

**Section 01: Verbal Ability and Reading Comprehension**

Comprehension:

The passage below is accompanied by four questions. Based on the passage, choose the best answer for each question.

The Positivists, anxious to stake out their claim for history as a science, contributed the weight of their influence to the cult of facts. First ascertain the facts, said the positivists, then draw your conclusions from them. . . . This is what may [be] called the common-sense view of history. History consists of a corpus of ascertained facts. The facts are available to the historian in documents, inscriptions, and so on . . . [Sir George Clark] contrasted the "hard core of facts" in history with the surrounding pulp of disputable interpretation forgetting perhaps that the pulpy part of the fruit is more rewarding than the hard core. . . . It recalls the favourite dictum of the great liberal journalist C. P. Scott: "Facts are sacred, opinion is free." . . .

What is a historical fact? . . . According to the common-sense view, there are certain basic facts which are the same for all historians and which form, so to speak, the backbone of history—the fact, for example, that the Battle of Hastings was fought in 1066. But this view calls for two observations. In the first place, it is not with facts like these that the historian is primarily concerned. It is no doubt important to know that the great battle was fought in 1066 and not in 1065 or 1067, and that it was fought at Hastings and not at Eastbourne or Brighton. The historian must not get these things wrong. But [to] praise a historian for his accuracy is like praising an architect for using well-seasoned timber or properly mixed concrete in his building. It is a necessary condition of his work, but not his essential function. It is precisely for matters of this kind that the historian is entitled to rely on what have been called the "auxiliary sciences" of history—archaeology, epigraphy, numismatics, chronology, and so forth. . . .

The second observation is that the necessity to establish these basic facts rests not on any quality in the facts themselves, but on an apriori decision of the historian. In spite of C. P. Scott's motto, every journalist knows today that the most effective way to influence opinion is by the selection and arrangement of the appropriate facts. It used to be said that facts speak for themselves. This is, of course, untrue. The facts speak only when the historian calls on them: it is he who decides to which facts to give the floor, and in what order or context. . . . The only reason why we are interested to know that the battle was fought at Hastings in 1066 is that historians regard it as a major historical event. . . . Professor Talcott Parsons once called [science] "a selective system of cognitive orientations to reality." It might perhaps have been put more simply. But history is, among other things, that. The historian is necessarily selective. The belief in a hard core of historical facts existing objectively and independently of the interpretation of the historian is a preposterous fallacy, but one which it is very hard to eradicate.

Q. 1)

All of the following, if true, can weaken the passage's claim that facts do not speak for themselves, EXCEPT:

- A. the truth value of a fact is independent of the historian who expresses it.
- B. facts, like truth, can be relative: what is fact for person X may not be so for person Y.
- C. a fact, by its very nature, is objective and universal, irrespective of the context in which it is placed.
- D. the order in which a series of facts is presented does not have any bearing on the production of meaning.

Q. 2)

All of the following describe the "common-sense view" of history, EXCEPT:

- A. history can be objective like the sciences if it is derived from historical facts.
- B. only the positivist methods can lead to credible historical knowledge.
- C. real history can be found in ancient engravings and archival documents.
- D. history is like science: a selective system of cognitive orientations to reality.

Q. 3)

If the author of the passage were to write a book on the Battle of Hastings along the lines of his/her own reasoning, the focus of the historical account would be on:

- A. producing a detailed timeline of the various events that led to the Battle.
- B. providing a nuanced interpretation by relying on the auxiliary sciences.
- C. exploring the socio-political and economic factors that led to the Battle.
- D. deriving historical facts from the relevant documents and inscriptions.

Q. 4)

According to this passage, which one of the following statements best describes the significance of archaeology for historians?

- A. Archaeology helps historians to ascertain factual accuracy.
- B. Archaeology helps historians to carry out their primary duty.
- C. Archaeology helps historians to interpret historical facts.
- D. Archaeology helps historians to locate the oldest civilisations in history.

Comprehension:

The passage below is accompanied by four questions. Based on the passage, choose the best answer for each question.

Over the past four centuries liberalism has been so successful that it has driven all its opponents off the battlefield. Now it is disintegrating, destroyed by a mix of hubris and internal contradictions, according to Patrick Deneen, a professor of politics at the University of Notre Dame. . . . Equality of opportunity has produced a new meritocratic aristocracy that has all the aloofness of the old aristocracy with none of its sense of noblesse oblige. Democracy has degenerated into a theatre of the absurd. And technological advances are reducing ever more areas of work into meaningless drudgery. “The gap between liberalism’s claims about itself and the lived reality of the citizenry” is now so wide that “the lie can no longer be accepted,” Mr Deneen writes. What better proof of this than the vision of 1,000 private planes whisking their occupants to Davos to discuss the question of “creating a shared future in a fragmented world”? . . .

Deneen does an impressive job of capturing the current mood of disillusionment, echoing left-wing complaints about rampant commercialism, right-wing complaints about narcissistic and bullying students, and general worries about atomisation and selfishness. But when he concludes that all this adds up to a failure of liberalism, is his argument convincing? . . . He argues that the essence of liberalism lies in freeing individuals from constraints. In fact, liberalism contains a wide range of intellectual traditions which provide different answers to the question of how to trade off the relative claims of rights and responsibilities, individual expression and social ties. . . . liberals experimented with a range of ideas from devolving power from the centre to creating national education systems.

Mr Deneen’s fixation on the essence of liberalism leads to the second big problem of his book: his failure to recognise liberalism’s ability to reform itself and address its internal problems. The late 19th century saw America suffering from many of the problems that are reappearing today, including the creation of a business aristocracy, the rise of vast companies, the corruption of politics and the sense that society was dividing into winners and losers. But a wide variety of reformers, working within the liberal tradition, tackled these problems head on. Theodore Roosevelt took on the trusts. Progressives cleaned up government corruption. University reformers modernised academic syllabuses and built ladders of opportunity. Rather than dying, liberalism reformed itself.

Mr Deneen is right to point out that the record of liberalism in recent years has been dismal. He is also right to assert that the world has much to learn from the premodern notions of liberty as self-mastery and self-denial. The biggest enemy of liberalism is not so much atomisation but old-fashioned greed, as members of the Davos elite pile their plates ever higher with perks and share options. But he is wrong to argue that the only way for people to liberate themselves from the contradictions of liberalism is “liberation from liberalism itself”. The best way to read “Why Liberalism Failed” is not as a funeral oration but as a call to action: up your game, or else.

Q. 5)

The author of the passage is likely to disagree with all of the following statements, EXCEPT:

- A. if we accept that liberalism is a dying ideal, we must work to find a viable substitute.
- B. liberalism was the dominant ideal in the past century, but it had to reform itself to remain so.
- C. claims about liberalism's disintegration are exaggerated and misunderstand its core features.
- D. the essence of liberalism lies in greater individual self-expression and freedoms.

Q. 6)

All of the following statements are evidence of the decline of liberalism today, EXCEPT:

- A. "The gap between liberalism's claims about itself and the lived reality of the citizenry' is now so wide that 'the lie can no longer be accepted,' . . ."
- B. "And technological advances are reducing ever more areas of work into meaningless drudgery."
- C. "... the creation of a business aristocracy, the rise of vast companies . . ."
- D. "Democracy has degenerated into a theatre of the absurd."

Q. 7)

The author of the passage faults Deneen's conclusions for all of the following reasons, EXCEPT:

- A. its very narrow definition of liberalism limited to individual freedoms.
- B. its failure to note historical instances in which the process of declining liberalism has managed to reverse itself.
- C. its repeated harking back to premodern notions of liberty.
- D. its extreme pessimism about the future of liberalism today and predictions of an ultimate decline.

Q. 8)

The author of the passage refers to "the Davos elite" to illustrate his views on:

- A. the fact that the rise in liberalism had led to a greater interest in shared futures from unlikely social classes.
- B. the hypocrisy of the liberal rich, who profess to subscribe to liberal values while cornering most of the wealth.
- C. the unlikelihood of a return to the liberalism of the past as long as the rich continue to benefit from the decline in liberal values.
- D. the way the debate around liberalism has been captured by the rich who have managed to insulate themselves from economic hardships.

### Comprehension:

The passage below is accompanied by four questions. Based on the passage, choose the best answer for each question.

Umberto Eco, an Italian writer, was right when he said the language of Europe is translation. Netflix and other deep-pocketed global firms speak it well. Just as the EU employs a small army of translators and interpreters to turn intricate laws or impassioned speeches of Romanian MEPs into the EU's 24 official languages, so do the likes of Netflix. It now offers dubbing in 34 languages and subtitling in a few more. . . .

The economics of European productions are more appealing, too. American audiences are more willing than before to give dubbed or subtitled viewing a chance. This means shows such as "Lupin", a French crime caper on Netflix, can become global hits. . . . In 2015, about 75% of Netflix's original content was American; now the figure is half, according to Ampere, a media-analysis company. Netflix has about 100 productions under way in Europe, which is more than big public broadcasters in France or Germany. . . .

Not everything works across borders. Comedy sometimes struggles. Whodunits and bloodthirsty maelstroms between arch Romans and uppity tribesmen have a more universal appeal. Some do it better than others. Barbarians aside, German television is not always built for export, says one executive, being polite. A bigger problem is that national broadcasters still dominate. Streaming services, such as Netflix or Disney+, account for about a third of all viewing hours, even in markets where they are well-established. Europe is an ageing continent. The generation of teens staring at phones is outnumbered by their elders who prefer to gawp at the box.

In Brussels and national capitals, the prospect of Netflix as a cultural hegemon is seen as a threat. "Cultural sovereignty" is the watchword of European executives worried that the Americans will eat their lunch. To be fair, Netflix content sometimes seems stuck in an uncanny valley somewhere in the mid-Atlantic, with local quirks stripped out. Netflix originals tend to have fewer specific cultural references than shows produced by domestic rivals, according to Enders, a market analyst. The company used to have an imperial model of commissioning, with executives in Los Angeles cooking up ideas French people might like. Now Netflix has offices across Europe. But ultimately the big decisions rest with American executives. This makes European politicians nervous.

