

# UG CLAT 2020 – Sample paper 1

## English Language

Each set of questions in this section is based on a single passage. Please answer each question on the basis of what is stated or implied in the corresponding passage. In some instances, more than one option may be the answer to the question; in such a case, please choose the option that most accurately and comprehensively answers the question.

1.

In a letter written in January 1885 to his friend Pramatha Chaudhuri, Tagore spoke of the tension in his own mind between the contending forces of East and West. 'I sometimes detect in myself,' he remarked, 'a background where two opposing forces are constantly in action, one beckoning me to peace and cessation of all strife, the other egging me on to battle. It is as though the restless energy and the will to action of the West were perpetually assaulting the citadel of my Indian placidity. Hence this swing of the pendulum between passionate pain and calm detachment, between lyrical abandon and philosophising between love of my country and mockery of patriotism, between an itch to enter the lists and a longing to remain wrapped in thought.'

Tagore's mission to synthesise East and West was part personal, part civilizational. In time it also became political. In the early years of the twentieth century, the intelligentsia of Bengal was engulfed by the swadeshi movement, where protests against British rule were expressed by the burning of foreign cloth and the rejection of all things western. After an initial enthusiasm for the movement, Tagore turned against it. His ambivalence was expressed in his novel *Ghare Baire (Home and the World)* and, more succinctly, in a letter written to a friend in November 1908, which insisted that 'patriotism cannot be our final spiritual shelter'. 'I will not buy glass for the price of diamonds', wrote Tagore, 'and I will never allow patriotism to triumph over humanity as long as I live. I took a few steps down that road and stopped: for when I cannot retain my faith in universal humanity over and above my country, when patriotic prejudices overshadow my God, I feel inwardly starved'.

[Extracted, with edits and revisions, from Ramchandra Guha's introduction to *Nationalism*, by Rabindranath Tagore, Penguin Books, 2009.]

- 1.1 Which of the following best describes the two opposing forces that Tagore said he detected in himself?
- (a) A force encouraging him to write more, and a force encouraging him to paint more.
  - (b) A force encouraging him to travel widely, and a force encouraging him to travel only to the West.
  - (c) A force encouraging him to join the national movement, and a force encouraging him to take up arms.
  - (d) A force encouraging him to remain calm, and a force encouraging him to fight.

(Answer: (d))

**Rationale:**

The correct answer is (d) – A force encouraging him to remain calm, and a force encouraging him to fight. This is apparent from the line in the first paragraph which states: ‘I sometimes detect in myself... a background where two opposing forces are constantly in action, one beckoning me to peace and cessation of all strife, the other egging me on to battle.’ There is nothing in the passage to suggest that Tagore felt any force within himself encouraging him to paint more, nor to travel only to the West, so neither (a) nor (b) is the correct answer. There is also nothing to suggest that Tagore felt he had to choose between joining the national movement and taking up arms, and so (c) is not the correct option either.

1.2 What does the phrase ‘enter the lists’ as used in the passage mean?

- (a) To become contemplative and thoughtful.
- (b) To become involved in a competition or challenge.
- (c) To avoid interactions with other people.
- (d) To avoid crowded places.

(Answer: (b))

**Rationale:**

The correct answer is (b) – to become involved in a competition or challenge. Tagore uses this expression in contrast to ‘a longing to remain wrapped in thought’. Given this, and the general meaning of the phrase ‘enter the lists’, none of (a), (c), or (d) can be the correct option.

1.3 Which of the following would be consistent with the author’s description of the swadeshi movement in the passage above?

- (a) Rejecting western ideas and merchandise.
- (b) Sending children to study in foreign universities.
- (c) Rejecting Indian ideas and merchandise.
- (d) All of the above.

(Answer: (a))

**Rationale:**

The correct answer is (a) – rejecting western ideas and merchandise. This can be inferred from the author’s description of how ‘protests against British rule were expressed by the burning of foreign cloth and the rejection of all things western’. Options (b), (c), and (d) are not consistent with this description of the protests, and so none of these can be the correct option.

1.4 Which of the following best describes Tagore’s reasons for not letting patriotism triumph over humanity?

- (a) Universal humanity and love for one’s God are more important than love for one’s country.
- (b) Western science and technology are more advanced than Indian spiritualism.
- (c) The West has a restless energy and will to action.
- (d) Indian thought is peaceful and therefore opposed to action.

