{500t}{3000 + 150t} = \frac{10}{13}$$

$$\Rightarrow 6500t = 30000 + 1500t$$

$$\Rightarrow 5000t = 30000$$

$$\Rightarrow t = 6.$$

7. **Correct answer is [31]**

$$4 \log_{10}x + 4 \log_{100}x + 8 \log_{1000}x = 13$$

We know that  $\log_{a^n}(x) = \frac{1}{n} \log_a x$

$$\therefore 4 \log_{10}x + \frac{4}{2} \log_{10}x + \frac{8}{3} \log_{10}x = 13$$

$$\Rightarrow (4 + 2 + \frac{8}{3}) \log_{10}x = 13$$

$$\Rightarrow \log_{10}x = \frac{13 \times 3}{26}$$

$$\Rightarrow x = (10)^{\frac{3}{2}}$$

$$\Rightarrow x \approx 31.62$$

$$[x] = 31.$$

8. **Option (3) is correct.**

$$4(x^2 + y^2 + z^2) = a \quad \dots(i)$$

$$4(x - y - z) = 3 + a \quad \dots(ii)$$

Subtracting both equations we get,

$$4x^2 + 4y^2 + 4z^2 - 4x + 4y + 4z = -3$$

$$(2x - 1)^2 + (2y + 1)^2 + (2z + 1)^2 = 0$$

$$\therefore x = \frac{1}{2}, y = -\frac{1}{2}, z = -\frac{1}{2}$$

Hence,  $a = 4 \left( \left( \frac{1}{2} \right)^2 + \left( -\frac{1}{2} \right)^2 + \left( -\frac{1}{2} \right)^2 \right)$

$$\Rightarrow a = 3$$

9. **Correct answer is [31]**

Sum of four digit numbers

$$= 1111 \times (a + b + c + d) \times 6 \quad \dots(i)$$

Therefore,  $153310 + n$  should be divisible by 6.

Hence,  $n$  can be 2 or 8.

If  $n = 2$ , then  $153312$  is not divisible by 11.

$$\therefore n = 8$$

from equation (i) we get.

$$1111 \times (a + b + c + d) \times 6 = 153318$$

$$\Rightarrow a + b + c + d = 23$$

$$\therefore a + b + c + d + n = 23 + 8$$

$$= 31.$$

10. **Correct answer is [66]**

Let number of apples =  $5x$

number of mangoes =  $2x$

number of oranges =  $187 - 7x$

number of unsold apples =  $5x - 75$

$$\text{number of unsold oranges} = \frac{187 - 7x}{2}$$

Given,  $\frac{5x - 75}{187 - 7x} = \frac{3}{2}$

$$\Rightarrow 20x - 300 = 561 - 21x$$

$$\Rightarrow 41x = 861$$

$$\Rightarrow x = 21$$

Total number of unsold fruits.

$$= 5x - 75 + 2x - 26 + \frac{187 - 7x}{2}$$

$$= 105 - 75 + 42 - 26 + \frac{187 - 147}{2}$$

$$= 30 + 16 + 20$$

$$= 66$$

11. **Option (2) is correct.**

$$(10)^{100} = (3 + 7)^{100}$$

Now we can use binomial expansion.

$$(3 + 7)^{100} = {}^{100}C_0 3^{100} + {}^{100}C_1 3^{99} \cdot 7 + {}^{100}C_2 3^{98} \cdot 7^2 + \dots + {}^{100}C_{100} 7^{100} \quad \dots(i)$$

If we divide equation (i) by 7 then only first term can give remainder.

$$\therefore 3^{100} = 3 \cdot (3^{99})$$

$$= 3(27)^{33}$$

$$= 3(28 - 1)^{33}$$

$$\therefore 3(28 - 1)^{33} = 3\{{}^{33}C_0 28^{33} - {}^{33}C_1 28^{32} + \dots + {}^{33}C_{32} 28 - {}^{33}C_{33}\}$$

except  $-3 \cdot {}^{33}C_{33}$  remaining term divisible by 7.