They should not be. An irony of European integration is that it is often American companies that facilitate it. Google Translate makes European newspapers comprehensible, even if a little clunky, for the continent's non-polyglots. American social-media companies make it easier for Europeans to talk politics across borders. (That they do not always like to hear what they say about each other is another matter.) Now Netflix and friends pump the same content into

homes across a continent, making culture a cross-border endeavour, too. If Europeans are to share a currency, bail each other out in times of financial need and share vaccines in a pandemic, then they need to have something in common—even if it is just bingeing on the same series. Watching fictitious northern and southern Europeans tear each other apart 2,000 years ago beats doing so in reality.

Q. 9)

Based only on information provided in the passage, which one of the following hypothetical Netflix shows would be most successful with audiences across the EU?

- A. A murder mystery drama set in North Africa and France.
- B. A trans-Atlantic romantic drama set in Europe and America.
- C. An original German TV science fiction production.
- D. An Italian comedy show hosted by an international star.

Q. 10)

Which one of the following research findings would weaken the author's conclusion in the final paragraph?

- A. Research shows that older women across the EU enjoy watching romantic comedies on Netflix, whereas younger women prefer historical fiction dramas.
- B. Research shows there is a wide variance in the popularity and viewing of Netflix shows across different EU countries.
- C. Research shows that Netflix hits produced in France are very popular with North American audiences.
- D. Research shows that Netflix has been gradually losing market share to other streaming television service providers.

Q. 11)

Based on information provided in the passage, all of the following are true, EXCEPT:

- A. Netflix has been able to transform itself into a truly European entity.
- B. national broadcasters dominate in the EU in terms of total television viewing hours.
- C. European television productions have the potential to become global hits.
- D. only half of Netflix's original programming in the EU is now produced in America.

Q. 12)

The author sees the rise of Netflix in Europe as:

- A. a unifying force.
- B. a looming cultural threat.
- C. an economic threat.

D. filling an entertainment gap.

Comprehension:

The passage below is accompanied by four questions. Based on the passage, choose the best answer for each question.

The Second Hand September campaign, led by Oxfam . . . seeks to encourage shopping at local organisations and charities as alternatives to fast fashion brands such as Primark and Boohoo in the name of saving our planet. As innocent as mindless scrolling through online shops may seem, such consumers are unintentionally—or perhaps even knowingly—contributing to an industry that uses more energy than aviation. . . .

Brits buy more garments than any other country in Europe, so it comes as no shock that many of those clothes end up in UK landfills each year: 300,000 tonnes of them, to be exact. This waste of clothing is destructive to our planet, releasing greenhouse gasses as clothes are burnt as well as bleeding toxins and dyes into the surrounding soil and water. As ecologist Chelsea Rochman bluntly put it, “The mismanagement of our waste has even come back to haunt us on our dinner plate.”

It’s not surprising, then, that people are scrambling for a solution, the most common of which is second-hand shopping. Retailers selling consigned clothing are currently expanding at a rapid rate . . . If everyone bought just one used item in a year, it would save 449 million lbs of waste, equivalent to the weight of 1 million Polar bears. “Thrifting” has increasingly become a trendy practice. London is home to many second-hand, or more commonly coined ‘vintage’, shops across the city from Bayswater to Brixton.

So you’re cool and you care about the planet; you’ve killed two birds with one stone. But do people simply purchase a second-hand item, flash it on Instagram with #vintage and call it a day without considering whether what they are doing is actually effective?

According to a study commissioned by Patagonia, for instance, older clothes shed more microfibres. These can end up in our rivers and seas after just one wash due to the worn material, thus contributing to microfibre pollution. To break it down, the amount of microfibres released by laundering 100,000 fleece jackets is equivalent to as many as 11,900 plastic grocery bags, and up to 40 per cent of that ends up in our oceans. . . . So where does this leave second-hand consumers? [They would be well advised to buy] high-quality items that shed less and last longer [as this] combats both microfibre pollution and excess garments ending up in landfills. . . .

Luxury brands would rather not circulate their latest season stock around the globe to be sold at a cheaper price, which is why companies like ThredUP, a US fashion resale marketplace, have not yet caught on in the UK. There will always be a market for consignment but there is also a

whole generation of people who have been taught that only buying new products is the norm; second-hand luxury goods are not in their psyche. Ben Whitaker, director at Liquidation Firm B-Stock, told Prospect that unless recycling becomes cost-effective and filters into mass production, with the right technology to partner it, “high-end retailers would rather put brand before sustainability.”

Q. 13)

The act of “thrifting”, as described in the passage, can be considered ironic because it:

- A. is an anti-consumerist attitude.
- B. has created environmental problems.
- C. is not cost-effective for retailers.
- D. offers luxury clothing at cut-rate prices.

Q. 14)

According to the author, companies like ThredUP have not caught on in the UK for all of the following reasons EXCEPT that:

- A. luxury brands want to maintain their brand image.
- B. luxury brands do not like their product to be devalued.
- C. the British don’t buy second-hand clothing.
- D. recycling is currently not financially attractive for luxury brands.

Q. 15)

The central idea of the passage would be undermined if:

- A. customers bought all their clothes online.
- B. Primark and Boohoo recycled their clothes for vintage stores.
- C. second-hand stores sold only high-quality clothes.
- D. clothes were not thrown and burnt in landfills.

Q. 16)

Based on the passage, we can infer that the opposite of fast fashion, ‘slow fashion’, would most likely refer to clothes that:

- A. are sold by genuine vintage stores.
- B. are of high quality and long lasting.
- C. do not shed microfibres.
- D. do not bleed toxins and dyes.

Q. 17)



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: Dualism was long held as the defining feature of developing countries in contrast to developed countries, where frontier technologies and high productivity were assumed to prevail.

Paragraph: \_\_\_\_ (1) \_\_\_\_ . At the core of development economics lies the idea of 'productive dualism': that poor countries' economies are split between a narrow 'modern' sector that uses advanced technologies and a larger 'traditional' sector characterized by very low productivity. \_\_\_\_ (2) \_\_\_\_ . While this distinction between developing and advanced economies may have made some sense in the 1950s and 1960s, it no longer appears to be very relevant. A combination of forces have produced a widening gap between the winners and those left behind. \_\_\_\_ (3) \_\_\_\_ . Convergence between poor and rich parts of the economy was arrested and regional disparities widened. \_\_\_\_ (4) \_\_\_\_ . As a result, policymakers in advanced economies are now grappling with the same questions that have long preoccupied developing economies: mainly how to close the gap with the more advanced parts of the economy.

- A. Option 1
- B. Option 2
- C. Option 3
- D. Option 4

Q. 18)

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: And probably much earlier, moving the documentation for kissing back 1,000 years compared to what was acknowledged in the scientific community.

Paragraph: Research has hypothesised that the earliest evidence of human lip kissing originated in a very specific geographical location in South Asia 3,500 years ago. \_\_\_\_ (1) \_\_\_\_ . From there it may have spread to other regions, simultaneously accelerating the spread of the herpes simplex virus 1. According to Dr Troels Pank Arbøll and Dr Sophie Lund Rasmussen, who in a new article in the journal Science draw on a range of written sources from the earliest Mesopotamian societies, kissing was already a well-established practice 4,500 years ago in the Middle East. \_\_\_\_ (2) \_\_\_\_ . In ancient Mesopotamia, people wrote in cuneiform script on clay tablets. \_\_\_\_ (3) \_\_\_\_ . Many thousands of these clay tablets have survived to this day, and they contain clear examples that kissing was considered a part of romantic intimacy in ancient times. \_\_\_\_ (4) \_\_\_\_ . "Kissing could also have been part of friendships and family members' relations," says Dr Troels Pank Arbøll, an expert on the history of medicine in Mesopotamia.

- A. Option 1
- B. Option 4
- C. Option 3
- D. Option 2

Q. 19)

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. The banning of Northern Lights could be considered a precursor to censoring books for “moral”, world view or religious reasons.
2. Attempts to ban books are attempts to silence authors who have summoned immense courage in telling their stories.
3. Now the banning and challenging of books in the US has escalated to an unprecedented level.
4. The widely acclaimed fantasy novel Northern Lights was banned in some parts of the US, and was the second most challenged book in the US.
5. The American Library Association documented an unparalleled number of reported book challenges in 2022, about 2,500 unique titles.

Q. 20)

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. Self-care particularly links to loneliness, behavioural problems, and negative academic outcomes.
2. “Latchkey children” refers to children who routinely return home from school to empty homes and take care of themselves for extended periods of time.
3. Although self-care generally points to negative outcomes, it is important to consider that the bulk of research has yet to track long-term consequences.
4. In research and practice, the phrase “children in self-care” has come to replace latchkey in an effort to more accurately reflect the nature of their circumstances.
5. Although parents might believe that self-care would be beneficial for development, recent research has found quite the opposite.

Q. 21)

The four sentences (labelled 1, 2, 3 and 4) given below, when properly sequenced, would yield a coherent paragraph. Decide on the proper sequencing of the order of the sentences and key in the sequence of the four numbers as your answer.

1. Like the ants that make up a colony, no single neuron holds complex information like self-awareness, hope or pride.
2. Although the human brain is not yet understood enough to identify the mechanism by which emergence functions, most neurobiologists agree that complex interconnections among the parts give rise to qualities that belong only to the whole.
3. Nonetheless, the sum of all neurons in the nervous system generate complex human emotions like fear and joy, none of which can be attributed to a single neuron.
4. Human consciousness is often called an emergent property of the human brain.

Q. 22)

The four sentences (labelled 1, 2, 3 and 4) given below, when properly sequenced, would yield a coherent paragraph. Decide on the proper sequencing of the order of the sentences and key in the sequence of the four numbers as your answer.