(Answer: (a))

**Rationale:**

The correct answer is (a) – universal humanity and love for one’s God are more important than love for one’s country. This is apparent from Tagore’s statements towards the end of the passage. There is nothing in the passage to support either (b) or (d). While Tagore mentions the ‘restless energy and will to action’ of the West, he does not provide this as a reason for not letting his patriotism triumph over humanity.

1.5 The author describes Tagore’s attitude towards patriotism as an example of:

- (a) His love for all things Western and rejection of all things Indian.
- (b) His idea of the form that protests against British rule should take.
- (c) His efforts to synthesise East and West.
- (d) His love for deep and contemplative thought.

(Answer: (c))

**Rationale:**

The correct answer is (c) - his efforts to synthesise East and West. This is apparent from the opening sentences of the second paragraph, where the author describes how Tagore’s efforts to synthesise East and West were personal and civilizational, and then also became political. There is nothing in the passage to suggest that Tagore’s attitude towards patriotism was an example of any of the matters set out in the other options.

2.

Ma always had a rough time in Dad’s house. He, an under-secretary in the civil service, thought he had married beneath his position and treated Ma with the contempt he felt she deserved – an opinion shared by the rest of his family as well. As year after year passed by without any sign of a child being born into the family, Ma began to lose hope of regaining any respect or status within her husband’s household. The inevitable followed. She was ordered around, overworked, underfed and often beaten. She would regularly be ill. It seemed they were waiting to see the end of her and, when she hesitantly told Dad she was expecting, no one seemed too enthusiastic or happy.

The delivery was difficult. My birth was premature. When they learnt that the child was a girl, they stopped coming to the hospital. Ma died a week later. They wanted nothing to do with me; an ugly runt of a girl with shrivelled-up skin fit only to follow her no-good stubborn mother out of this world. They were only too happy to let Masi take me off their hands and away to her ancestral home in a small coastal Konkan village, Parvi, where she lived with my grandmother, her mother, Aji.

The village doctor shook his head sadly on looking at me but Masi was as adamant as her sister had been. In that house I was reared purely on Masi’s grit and Aji’s determination and loving care as they nursed me with ragi extract, diluted cow’s milk, soft hand-pounded rice and coconut. Day after day they laboured. As a baby they fed me the Ragi extract mixed with diluted milk and the starch water from boiled rice. A little older and they made Ragi porridge, then Ragi bhakri (roti), laddoos, seviyan, and a miracle took place. Masi and Aji watched me grow from strength to strength.

Now I am 25, a foot taller than Masi and completing my postgraduate studies in medicine.

[Extracted, with edits and revisions, from *Ragi-Ragini: Chronicles from Aji’s Kitchen*, by Anjali Purohit, Yoda Press, 2012.]

2.1 Why, according to the author, did her father treat her mother with contempt?

- (a) Because she had given birth to a daughter.
- (b) Because she was regularly ill.
- (c) Because he felt he had married beneath his position.
- (d) Because she was not a good cook.

(Answer: (c))

**Rationale:**

The correct answer is (c) - because he felt he had married beneath his position. The author provides this reason in the second sentence of the passage. While her husband's family stopped visiting the author's mother in the hospital when they learnt she had given birth to a girl, this is not given as the reason why she was treated with contempt in the first place, and so, (a) cannot be the correct option. The author's mother was regularly ill because of the way she was treated, but this was not the reason why her husband treated her with contempt, and so, (b) cannot be the right answer. There is nothing in the passage to support (d) as the correct answer.

2.2 Which of the following can be inferred as the reason why the author's father's family was happy to let Masi take the author away?

- (a) Because the child was a girl, ugly, small, and weak.
- (b) Because the child was noisy and troublesome.
- (c) Because the child was born at an inauspicious time.
- (d) Because the child was undernourished and weak.

(Answer: (a))

**Rationale:**

The correct answer is (a) - because the child was a girl, ugly, small, and weak. The author describes how her father's family stopped visiting the hospital when they heard the child was a girl, and goes on to describe herself as 'an ugly runt of a girl with shrivelled-up skin fit only to follow her no-good stubborn mother out of this world', as reasons why her father's family was happy to let Masi take her away. There is nothing in the passage to support (b) or (c) as the correct option. While (d) may be right, (a) is the more complete and accurate answer, and so, (d) cannot be the correct answer.

2.3 What does the word 'adamant' as used in the passage mean?

- (a) Easily swayed by others' opinions.
- (b) Frightened and scared.
- (c) Hardworking and tough.
- (d) Refusing to be persuaded to change one's mind.