$$\text{Hence, Remainder} = -3 + 7 = 4$$

**12. Option (4) is correct.**

Let  $a$  kg grains left after selling to 2<sup>nd</sup> customer.  
grain remaining after selling to 3<sup>rd</sup> person

$$= \frac{a}{2} - 3$$

$$\text{Given, } \frac{a}{2} - 3 = 0$$

$$\therefore a = 6$$

Let grain remaining after selling to first person is  $b$  kg.

$$\therefore \frac{b}{2} - 3 = 6$$

$$\Rightarrow b = 18$$

Let initial grain is  $x$  kg.

$$\therefore \frac{x}{2} - 3 = 18$$

$$\Rightarrow x = 42$$

**13. Option (4) is correct.**

$$\text{Let cost of product} = x$$

$$\text{Selling price of product} = 1.4x$$

$$\text{Given, } (0.6x) \times 1.5 = 1.4x - 5$$

$$\Rightarrow 0.9x = 1.4x - 5$$

$$\Rightarrow x = 10$$

$$\therefore \text{Original selling price} = 1.4 \times 10 = 14$$

**14. Option (1) is correct.**

$$29 - 12\sqrt{5} = 20 + 9 - 12\sqrt{5}$$

$$= (2\sqrt{5} - 3)^2$$

$$\therefore a + b\sqrt{n} = -3 + 2\sqrt{5}$$

$$= -3 + \sqrt{20}$$

$$\therefore \text{maximum of } a + b + n = -3 + 1 + 20 = 18$$

**15. Correct answer is [38].**

$$x^2 + mx + 9 = 0 \quad \dots(i)$$

$$x^2 + nx + 17 = 0 \quad \dots(ii)$$

$$x^2 + (m+n)x + 35 = 0 \quad \dots(iii)$$

Adding equation (i) and (ii) we get,

$$2x^2 + (m+n)x + 26 = 0 \quad \dots(iv)$$

Subtracting equation (iii) and (iv) we get,

$$x^2 - 9 = 0$$

$$\therefore x = 3, -3$$

Hence, common root is  $-3$ .

Replace  $x = -3$  in equation (i),

$$9 - 3m + 9 = 0$$

$$\Rightarrow m = 6$$

Replace  $x = -3$  in equation (ii),

$$9 - 3m + 17 = 0$$

$$\Rightarrow 3n = 26$$

$$\therefore 2m + 3n = 12 + 36 = 38$$

**16. Correct answer is [217].**

Given,  $a_n = [\sqrt{n}]$ , where  $[\cdot]$  = Greatest Integer function.

$$\therefore a_1 = 1$$

$$a_4 = 2$$

$$a_9 = 3$$

$$a_{16} = 4$$

$$a_{25} = 5$$

$$a_{36} = 6$$

$$a_{49} = 7$$

$$\therefore a_1 + a_2 + \dots + a_{50} = 1 \times 3 + 2 \times 5 + 3 \times 7 + 4 \times 9 + 5 \times 11 + 6 \times 13 + 7 \times 2 = 217$$

**17. Option (1) is correct.**

Process of pouring out two-thirds the context and replacing with water is repeated 4 times.

$$\text{Final context in glass} = \left(1 - \frac{2}{3}\right)^4 = \frac{1}{81}$$

$$\therefore \text{milk: water} = 1: 80.$$

**18. Option (4) is correct.**

$$\left(\frac{1}{8}\right)^k \times \left(\frac{1}{32768}\right)^{\frac{1}{3}} = \frac{1}{8} \times \left(\frac{1}{32768}\right)^{\frac{1}{k}}$$

We know that,  $32768 = 8^5$

$$\left(\frac{1}{8}\right)^k \times \left(\frac{1}{8}\right)^{\frac{5}{3}} = \frac{1}{8} \times \left(\frac{1}{8}\right)^{\frac{5}{k}}$$

$$\left(\frac{1}{8}\right)^{k+\frac{5}{3}} = \left(\frac{1}{8}\right)^{1+\frac{5}{k}}$$

$$\therefore k + \frac{5}{3} = 1 + \frac{5}{k}$$

$$k^2 + \frac{2k}{3} - 5 = 0$$

Hence, sum of all real values of  $k = \frac{-2}{3}$ .