1. Contemporary African writing like 'The Bottled Leopard' voices this theme using two children and two backgrounds to juxtapose two varying cultures.
2. Chukwuemeka Ike explores the conflict, and casts the Western tradition as condescending, enveloping and unaccommodating towards local African practice.
3. However, their views contradict the reality, for a rich and sustaining local African cultural ethos exists for all who care, to see and experience.
4. Western Christian concepts tend to deny or feign ignorance about the existence of a genuine and enduring indigenous African tradition.

Q. 23)

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

Heatwaves are becoming longer, frequent and intense due to climate change. The impacts of extreme heat are unevenly experienced; with older people and young children, those with pre-existing medical conditions and on low incomes significantly more vulnerable. Adaptation to heatwaves is a significant public policy concern. Research conducted among at-risk people in the UK reveals that even vulnerable people do not perceive themselves as at risk of extreme heat; therefore, early warnings of extreme heat events do not perform as intended. This suggests that understanding how extreme heat is narrated is very important. The news media play a central role in this process and can help warn people about the potential danger, as well as about impacts on infrastructure and society.

Heatwaves pose an enormous risk; the media plays a pivotal role in alerting people to this danger.

People are vulnerable to heatwaves caused due to climate change, measures taken are ineffective.

Protection from heat waves is important but current reports and public policies seem ineffective.

News stories help in warning about heatwaves, but they have to become more effective.

Q. 24)

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

People spontaneously create counterfactual alternatives to reality when they think “if only” or “what if” and imagine how the past could have been different. The mind computes counterfactuals for many reasons. Counterfactuals explain the past and prepare for the future, they implicate various relations including causal ones, and they affect intentions and decisions. They modulate emotions such as regret and relief, and they support moral judgments such as blame. The ability to create counterfactuals develops throughout childhood and contributes to reasoning about other people's beliefs, including their false beliefs.

1. Counterfactuals help people to prepare for the future by understanding intentions and making decisions.
2. People create counterfactual alternatives to reality for various reasons, including reasoning about other people's beliefs.
3. Counterfactual alternatives to reality are created for a variety of reasons and is part of one's developmental process.
4. Counterfactual thinking helps to reverse past and future actions and reason out false beliefs.

## Section 02: Data Interpretation and Logical Reasoning

Comprehension:

Odsville has five firms – Alfloo, Bzygoo, Czechy, Drjbna and Elavalaki. Each of these firms was founded in some year and also closed down a few years later.

Each firm raised Rs. 1 crore in its first and last year of existence. The amount each firm raised every year increased until it reached a maximum, and then decreased until the firm closed down. No firm raised the same amount of money in two consecutive years. Each annual increase and decrease was either by Rs. 1 crore or by Rs. 2 crores.

The table below provides partial information about the five firms.

Firm	First year of existence	Last year of existence	Total amount raised (Rs. crores)
Alfloo	2009	2016	21
Bzygoo	2012	2015	
Czechy	2013		9
Drjbna	2011	2015	10
Elavalaki	2010		13

Q. 1)

For which firm(s) can the amounts raised by them be concluded with certainty in each year?

- A. Only Bzygoo and Czechy and Drjbna
- B. Only Czechy
- C. Only Czechy and Drjbna
- D. Only Drjbna

Q. 2)

What best can be concluded about the total amount of money raised in 2015?

- A. It is either Rs. 7 crores or Rs. 8 crores or Rs. 9 crores.
- B. It is either Rs. 7 crores or Rs. 8 crores.
- C. It is either Rs. 8 crores or Rs. 9 crores.
- D. It is exactly Rs. 8 crores.

Q. 3)

What is the largest possible total amount of money (in Rs. crores) that could have been raised in 2013?

Q. 4)

If Elavalaki raised Rs. 3 crores in 2013, then what is the smallest possible total amount of money (in Rs. crores) that could have been raised by all the companies in 2012?

- A. 12
- B. 9
- C. 11
- D. 10

Q. 5)

If the total amount of money raised in 2014 is Rs. 12 crores, then which of the following is not possible?

Bzygoo raised more money than Elavalaki in 2014.

Alfloo raised the same amount of money as Bzygoo in 2014.

Alfloo raised the same amount of money as Drjbna in 2013.

Bzygoo raised the same amount of money as Elavalaki in 2013.

Comprehension:

Three participants – Akhil, Bimal and Chatur participate in a random draw competition for five days. Every day, each participant randomly picks up a ball numbered between 1 and 9. The number on the ball determines his score on that day. The total score of a participant is the sum of his scores attained in the five days. The total score of a day is the sum of participants' scores on that day. The 2-day average on a day, except on Day 1, is the average of the total scores of that day and of the previous day. For example, if the total scores of Day 1 and Day 2 are 25 and 20, then the 2-day average on Day 2 is calculated as 22.5. Table 1 gives the 2-day averages for Days 2 through 5.

Table 1: 2-day averages for Days 2 through 5			
Day 2	Day 3	Day 4	Day 5
15	15.5	16	17

Participants are ranked each day, with the person having the maximum score being awarded the minimum rank (1) on that day. If there is a tie, all participants with the tied score are awarded the best available rank. For example, if on a day Akhil, Bimal, and Chatur score 8, 7 and 7 respectively, then their ranks will be 1, 2 and 2 respectively on that day. These ranks are given in Table 2.

Table 2: Ranks of participants on each day					
	Day 1	Day 2	Day 3	Day 4	Day 5
<b>Akhil</b>	1	2	2	3	3
<b>Bimal</b>	2	3	2	1	1
<b>Chatur</b>	3	1	1	2	2

The following information is also known.

1. Chatur always scores in multiples of 3. His score on Day 2 is the unique highest score in the competition. His minimum score is observed only on Day 1, and it matches Akhil's score on Day 4.
2. The total score on Day 3 is the same as the total score on Day 4.
3. Bimal's scores are the same on Day 1 and Day 3.

Q. 6)

What is Akhil's score on Day 1?

- A. 6
- B. 7
- C. 5
- D. 8

Q. 7)

Who attains the maximum total score?

- A. Cannot be determined
- B. Akhil
- C. Bimal
- D. Chatur

Q. 8)

What is the minimum possible total score of Bimal?

Q. 9)

If the total score of Bimal is a multiple of 3, what is the score of Akhil on Day 2?

- A. 4
- B. 5
- C. 6
- D. Cannot be determined

Q. 10)

If Akhil attains a total score of 24, then what is the total score of Bimal?

Q. 11)

What is the total number of coins in all the boxes in the 3rd row?

- A. 45
- B. 15
- C. 36
- D. 30

Comprehension:

There are nine boxes arranged in a 3×3 array as shown in Tables 1 and 2. Each box contains three sacks. Each sack has a certain number of coins, between 1 and 9, both inclusive.

The average number of coins per sack in the boxes are all distinct integers. The total number of coins in each row is the same. The total number of coins in each column is also the same.

	1st column	2nd column	3rd column
1st row		9	6
2nd row	2		
3rd row	8		

Table 1

	1st column	2nd column	3rd column
1st row	1**	2*	2*
2nd row	1**	0*	3*
3rd row	3*	2**	0**

Table 2

Table 1 gives information regarding the median of the numbers of coins in the three sacks in a box for some of the boxes. In Table 2 each box has a number which represents the number of sacks in that box having more than 5 coins. That number is followed by a \* if the sacks in that box satisfy exactly one among the following three conditions, and it is followed by \*\* if two or more of these conditions are satisfied.

- i) The minimum among the numbers of coins in the three sacks in the box is 1.
- ii) The median of the numbers of coins in the three sacks is 1.
- iii) The maximum among the numbers of coins in the three sacks in the box is 9.

Q. 12)



How many boxes have at least one sack containing 9 coins?

- A. 3
- B. 4
- C. 5
- D. 8

Comprehension:

There are nine boxes arranged in a  $3 \times 3$  array as shown in Tables 1 and 2. Each box contains three sacks. Each sack has a certain number of coins, between 1 and 9, both inclusive.

The average number of coins per sack in the boxes are all distinct integers. The total number of coins in each row is the same. The total number of coins in each column is also the same.

Table 1 gives information regarding the median of the numbers of coins in the three sacks in a box for some of the boxes. In Table 2 each box has a number which represents the number of sacks in that box having more than 5 coins. That number is followed by a \* if the sacks in that box satisfy exactly one among the following three conditions, and it is followed by \*\* if two or more of these conditions are satisfied.

- i) The minimum among the numbers of coins in the three sacks in the box is 1.
- ii) The median of the numbers of coins in the three sacks is 1.
- iii) The maximum among the numbers of coins in the three sacks in the box is 9.

Q. 13)

For how many boxes are the average and median of the numbers of coins contained in the three sacks in that box the same?

Q. 14)

How many sacks have exactly one coin?

Q. 15)

In how many boxes do all three sacks contain different numbers of coins?

Q. 16)

What was the total amount spent on tickets (in Rs.) by Bipasha?

- A. 110
- B. 120
- C. 90
- D. 100

## Comprehension:

Anjali, Bipasha, and Chitra visited an entertainment park that has four rides. Each ride lasts one hour and can accommodate one visitor at one point. All rides begin at 9 am and must be completed by 5 pm except for Ride-3, for which the last ride has to be completed by 1 pm. Ride gates open every 30 minutes, e.g. 10 am, 10:30 am, and so on. Whenever a ride gate opens, and there is no visitor inside, the first visitor waiting in the queue buys the ticket just before taking the ride. The ticket prices are Rs. 20, Rs. 50, Rs. 30 and Rs. 40 for Rides 1 to 4, respectively. Each of the three visitors took at least one ride and did not necessarily take all rides. None of them took the same ride more than once. The movement time from one ride to another is negligible, and a visitor leaves the ride immediately after the completion of the ride. No one takes a break inside the park unless mentioned explicitly.

The following information is also known.

1. Chitra never waited in the queue and completed her visit by 11 am after spending Rs. 50 to pay for the ticket(s).
2. Anjali took Ride-1 at 11 am after waiting for 30 mins for Chitra to complete it. It was the only ride where Anjali waited.
3. Bipasha began her first of three rides at 11:30 am. All three visitors incurred the same amount of ticket expense by 12:15 pm.
4. The last ride taken by Anjali and Bipasha was the same, where Bipasha waited 30 mins for Anjali to complete her ride. Before standing in the queue for that ride, Bipasha took a 1-hour coffee break after completing her previous ride.

Q. 17)

Which were all the rides that Anjali completed by 2:00 pm?

- A. Ride-1, Ride-2, and Ride-3
- B. Ride-1 and Ride-3
- C. Ride-1, Ride-2, and Ride-4
- D. Ride-1 and Ride-4

Q. 18)

Which ride was taken by all three visitors?

- A. Ride-1
- B. Ride-3
- C. Ride-4
- D. Ride-2

Q. 19)

How many rides did Anjali and Chitra take in total?

Q. 20)

What was the total amount spent on tickets (in Rs.) by Anjali?

**Section 03: Quantitative Aptitude**

Q. 1)

For any natural numbers  $m$ ,  $n$ , and  $k$ , such that  $k$  divides both  $m + 2n$  and  $3m + 4n$ ,  $k$  must be a common divisor of

- A.  $m$  and  $n$
- B.  $2m$  and  $3n$
- C.  $2m$  and  $n$
- D.  $m$  and  $2n$

Q. 2)

Any non-zero real numbers  $x$ ,  $y$  such that  $y \neq 3$  and  $\frac{x}{y} < \frac{x+3}{y-3}$ , will satisfy the condition

- A.  $\frac{x}{y} < \frac{y}{x}$
- B. If  $y > 10$ , then  $-x > y$
- C. If  $x < 0$ , then  $-x < y$
- D. If  $y < 0$ , then  $-x < y$

Q. 3)

The sum of all possible values of  $x$  satisfying the equation  $2^{4x^2} - 2^{2x^2+x+16} + 2^{2x+30} = 0$ , is

- A.  $\frac{5}{2}$
- B.  $\frac{1}{2}$
- C. 3
- D.  $\frac{3}{2}$

Q. 4)

Let  $a$ ,  $b$ ,  $m$  and  $n$  be natural numbers such that  $a > 1$  and  $b > 1$ . If  $a^m b^n = 144^{145}$ , then the largest possible value of  $n - m$  is

- A. 579
- B. 289
- C. 580
- D. 290

Q. 5)

The number of positive integers less than 50, having exactly two distinct factors other than 1 and itself, is

Q. 6)

Let  $k$  be the largest integer such that the equation  $(x-1)^2 + 2kx + 11 = 0$  has no real roots. If  $y$  is a positive real number, then the least possible value of  $\frac{k}{4y} + 9y$  is

Q. 7)

For some positive real number  $x$ , if  $\log_{\sqrt{3}}(x) + \frac{\log_x(25)}{\log_x(0.008)} = \frac{16}{3}$ , then the value of  $\log_3(3x^2)$  is

Q. 8)

Pipes A and C are fill pipes while Pipe B is a drain pipe of a tank. Pipe B empties the full tank in one hour less than the time taken by Pipe A to fill the empty tank. When pipes A, B and C are turned on together, the empty tank is filled in two hours. If pipes B and C are turned on together when the tank is empty and Pipe B is turned off after one hour, then Pipe C takes another one hour and 15 minutes to fill the remaining tank. If Pipe A can fill the empty tank in less than five hours, then the time taken, in minutes, by Pipe C to fill the empty tank is

- A. 75
- B. 120
- C. 60
- D. 90

Q. 9)

Ravi is driving at a speed of 40 km/h on a road. Vijay is 54 meters behind Ravi and driving in the same direction as Ravi. Ashok is driving along the same road from the opposite direction at a speed of 50 km/h and is 225 meters away from Ravi. The speed, in km/h, at which Vijay should drive so that all the three cross each other at the same time, is

- A. 67.2
- B. 64.4
- C. 61.6
- D. 58.8

Q. 10)

In a company, 20% of the employees work in the manufacturing department. If the total salary obtained by all the manufacturing employees is one-sixth of the total salary obtained by all the

employees in the company, then the ratio of the average salary obtained by the manufacturing employees to the average salary obtained by the non-manufacturing employees is

- A. 6 : 5
- B. 4 : 5
- C. 5 : 4
- D. 5 : 6

Q. 11)

Minu purchases a pair of sunglasses at Rs.1000 and sells to Kanu at 20% profit. Then, Kanu sells it back to Minu at 20% loss. Finally, Minu sells the same pair of sunglasses to Tanu. If the total profit made by Minu from all her transactions is Rs.500, then the percentage of profit made by Minu when she sold the pair of sunglasses to Tanu is

- A. 26%
- B. 35.42%
- C. 52%
- D. 31.25%

Q. 12)

The price of a precious stone is directly proportional to the square of its weight. Sita has a precious stone weighing 18 units. If she breaks it into four pieces with each piece having distinct integer weight, then the difference between the highest and lowest possible values of the total price of the four pieces will be 288000. Then, the price of the original precious stone is

- A. 1620000
- B. 1296000
- C. 1944000
- D. 972000

Q. 13)

Anil borrows Rs 2 lakhs at an interest rate of 8% per annum, compounded half-yearly. He repays Rs 10320 at the end of the first year and closes the loan by paying the outstanding amount at the end of the third year. Then, the total interest, in rupees, paid over the three years is nearest to

- A. 33130
- B. 40991
- C. 51311
- D. 45311

Q. 14)

A container has 40 liters of milk. Then, 4 liters are removed from the container and replaced with 4 liters of water. This process of replacing 4 liters of the liquid in the container with an equal volume of water is continued repeatedly. The smallest number of times of doing this process, after which the volume of milk in the container becomes less than that of water, is

Q. 15)

Jayant bought a certain number of white shirts at the rate of Rs 1000 per piece and a certain number of blue shirts at the rate of Rs 1125 per piece. For each shirt, he then set a fixed market price which was 25% higher than the average cost of all the shirts. He sold all the shirts at a discount of 10% and made a total profit of Rs 51000. If he bought both colors of shirts, then the maximum possible total number of shirts that he could have bought is

Q. 16)

If a certain amount of money is divided equally among  $n$  persons, each one receives Rs 352. However, if two persons receive Rs 506 each and the remaining amount is divided equally among the other persons, each of them receive less than or equal to Rs 330. Then, the maximum possible value of  $n$  is

Q. 17)

In a rectangle ABCD,  $AB = 9$  cm and  $BC = 6$  cm. P and Q are two points on BC such that the areas of the figures ABP, APQ, and AQCD are in geometric progression. If the area of the figure AQCD is four times the area of triangle ABP, then  $BP : PQ : QC$  is

- A. 1 : 1 : 2
- B. 1 : 2 : 1
- C. 1 : 2 : 4
- D. 2 : 4 : 1

Q. 18)

A triangle is drawn with its vertices on the circle C such that one of its sides is a diameter of C and the other two sides have their lengths in the ratio  $a:b$ . If the radius of the circle is  $r$ , then the area of the triangle is

- A.  $\frac{2abr^2}{a^2 + b^2}$
- B.  $\frac{abr^2}{a^2 + b^2}$
- C.  $\frac{abr^2}{2(a^2 + b^2)}$

D.  $\frac{4abr^2}{a^2+b^2}$

Q. 19)

The area of the quadrilateral bounded by the  $Y$ -axis, the line  $x = 5$ , and the lines  $|x - y| - |x - 5| = 2$ , is

Q. 20)

Let both the series  $a_1, a_2, a_3, \dots$  and  $b_1, b_2, b_3, \dots$  be in arithmetic progression such that the common differences of both the series are prime numbers. If  $a_5 = b_9, a_{19} = b_{19}$  and  $b_2 = 0$ , then  $a_{11}$  equals

- A. 79
- B. 83
- C. 84
- D. 86

Q. 21)

If  $p^2 + q^2 - 29 = 2pq - 20 = 52 - 2pq$ , then the difference between the maximum and minimum possible value of  $(p^3 - q^3)$  is

- A. 486
- B. 378
- C. 243
- D. 189

Q. 22)

Let  $a_n$  and  $b_n$  be two sequences such that  $a_n = 13 + 6(n - 1)$  and  $b_n = 15 + 7(n - 1)$  for all natural numbers  $n$ . Then, the largest three digit integer that is common to both these sequences, is



**Answer Keys**

Q. No	VARC	DILR	Quant
1	B	C	D
2	D	B	D
3	C	17	B
4	A	11	A
5	B	D	15
6	B	B	6
7	C	D	7
8	B	25	D
9	A	A	C
10	B	26	B
11	A	45	D
12	A	C	B
13	B	4	C
14	C	9	7
15	C	5	407
16	B	A	16
17	B	A	D
18	C	A	A
19	2	6	45
20	3	140	A
21	4132		B
22	4321		967
23	A		
24	C		

## Section 01: Verbal Ability and Reading Comprehension

Comprehension:

The passage below is accompanied by four questions. Based on the passage, choose the best answer for each question.

For early postcolonial literature, the world of the novel was often the nation. Postcolonial novels were usually [concerned with] national questions. Sometimes the whole story of the novel was taken as an allegory of the nation, whether India or Tanzania. This was important for supporting anti-colonial nationalism, but could also be limiting - land-focused and inward looking.

My new book "Writing Ocean Worlds" explores another kind of world of the novel: not the village or nation, but the Indian Ocean world. The book describes a set of novels in which the Indian Ocean is at the centre of the story. It focuses on the novelists Amitav Ghosh, Abdulrazak Gurnah, Lindsey Collen and Joseph Conrad [who have] centred the Indian Ocean world in the majority of their novels. . . Their work reveals a world that is outward-looking full of movement, border-crossing and south-south interconnection. They are all very different - from colonially inclined (Conrad) to radically anti-capitalist (Collen), but together draw on and shape a wider sense of Indian Ocean space through themes, images, metaphors and language. This has the effect of remapping the world in the reader's mind, as centred in the interconnected global south. ...