**19. Option (2) is correct.**

Let edges of rectangular box be  $l, b, h$ .

$$\therefore 2(lb + lh + bh) = 846 \quad \dots(i)$$

$$\text{and } 4(l + b + h) = 144 \quad \dots(ii)$$

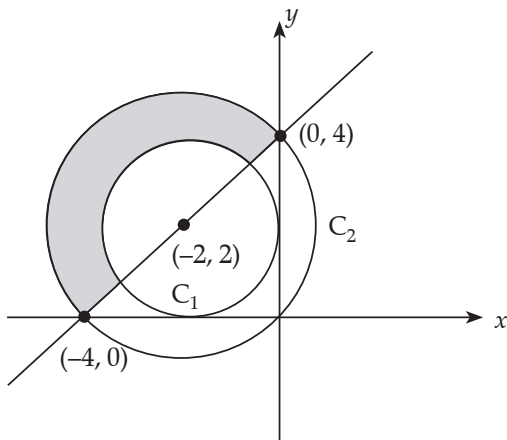
$$\begin{aligned} \therefore l + b + h &= 36 && \dots(\text{iii}) \\ \therefore l^2 + b^2 + h^2 &= (l + b + h)^2 - 2(lb + lh + bh) \\ &= 1296 - 846 \\ &= 450 \end{aligned}$$

Let radius of sphere =  $r$

$$\therefore 2r = \sqrt{450}$$

$$\begin{aligned} \text{Volume of sphere} &= \frac{4}{3} \pi r^3 \\ &= \frac{4}{3} \pi \left( \frac{15}{\sqrt{2}} \right)^3 \\ &= 1125\pi \sqrt{2} \end{aligned}$$

20. Option (3) is correct.



$$\begin{aligned} C_1: x^2 + y^2 + 4(x - y) + 4 &= 0 \\ \text{radius} &= 2 \end{aligned}$$

$$\begin{aligned} C_2: x^2 + y^2 + 4(x - y) &= 0 \\ \text{radius} &= 2\sqrt{2} \end{aligned}$$

$$\begin{aligned} \therefore \text{Area of shaded region} &= \frac{\pi}{2} \{ (2\sqrt{2})^2 - 2^2 \} \\ &= 2\pi \end{aligned}$$

21. Correct answer is [15].

Let four numbers be  $a, b, c, d$ .

$$\frac{a+b}{2} = a + 1 \quad \dots(\text{i})$$

$$\frac{a+b+c}{3} = \frac{a+b}{2} + 2 \quad \dots(\text{ii})$$

$$\frac{a+b+c+d}{4} = \frac{a+b+c}{3} + 3 \quad \dots(\text{iii})$$

From equation (i) we get,  $b = a + 2$

From equation (ii) we get,

$$\frac{a+a+2+c}{3} = \frac{a+a+2}{2} + 2$$

$$\Rightarrow 2a + 2 + c = 3a + 9$$

$$\Rightarrow c = a + 7$$

From equation (iii) we get,

$$\frac{a+a+2+a+7+d}{4} = \frac{a+a+2+a+7}{3}$$

$$\Rightarrow 3a + d + 9 = 4a + 24$$

$$\therefore d - a = 15$$

22. Correct answer is [6].

Renu complete a task in,  $15 \times 4 = 60$  hours.

Seema complete same task in,  $8 \times 5 = 40$  hours

Let Renu work ' $d$ ' days and 2 hours per day.

Seema work  $\frac{d}{2}$  days and 4 hours per day.

$$\therefore \frac{2d}{60} + \frac{4}{40} \left( \frac{d}{2} \right) = 1$$

$$\frac{d}{30} + \frac{d}{20} = 1$$

$$5d = 60$$

$$d = 12$$

Hence, Seema work for  $\frac{12}{2} = 6$  days.