The Indian Ocean world is a term used to describe the very long-lasting connections among the coasts of East Africa, the Arab coasts, and South and East Asia. These connections were made possible by the geography of the Indian Ocean. For much of history, travel by sea was much easier than by land, which meant that port cities very far apart were often more easily connected to each other than to much closer inland cities. Historical and archaeological evidence suggests that what we now call globalisation first appeared in the Indian Ocean. This is the interconnected oceanic world referenced and produced by the novels in my book.

For their part Ghosh, Gurnah, Collen and even Conrad reference a different set of histories and geographies than the ones most commonly found in fiction in English. Those [commonly found ones] are mostly centred in Europe or the US, assume a background of Christianity and whiteness, and mention places like Paris and New York. The novels in [my] book highlight instead a largely Islamic space, feature characters of colour and centralise the ports of Malindi, Mombasa, Aden, Java and Bombay. . . . It is a densely imagined, richly sensory image of a southern cosmopolitan culture which provides for an enlarged sense of place in the world.

This remapping is particularly powerful for the representation of Africa. In the fiction, sailors and travellers are not all European. . . African, as well as Indian and Arab characters, are traders, nakhodas (dhow ship captains), runaways, villains, missionaries and activists. This does not mean that Indian Ocean Africa is romanticised. Migration is often a matter of force; travel is portrayed as abandonment rather than adventure, freedoms are kept from women and slavery is rife. What it does mean is that the African part of the Indian Ocean world plays an active role in its long, rich history and therefore in that of the wider world.

Q. 1)

On the basis of the nature of the relationship between the items in each pair below, choose the odd pair out:

- A. Postcolonial novels : Anti-colonial nationalism
- B. Indian Ocean novels : Outward-looking
- C. Indian Ocean world : Slavery
- D. Postcolonial novels : Border-crossing

Q. 2)

All of the following statements, if true, would weaken the passage's claim about the relationship between mainstream English-language fiction and Indian Ocean novels EXCEPT:

- A. the depiction of Africa in most Indian Ocean novels is driven by a postcolonial nostalgia for an idyllic past.
- B. most mainstream English-language novels have historically privileged the Christian, white, male experience of travel and adventure.
- C. the depiction of Africa in most Indian Ocean novels is driven by an Orientalist imagination of its cultural crudeness.
- D. very few mainstream English-language novels have historically been set in American and European metropolitan centres.

Q. 3)

Which one of the following statements is not true about migration in the Indian Ocean world?

- A. The Indian Ocean world's migration networks were shaped by religious and commercial histories of the region.
- B. Migration in the Indian Ocean world was an ambivalent experience.
- C. Geographical location rather than geographical proximity determined the choice of destination for migrants.
- D. The Indian Ocean world's migration networks connected the global north with the global south.

Q. 4)

All of the following claims contribute to the "remapping" discussed by the passage, EXCEPT:

- A. the global south, as opposed to the global north, was the first centre of globalisation.
- B. cosmopolitanism originated in the West and travelled to the East through globalisation.
- C. Indian Ocean novels have gone beyond the specifics of national concerns to explore rich regional pasts.
- D. the world of early international trade and commerce was not the sole domain of white Europeans.

Comprehension:

The passage below is accompanied by four questions. Based on the passage, choose the best answer for each question.

Many human phenomena and characteristics - such as behaviors, beliefs, economies, genes, incomes, life expectancies, and other things - are influenced both by geographic factors and by non-geographic factors. Geographic factors mean physical and biological factors tied to geographic location, including climate, the distributions of wild plant and animal species, soils, and topography. Non-geographic factors include those factors subsumed under the term culture, other factors subsumed under the term history, and decisions by individual people....

[T]he differences between the current economies of North and South Korea ... cannot be attributed to the modest environmental differences between [them] ... They are instead due entirely to the different [government] policies ... At the opposite extreme, the Inuit and other traditional peoples living north of the Arctic Circle developed warm fur clothes but no agriculture, while equatorial lowland peoples around the world never developed warm fur clothes but often did develop agriculture. The explanation is straightforwardly geographic, rather than a cultural or historical quirk unrelated to geography. . . Aboriginal Australia remained the sole continent occupied only by hunter/gatherers and with no indigenous farming or herding ... [Here the] explanation is biogeographic: the Australian continent has no domesticable native animal species and few domesticable native plant species. Instead, the crops and domestic animals that now make Australia a food and wool exporter are all non-native (mainly Eurasian) species such as sheep, wheat, and grapes, brought to Australia by overseas colonists.

Today, no scholar would be silly enough to deny that culture, history, and individual choices play a big role in many human phenomena. Scholars don't react to cultural, historical, and individual-agent explanations by denouncing "cultural determinism," "historical determinism," or "individual determinism," and then thinking no further. But many scholars do react to any explanation invoking some geographic role, by denouncing "geographic determinism" ...

Several reasons may underlie this widespread but nonsensical view. One reason is that some geographic explanations advanced a century ago were racist, thereby causing all geographic explanations to become tainted by racist associations in the minds of many scholars other than geographers. But many genetic, historical, psychological, and anthropological explanations advanced a century ago were also racist, yet the validity of newer non-racist genetic etc. explanations is widely accepted today.

Another reason for reflex rejection of geographic explanations is that historians have a tradition, in their discipline, of stressing the role of contingency (a favorite word among historians) based on individual decisions and chance. Often that view is warranted . . . But often, too, that view is unwarranted. The development of warm fur clothes among the Inuit living north of the Arctic Circle was not because one influential Inuit leader persuaded other Inuit in 1783 to adopt warm fur clothes, for no good environmental reason.

A third reason is that geographic explanations usually depend on detailed technical facts of geography and other fields of scholarship ... Most historians and economists don't acquire that detailed knowledge as part of the professional training.

Q. 5)

- A. The examples of the Inuit and Aboriginal Australians are offered in the passage to show:
- B. that despite geographical isolation, traditional societies were self-sufficient and adaptive.
- C. how physical circumstances can dictate human behaviour and cultures.
- D. how environmental factors lead to comparatively divergent paths in livelihoods and development.
- E. human resourcefulness across cultures in adapting to their surroundings.

Q. 6)

All of the following can be inferred from the passage EXCEPT:

- A. several academic studies of human phenomena in the past involved racist interpretations.
- B. agricultural practices changed drastically in the Australian continent after it was colonised.
- C. individual dictat and contingency were not the causal factors for the use of fur clothing in some very cold climates.
- D. while most human phenomena result from culture and individual choice, some have bio-geographic origins.

Q. 7)

All of the following are advanced by the author as reasons why non-geographers disregard geographic influences on human phenomena EXCEPT their:

- A. belief in the central role of humans, unrelated to physical surroundings, in influencing phenomena.
- B. dismissal of explanations that involve geographical causes for human behaviour.
- C. lingering impressions of past geographic analyses that were politically offensive.
- D. disciplinary training which typically does not include technical knowledge of geography.

Q. 8)

The author criticises scholars who are not geographers for all of the following reasons EXCEPT:

- A. the importance they place on the role of individual decisions when studying human phenomena.
- B. their outdated interpretations of past cultural and historical phenomena.
- C. their labelling of geographic explanations as deterministic.
- D. their rejection of the role of biogeographic factors in social and cultural phenomena.

Comprehension:

The passage below is accompanied by four questions. Based on the passage, choose the best answer for each question.

[Fifty] years after its publication in English [in 1972], and just a year since [Marshall] Sahlins himself died—we may ask: why did [his essay] "Original Affluent Society" have such an impact, and how has it fared since? ... Sahlins's principal argument was simple but counterintuitive: before being driven into marginal environments by colonial powers, huntergatherers, or foragers, were not engaged in a desperate struggle for meager survival. Quite the contrary, they satisfied their needs with far less work than people in agricultural and industrial societies, leaving them more time to use as they wished. Hunters, he quipped, keep bankers' hours. Refusing to maximize, many were "more concerned with games of chance than with chances of game." ... The so-called Neolithic Revolution, rather than improving life, imposed a harsher work regime and set in motion the long history of growing inequality ...

Moreover, foragers had other options. The contemporary Hadza of Tanzania, who had long been surrounded by farmers, knew they had alternatives and rejected them. To Sahlins, this showed that foragers are not simply examples of human diversity or victimhood but something more profound: they demonstrated that societies make real choices. Culture, a way of living oriented around a distinctive set of values, manifests a fundamental principle of collective self-determination. . .

But the point [of the essay] is not so much the empirical validity of the data-the real interest for most readers, after all, is not in foragers either today or in the Paleolithic-but rather its conceptual challenge to contemporary economic life and bourgeois individualism. The empirical

served a philosophical and political project, a thought experiment and stimulus to the imagination of possibilities.

With its title's nod toward *The Affluent Society* (1958), economist John Kenneth Galbraith's famously skeptical portrait of America's postwar prosperity and inequality, and dripping with New Left contempt for consumerism, "The Original Affluent Society" brought this critical perspective to bear on the contemporary world. It did so through the classic anthropological move of showing that radical alternatives to the readers' lives really exist. If the capitalist world seeks wealth through ever greater material production to meet infinitely expansive desires, foraging societies follow "the Zen road to affluence": not by getting more, but by wanting less. If it seems that foragers have been left behind by "progress," this is due only to the ethnocentric self-congratulation of the West. Rather than accumulate material goods, these societies are guided by other values: leisure, mobility, and above all, freedom. . .

Viewed in today's context, of course, not every aspect of the essay has aged well. While acknowledging the violence of colonialism, racism, and dispossession, it does not thematize them as heavily as we might today. Rebuking evolutionary anthropologists for treating present-day foragers as "left behind" by progress, it too can succumb to the temptation to use them as proxies for the Paleolithic. Yet these characteristics should not distract us from appreciating Sahlins's effort to show that if we want to conjure new possibilities, we need to learn about actually inhabitable worlds.

Q. 9)

We can infer that Sahlins's main goal in writing his essay was to:

- A. hold a mirror to an acquisitive society, with examples of other communities that have chosen successfully to be non-materialistic.
- B. highlight the fact that while we started off as a fairly contented egalitarian people, we have progressively degenerated into materialism.
- C. counter Galbraith's pessimistic view of the inevitability of a capitalist trajectory for economic growth.
- D. put forth the view that, despite egalitarian origins, economic progress brings greater inequality and social hierarchies.

Q. 10)

The author of the passage criticises Sahlins's essay for its:

- A. cursory treatment of the effects of racism and colonialism on societies.
- B. failure to supplement its thesis with robust empirical data.
- C. outdated values regarding present-day foragers versus ancient foraging communities.
- D. critique of anthropologists who disparage the choices of foragers in today's society.

Q. 11)

The author of the passage mentions Galbraith's "The Affluent Society" to:

- A. document the influence of Galbraith's cynical views on modern consumerism on Sahlins's analysis of pre-historic societies.
- B. show how Galbraith's theories refute Sahlins's thesis on the contentment of pre-huntergatherer communities.
- C. show how Sahlins's views complemented Galbraith's criticism of the consumerism and inequality of contemporary society.
- D. contrast the materialist nature of contemporary growth paths with the pacifist content ways of living among the foragers.

Q.12)

The author mentions Tanzania's Hadza community to illustrate:

- A. how two vastly different ways of living and working were able to coexist in proximity for centuries.
- B. how pre-agrarian societies did not hamper the emergence of more advanced agrarian practices in contiguous communities
- C. that forager communities' lifestyles derived not from ignorance about alternatives, but from their own choice.
- D. that hunter-gatherer communities' subsistence-level techniques equipped them to survive well into contemporary times.

Comprehension:

The passage below is accompanied by four questions. Based on the passage, choose the best answer for each question.

RESIDENTS of Lozère, a hilly department in southern France, recite complaints familiar to many rural corners of Europe. In remote hamlets and villages, with names such as Le Bacon and Le Bacon Vieux, mayors grumble about a lack of local schools, jobs, or phone and internet connections. Farmers of grazing animals add another concern: the return of wolves. Eradicated from France last century, the predators are gradually creeping back to more forests and hillsides. "The wolf must be taken in hand," said an aspiring parliamentarian, Francis Palombi, when pressed by voters in an election campaign early this summer. Tourists enjoy visiting a wolf park in Lozère, but farmers fret over their livestock and their livelihoods.

As early as the ninth century, the royal office of the Luparii-wolf-catchers-was created in France to tackle the predators. Those official hunters (and others) completed their job in the 1930s, when the last wolf disappeared from the mainland. Active hunting and improved technology such as rifles in the 19<sup>th</sup> century, plus the use of poison such as strychnine later on, caused the



population collapse. But in the early 1990s the animals reappeared. They crossed the Alps from Italy, upsetting sheep farmers on the French side of the border. Wolves have since spread to areas such as Lozère, delighting environmentalists, who see the predators' presence as a sign of wider ecological health. Farmers, who say the wolves cause the deaths of thousands of sheep and other grazing animals, are less cheerful. They grumble that green activists and politically correct urban types have allowed the return of an old enemy.

Various factors explain the changes of the past few decades. Rural depopulation is part of the story. In Lozère, for example, farming and a once-flourishing mining industry supported a population of over 140,000 residents in the mid- 19<sup>th</sup> century. Today the department has fewer than 80,000 people, many in its towns. As humans withdraw, forests are expanding. In France, between 1990 and 2015, forest cover increased by an average of 102,000 hectares each year, as more fields were given over to trees. Now, nearly one-third of mainland France is covered by woodland of some sort. The decline of hunting as a sport also means more forests fall quiet. In the mid-to-late 20<sup>th</sup> century over 2m hunters regularly spent winter weekends tramping in woodland, seeking boars, birds and other prey. Today the Fédération Nationale des Chasseurs, the national body, claims 1.1 m people hold hunting licences, though the number of active hunters is probably lower. The mostly protected status of the wolf in Europe-hunting them is now forbidden, other than when occasional culls are sanctioned by the state-plus the efforts of NGOs to track and count the animals, also contribute to the recovery of wolf populations.

As the lupine population of Europe spreads westwards, with occasional reports of wolves seen closer to urban areas, expect to hear of more clashes between farmers and those who celebrate the predators' return. Farmers' losses are real, but are not the only economic story. Tourist venues, such as parks where wolves are kept and the animals' spread is discussed, also generate income and jobs in rural areas.

Q.13)

Which one of the following has NOT contributed to the growing wolf population in Lozère?

- A. The granting of a protected status to wolves in Europe.
- B. A decline in the rural population of Lozère.
- C. The shutting down of the royal office of the Luparii.
- D. An increase in woodlands and forest cover in Lozère.

Q.14)

The inhabitants of Lozère have to grapple with all of the following problems, EXCEPT:

- A. decline in the number of hunting licences.
- B. poor rural communication infrastructure.
- C. livestock losses.

D. lack of educational facilities.

Q.15)

Which one of the following statements, if true, would weaken the author's claims?

- A. Unemployment concerns the residents of Lozère.
- B. The old mining sites of Lozère are now being used as grazing pastures for sheep.
- C. Having migrated out in the last century, wolves are now returning to Lozère.
- D. Wolf attacks on tourists in Lozère are on the rise

Q. 16)

The author presents a possible economic solution to an existing issue facing Lozère that takes into account the divergent and competing interests of:

- A. politicians and farmers.
- B. tourists and environmentalists.
- C. environmentalists and politicians.
- D. farmers and environmentalists.

Q.17)

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: This philosophical cut at one's core beliefs, values, and way of life is difficult enough.

Paragraph: The experience of reading philosophy is often disquieting. When reading philosophy, the values around which one has heretofore organised one's life may come to look provincial, flatly wrong, or even evil. \_\_ (1) \_\_. When beliefs previously held as truths are rendered implausible, new beliefs, values, and ways of living may be required. \_ (2) . What's worse, philosophers admonish each other to remain unsutured until such time as a defensible new answer is revealed or constructed. Sometimes philosophical writing is even strictly critical in that it does not even attempt to provide an alternative after tearing down a cultural or conceptual citadel. (3). The reader of philosophy must be prepared for the possibility of this experience. While reading philosophy can help one clarify one's values, and even make one self-conscious for the first time of the fact that there are good reasons for believing what one believes, it can also generate unremediated doubt that is difficult to live with.

- A. Option 1
- B. Option 3
- C. Option 4
- D. Option 2

Q.18)

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 discovery helps to explain archeological similarities between the Paleolithic peoples of China, Japan, and the Americas.

Paragraph: The researchers also uncovered an unexpected genetic link between Native Americans and Japanese people. (1) . During the deglaciation period, another group branched out from northern coastal China and travelled to Japan.

(2) \_ . "We were surprised to find that this ancestral source also contributed to the Japanese gene pool, especially the indigenous Ainus," says Li. \_ (3) \_ . They shared similarities in how they crafted stemmed projectile points for arrowheads and spears.

(4) . "This suggests that the Pleistocene connection among the Americas, China, and Japan was not confined to culture but also to genetics," says senior author Qing-Peng Kong, an evolutionary geneticist at the Chinese Academy of Sciences.

- A. Option 3
- B. Option 1
- C. Option 4
- D. Option 2

Q.19)

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. In English, there is no systematic rule for the naming of numbers; after ten, we have "eleven" and "twelve" and then the teens: "thirteen", "fourteen", "fifteen" and so on.
2. Even more confusingly, some English words invert the numbers they refer to: the word "fourteen" puts the four first, even though it appears last.
3. It can take children a while to learn all these words, and understand that "fourteen" is different from "forty".
4. For multiples of 10, English speakers switch to a different pattern: "twenty", "thirty", "forty" and so on.
5. If you didn't know the word for "eleven", you would be unable to just guess it you might come up with something like "one-teen".

Q. 20)

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. Having an appreciation for the workings of another person's mind is considered a prerequisite for natural language acquisition, strategic social interaction, reflexive thought, and moral judgment.
2. It is a 'theory of mind' though some scholars prefer to call it 'mentalizing' or 'mindreading', which is important for the development of one's cognitive abilities.
3. Though we must speculate about its evolutionary origin, we do have indications that the capacity evolved sometime in the last few million years.
4. This capacity develops from early beginnings in the first year of life to the adult's fast and often effortless understanding of others' thoughts, feelings, and intentions.
5. One of the most fascinating human capacities is the ability to perceive and interpret other people's behaviour in terms of their mental states.

Q.21)

The four sentences (labelled 1, 2, 3 and 4) given below, when properly sequenced, would yield a coherent paragraph. Decide on the proper sequencing of the order of the sentences and key in the sequence of the four numbers as your answer.

1. Algorithms hosted on the internet are accessed by many, so biases in AI models have resulted in much larger impact, adversely affecting far larger groups of people.
2. Though "algorithmic bias" is the popular term, the foundation of such bias is not in algorithms, but in the data; algorithms are not biased, data is, as algorithms merely reflect persistent patterns that are present in the training data.
3. Despite their widespread impact, it is relatively easier to fix AI biases than human-generated biases, as it is simpler to identify the former than to try to make people unlearn behaviors learnt over generations.
4. The impact of biased decisions made by humans is localised and geographically confined, but with the advent of AI, the impact of such decisions is spread over a much wider scale.

Q.22)

The four sentences (labelled 1, 2, 3 and 4) given below, when properly sequenced, would yield a coherent paragraph. Decide on the proper sequencing of the order of the sentences and key in the sequence of the four numbers as your answer.

1. What precisely are the "unusual elements" that make a particular case so attractive to a certain kind of audience?

2. It might be a particularly savage or unfathomable level of depravity, very often it has something to do with the precise amount of mystery involved.
3. Unsolved, and perhaps unsolvable cases offer something that "ordinary" murder doesn't.
4. Why are some crimes destined for perpetual re-examination and others locked into permanent obscurity?

Q.23)

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

Manipulating information was a feature of history long before modern journalism established rules of integrity. A record dates back to ancient Rome, when Antony met Cleopatra and his political enemy Octavian launched a smear campaign against him with "short, sharp slogans written upon coins." The perpetrator became the first Roman Emperor and "fake news had allowed Octavian to hack the republican system once and for all". But the 21<sup>st</sup> century has seen the weaponization of information on an unprecedented scale. Powerful new technology makes the fabrication of content simple, and social networks amplify falsehoods peddled by States, populist politicians, and dishonest corporate entities. The platforms have become fertile ground for computational propaganda, 'trolling' and 'troll armies'.

- A. People need to become critical of what they read, since historically, weaponization of information has led to corruption.
- B. Octavian used fake news to manipulate people and attain power and influence, just as people do today
- C. Disinformation, which is mediated by technology today, is not new and has existed since ancient times.
- D. Use of misinformation for attaining power, a practice that is as old as the Octavian era, is currently fueled by technology.

Q.24)

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

Colonialism is not a modern phenomenon. World history is full of examples of one society gradually expanding by incorporating adjacent territory and settling its people on newly conquered territory. In the sixteenth century, colonialism changed decisively because of technological developments in navigation that began to connect more remote parts of the world. The modern European colonial project emerged when it became possible to move large numbers of people across the ocean and to maintain political control in spite of geographical

dispersion. The term colonialism is used to describe the process of European settlement, violent dispossession and political domination over the rest of the world, including the Americas, Australia, and parts of Africa and Asia.

- A. Colonialism surged in the 16<sup>th</sup> century due to advancements in navigation, enabling British settlements abroad and global dominance.
- B. As a result of developments in navigation technology, European colonialism, led to the displacement of indigenous populations and global political changes in the 16<sup>th</sup> century.
- C. Colonialism, conceptualized in the 16<sup>th</sup> century, allowed colonizers to expand their territories, establish settlements, and exercise political power.
- D. Technological advancements in navigation in the 16<sup>th</sup> century, transformed colonialism, enabling Europeans to establish settlements and exert political dominance over distant regions.

**Section 02: Data interpretation and Logical Reasoning**

Faculty members in a management school can belong to one of four departments – Finance and Accounting (F&A), Marketing and Strategy (M&S), Operations and Quants (O&Q) and Behaviour and Human Resources (B&H). The numbers of faculty members in F&A, M&S, O&Q and B&H departments are 9, 7, 5 and 3 respectively. Prof. Pakrasi, Prof. Qureshi, Prof. Ramaswamy and Prof. Samuel are four members of the school's faculty who were candidates for the post of the Dean of the school. Only one of the candidates was from O&Q. Every faculty member, including the four candidates, voted for the post. In each department, all the faculty members who were not candidates voted for the same candidate. The rules for the election are listed below.

1. There cannot be more than two candidates from a single department.
2. A candidate cannot vote for himself/herself.
3. Faculty members cannot vote for a candidate from their own department.

After the election, it was observed that Prof. Pakrasi received 3 votes, Prof. Qureshi received 14 votes, Prof. Ramaswamy received 6 votes and Prof. Samuel received 1 vote. Prof. Pakrasi voted for Prof. Ramaswamy, Prof. Qureshi for Prof. Samuel, Prof. Ramaswamy for Prof. Qureshi and Prof. Samuel for Prof. Pakrasi.

Q. 1)

Which two candidates can belong to the same department?

- A. Prof. Pakrasi and Prof. Qureshi
- B. Prof. Qureshi and Prof. Ramaswamy
- C. Prof. Pakrasi and Prof. Samuel
- D. Prof. Ramaswamy and Prof. Samuel

Q. 2)

Which of the following can be the number of votes that Prof. Qureshi received from a single department?

- A. 7
- B. 8
- C. 6
- D. 9

Q. 3)

If Prof. Samuel belongs to B&H, which of the following statements is/are true?

Statement A: Prof. Pakrasi belongs to M&S.

Statement B: Prof. Ramaswamy belongs to O&Q.

- A. Only statement A

- B. Both statements A and B
- C. Neither statement A nor statement B
- D. Only statement B

Q. 4)

What best can be concluded about the candidate from O&Q?

- A. It was either Prof. Ramaswamy or Prof. Samuel.
- B. It was Prof. Samuel.
- C. It was either Prof. Pakrasi or Prof. Qureshi.
- D. It was Prof. Ramaswamy.

Q. 5)

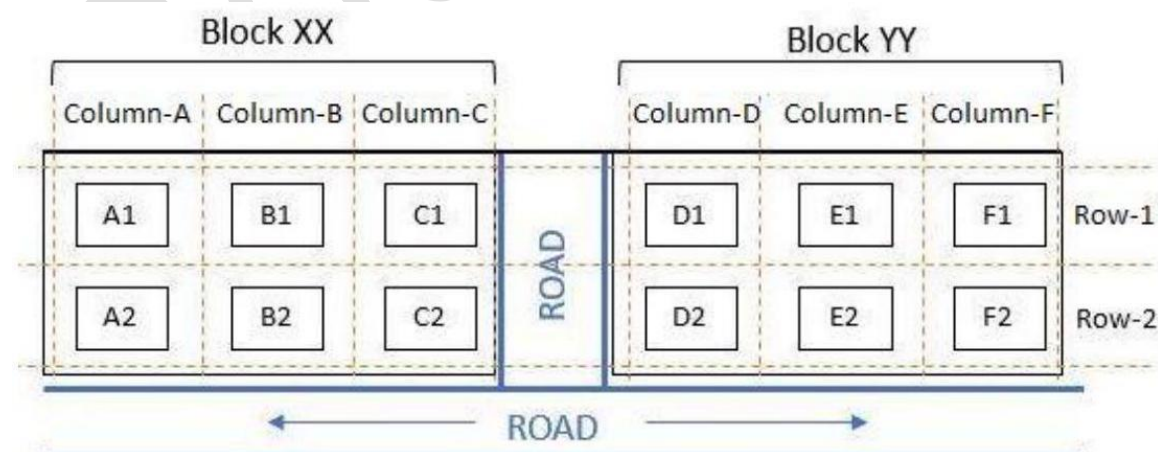
Which of the following statements is/are true?

Statement A: Non-candidates from M&S voted for Prof. Qureshi.

Statement B: Non-candidates from F&A voted for Prof. Qureshi.

- A. Neither statement A nor statement B
- B. Both statements A and B
- C. Only statement A
- D. Only statement B

The schematic diagram below shows 12 rectangular houses in a housing complex. House numbers are mentioned in the rectangles representing the houses. The houses are located in six columns - Column-A through Column-F, and two rows - Row-1 and Row-2. The houses are divided into two blocks - Block XX and Block YY. The diagram also shows two roads, one passing in front of the houses in Row-2 and another between the two blocks.





Some of the houses are occupied. The remaining ones are vacant and are the only ones available for sale.

The road adjacency value of a house is the number of its sides adjacent to a road. For example, the road adjacency values of C2, F2, and B1 are 2, 1, and 0, respectively. The neighbour count of a house is the number of sides of that house adjacent to occupied houses in the same block. For example, E1 and C1 can have the maximum possible neighbour counts of 3 and 2, respectively.

The base price of a vacant house is Rs. 10 lakhs if the house does not have a parking space, and Rs. 12 lakhs if it does. The quoted price (in lakhs of Rs.) of a vacant house is calculated as (base price) +  $5 \times$  (road adjacency value) +  $3 \times$  (neighbour count).

The following information is also known.

1. The maximum quoted price of a house in Block XX is Rs. 24 lakhs. The minimum quoted price of a house in block YY is Rs. 15 lakhs, and one such house is in Column-E.
2. Row-1 has two occupied houses, one in each block.
3. Both houses in Column-E are vacant. Each of Column-D and Column-F has at least one occupied house.
4. There is only one house with parking space in Block YY.

Q. 6)

How many houses are vacant in Block XX?

Q. 7)

Which of the following houses is definitely occupied?

- A. D2
- B. A1
- C. B1
- D. F2

Q. 8)

Which of the following options best describes the number of vacant houses in Row-2?

- A. Either 2 or 3
- B. Exactly 3
- C. Exactly 2
- D. Either 3 or 4

Q. 9)

What is the maximum possible quoted price (in lakhs of Rs.) for a vacant house in Column-E?

Q. 10)

Which house in Block YY has parking space?

- A. E2
- B. F2
- C. E1
- D. F1

A visa processing office (VPO) accepts visa applications in four categories - US, UK, Schengen, and Others. The applications are scheduled for processing in twenty 15-minute slots starting at 9:00 am and ending at 2:00 pm. Ten applications are scheduled in each slot.

There are ten counters in the office, four dedicated to US applications, and two each for UK applications, Schengen applications and Others applications. Applicants are called in for processing sequentially on a first-come-first-served basis whenever a counter gets freed for their category. The processing time for an application is the same within each category. But it may vary across the categories. Each US and UK application requires 10 minutes of processing time. Depending on the number of applications in a category and time required to process an application for that category, it is possible that an applicant for a slot may be processed later.

On a particular day, Ira, Vijay and Nandini were scheduled for Schengen visa processing in that order. They had a 9:15 am slot but entered the VPO at 9:20 am. When they entered the office, exactly six out of the ten counters were either processing applications, or had finished processing one and ready to start processing the next.

Mahira and Osman were scheduled in the 9:30 am slot on that day for visa processing in the Others category.

The following additional information is known about that day.

1. All slots were full.
2. The number of US applications was the same in all the slots. The same was true for the other three categories.
3. 50% of the applications were US applications.
4. All applicants except Ira, Vijay and Nandini arrived on time.
5. Vijay was called to a counter at 9:25 am.

Q. 11)

How many UK applications were scheduled on that day?

Q. 12)

What is the maximum possible value of the total time (in minutes, nearest to its integer value) required to process all applications in the Others category on that day?

Q. 13)

Which of the following is the closest to the time when Nandini's application process got over?

- A. 9:45am
- B. 9:50am
- C. 9:35am
- D. 9:37am

Q. 14)

Which of the following statements is false?

- A. The application process of Osman was completed before 9:45 am
- B. The application process of Mahira started after Nandini's.
- C. The application process of Mahira was completed before Nandini's.
- D. The application process of Osman was completed before Vijay's.

Q. 15)

When did the application processing for all US applicants get over on that day?

- A. 3 : 40 pm
- B. 2 : 00 pm
- C. 2: 25 pm
- D. 2 : 05 pm

Five restaurants, coded R1, R2, R3, R4 and R5 gave integer ratings to five gig workers – Ullas, Vasu, Waman, Xavier and Yusuf, on a scale of 1 to 5. The means of the ratings given by R1, R2, R3, R4 and R5 were 3.4, 2.2, 3.8, 2.8 and 3.4 respectively.

The summary statistics of these ratings for the five workers is given below.

	Ullas	Vasu	Waman	Xavier	Yusuf
Mean rating	2.2	3.8	3.4	3.6	2.6
Median rating	2	4	4	4	3
Modal rating	2	4	5	5	1 and 4
Range of rating*	3	3	4	4	3

\* Range of ratings is defined as the difference between the maximum and minimum ratings awarded to a worker.

The following is partial information about ratings of 1 and 5 awarded by the restaurants to the workers.

(a) R1 awarded a rating of 5 to Waman, as did R2 to Xavier, R3 to Waman and Xavier, and R5 to Vasu.

(b) R1 awarded a rating of 1 to Ullas, as did R2 to Waman and Yusuf, and R3 to Yusuf.

Q. 16)

How many individual ratings cannot be determined from the above information?

Q. 17)

To how many workers did R2 give a rating of 4?

Q. 18)

What rating did R1 give to Xavier?

Q. 19)

What is the median of the ratings given by R3 to the five workers?

Q. 20)

Which among the following restaurants gave its median rating to exactly one of the workers?

A. R3

B. R5

- C. R4
- D. R2

**Section 03: Quantitative Aptitude**

Q. 1)

If  $x$  and  $y$  are real numbers such that  $x^2 + (x - 2y - 1)^2 = -4y(x + y)$ , then the value  $x - 2y$  is

- A. 1
- B. 2
- C. -1
- D. 0

Q. 2)

If  $\sqrt{5x+9} + \sqrt{5x-9} = 3(2 + \sqrt{2})$ , then  $\sqrt{10x+9}$  is equal to

- A.  $3\sqrt{7}$
- B.  $4\sqrt{5}$
- C.  $3\sqrt{31}$
- D.  $2\sqrt{7}$

Q. 3)

Let  $n$  be the least positive integer such that 168 is a factor of  $1134^n$ . If  $m$  is the least positive integer such that  $1134^n$  is a factor of  $168^m$ , then  $m + n$  equals

- A. 15
- B. 12
- C. 24
- D. 9

Q. 4)

If  $x$  and  $y$  are positive real numbers such that  $\log_x(x^2 + 12) = 4$  and  $3\log_y x = 1$ , then  $x + y$  equals

- A. 11
- B. 20
- C. 10
- D. 68

Q. 5)

The number of integer solutions of equation  $2|x|(x^2 + 1) = 5x^2$  is

Q. 6)

The equation  $x^3 + (2r + 1)x^2 + (4r - 1)x + 2 = 0$  has -2 as one of the roots. If the other two roots are real, then the minimum possible non-negative integer value of  $r$  is

Q. 7)

Let  $\alpha$  and  $\beta$  be the two distinct roots of the equation  $2x^2 - 6x + k = 0$ , such that  $(\alpha + \beta)$  and  $\alpha\beta$  are the distinct roots of the equation  $x^2 + px + p = 0$ . Then, the value of  $8(k - p)$  is

Q. 8)

In an examination, the average marks of 4 girls and 6 boys is 24. Each of the girls has the same marks while each of the boys has the same marks. If the marks of any girl is at most double the marks of any boy, but not less than the marks of any boy, then the number of possible distinct integer values of the total marks of 2 girls and 6 boys is

A. 20

B. 22

C. 21

D. 19

Q. 9)

The minor angle between the hours hand and minutes hand of a clock was observed at 8:48 am. The minimum duration, in minutes, after 8.48 am when this angle increases by 50% is

A.  $\frac{36}{11}$

B. 4

$\frac{24}{11}$

C. 2

Q. 10)

The salaries of three friends Sita, Gita and Mita are initially in the ratio 5 : 6 : 7, respectively. In the first year, they get salary hikes of 20%, 25% and 20%, respectively. In the second year, Sita and Mita get salary hikes of 40% and 25%, respectively, and the salary of Gita becomes equal to the mean salary of the three friends. The salary hike of Gita in the second year is

- A. 28%
- B. 26%
- C. 30%
- D. 25%

Q. 11)

A mixture P is formed by removing a certain amount of coffee from a coffee jar and replacing the same amount with cocoa powder. The same amount is again removed from mixture P and replaced with same amount of cocoa powder to form a new mixture Q. If the ratio of coffee and cocoa in the mixture Q is 16:9, then the ratio of cocoa in mixture P to that in mixture Q is

- A. 5 : 9
- B. 1 : 2
- C. 4 : 9
- D. 1 : 3

Q. 12)

Gita sells two objects A and B at the same price such that she makes a profit of 20% on object A and a loss of 10% on object B. If she increases the selling price such that objects A and B are still sold at an equal price and a profit of 10% is made on object B, then the profit made on object A will be nearest to

- A. 47%
- B. 49%
- C. 42%
- D. 45%

Q. 13)

Brishti went on an 8-hour trip in a car. Before the trip, the car had travelled a total of  $x$  km till then, where  $x$  is a whole number and is palindromic, i.e.,  $x$  remains unchanged when its digits are reversed. At the end of the trip, the car had travelled a total of 26862 km till then, this number again being palindromic. If Brishti never drove at more than 110 km/h, then the greatest possible average speed at which she drove during the trip, in km/h, was

- A. 90
- B. 100
- C. 80
- D. 110

Q. 14)



The amount of job that Amal, Sunil and Kamal can individually do in a day, are in harmonic progression. Kamal takes twice as much time as Amal to do the same amount of job. If Amal and Sunil work for 4 days and 9 days, respectively, Kamal needs to work for 16 days to finish the remaining job. Then the number of days Sunil will take to finish the job working alone, is

Q. 15)

Arvind travels from town A to town B, and Surbhi from town B to town A, both starting at the same time along the same route. After meeting each other, Arvind takes 6 hours to reach town B while Surbhi takes 24 hours to reach town A. If Arvind travelled at a speed of 54 km/h, then the distance, in km, between town A and town B is

Q. 16)

Anil invests Rs. 22000 for 6 years in a certain scheme with 4% interest per annum, compounded half-yearly. Sunil invests in the same scheme for 5 years, and then reinvests the entire amount received at the end of 5 years for one year at 10% simple interest. If the amounts received by both at the end of 6 years are same, then the initial investment made by Sunil, in rupees, is

Q. 17)

Let  $C$  be the circle  $x^2 + y^2 + 4x - 6y - 3 = 0$  and  $L$  be the locus of the point of intersection of a pair of tangents to  $C$  with the angle between the two tangents equal to  $60^\circ$ . Then, the point at which  $L$  touches the line  $x = 6$  is

(6, 6)

(6, 8)

(6, 4)

(6, 3)

Q. 18)

A quadrilateral  $ABCD$  is inscribed in a circle such that  $AB : CD = 2 : 1$  and  $BC : AD = 5 : 4$ . If  $AC$  and  $BD$  intersect at the point  $E$ , then  $AE : CE$  equals

2 : 1

5 : 8

8 : 5

1: 2

Q. 19)

In a right-angled triangle  $\triangle ABC$ , the altitude  $AB$  is 5 cm, and the base  $BC$  is 12 cm.  $P$  and  $Q$  are two points on  $BC$  such that the areas of  $\triangle ABP$ ,  $\triangle ABQ$  and  $\triangle ABC$  are in arithmetic progression. If the area of  $\triangle ABC$  is 1.5 times the area of  $\triangle ABP$ , the length of  $PQ$ , in cm, is

Q. 20)

The number of all natural numbers up to 1000 with non-repeating digits is

- A. 648
- B. 585
- C. 504
- D. 738

Q. 21)

For some positive and distinct real numbers  $x, y$  and  $z$ , if  $\frac{1}{\sqrt{y} + \sqrt{z}}$  is the arithmetic mean of

$\frac{1}{\sqrt{x} + \sqrt{z}}$  and  $\frac{1}{\sqrt{x} + \sqrt{y}}$ , then the relationship which will always hold true, is

- A.  $y, x$  and  $z$  are in arithmetic progression
- B.  $\sqrt{x}, \sqrt{y}$  and  $\sqrt{z}$  are in arithmetic progression
- C.  $x, y$  and  $z$  are in arithmetic progression
- D.  $\sqrt{x}, \sqrt{z}$  and  $\sqrt{y}$  are in arithmetic progression

Q. 22)

A lab experiment measures the number of organisms at 8 am every day. Starting with 2 organisms on the first day, the number of organisms on any day is equal to 3 more than twice the number on the previous day. If the number of organisms on the  $n^{\text{th}}$  day exceeds one million, then the lowest possible value of  $n$  is

## Answer Keys

Q. No.	VARC	DILR	Quant
1	D	A	A
2	B	D	A
3	D	B	A
4	B	A	C
5	B	D	3
6	D	3	2
7	B	C	6
8	B	A	C
9	A	21	C
10	A	C	B
11	C	0	A
12	C	200	A
13	C	A	B
14	A	B	27
15	D	D	972
16	D	0	20808
17	D	0	D
18	A	3	C
19	3	4	2
20	2	C	D
21	4123		A
22	4123		19
23	D		
24	D		