(Answer: (d))

**Rationale:**

The correct answer is (d) - refusing to be persuaded to change one's mind. This can be inferred from the description of how Masi reacted to the village doctor's sad assessment of the author as a child, and how the author was raised on Masi's 'grit', in the third paragraph of the passage. Neither (a) nor (b) are consistent with this description, and so, neither can be the correct answer. While (c) may be right, it does not describe Masi's reaction to the village doctor's assessment and her subsequent rearing of the author, and so, cannot be the correct answer.

2.4 Based on the information set out in the passage, which of the following is most accurate?

- (a) Masi and Aji were careless and neglectful in bringing up the author.
- (b) Masi and Aji put a lot of pressure on the author to study medicine.
- (c) Masi and Aji put in a lot of effort and love in raising the author.
- (d) Masi and Aji were forced to take care of the author against their wishes.

(Answer: (c))

**Rationale:**

The correct answer is (c) - Masi and Aji put in a lot of effort and love in raising the author. This is apparent from the author's description of how they raised her, in the third paragraph of the passage. Options (a) and (d) are contradictory to the information provided in the passage, and so, neither can be the correct answer. There is nothing in the passage to support (b) as the correct option.

2.5 Which of the following best sums up the author's main point in the passage above?

- (a) Women should not marry above their position in life as their husband would neglect them.
- (b) Masi and Aji brought up the author with love and determination against all odds, and despite her father's family rejecting her.
- (c) Masi and Aji were experts in bringing up children, and were medically qualified to treat children's illnesses.
- (d) The author is taller than Masi because of the genes she inherited from her father.

(Answer: (b))

**Rationale:**

The correct answer is (b) - Masi and Aji brought up the author with love and determination against all odds, and despite her father's family rejecting her. This is clear from the author's description of how she was born premature and weak, how her father's family rejected her, and even the village doctor was sad when he assessed her, how Masi was adamant despite this, and how Masi and Aji brought her up with grit and determination nonetheless. There is nothing in the passage to support options (c) or (d), and so, neither can be the correct answer. While her father treated her mother with contempt because he thought her mother was beneath him, the author does not suggest this as a reason why women should not marry above their position in life, and so, (a) cannot be the correct answer.

3.

Implicit in this fixation with time is the thesis that the opportunity cost of regular shopping, as compared to online shopping, is too high – that the hours spent driving to the better bookstore in the next town

can be spent doing something more valuable. But as our urban lives have grown more pressed for time, we have diced our opportunity costs finer and finer; from budgeting days or slabs of hours, we have come to rationing minutes. Delivery schedules have shrunk in parallel. You might now reason that even a 12-minute walk to the store to buy a can of beans is too great an expenditure of time, and that the fee paid for one-hour delivery is a fair price to snatch those minutes back into your life. Of course, the principle of opportunity cost assumes that we will earn the value of that fee back in some way in those 12 minutes – whereas the truth is that we are most likely to squander them on Instagram. The internet promises us time, then takes it right back.

Beyond the fees we pay, our orders have costs – some that we have recognised, and some that are slowly starting to come to light. A lot of attention has rightly been paid to the toll that fulfilling our orders takes upon workers in warehouses or drivers in delivery vans. But additionally, as our purchases hurtle towards us in ever-higher volumes and at ever-faster rates, they exert an unseen, transformative pressure – on infrastructure, on cities, on the companies themselves. “The customer is putting an enormous strain on the supply chain,” said James Nicholls, a managing partner at Stephen George + Partners, an industrial architecture firm. “Especially if you are ordering a thing in five different colours, trying them all on, and sending four of them back.”

How the pressures of home delivery reorder the world can be understood best through the “last mile” – which is not strictly a mile but the final leg that a parcel travels from, say, Bhiwandi to a flat in Bandra in Mumbai. The last mile obsesses the delivery industry. No one in the day-to-day hustle of e-commerce talks very seriously about the kind of trial-balloon gimmicks that claim to revolutionise the last mile: deliveries by drones and parachutes and autonomous vehicles, robots on sidewalks. Instead, the most pressing last-mile problems feel basic, low-concept, old-school. How best to pack a box. How to beat traffic. What to do when a delivery driver rings the doorbell and no one is home. What to do with the forests of used cardboard. In home delivery, the last mile has become the most expensive and difficult mile of all.

[Edited, with extracts from: “How our home delivery habit reshaped the world” by Samanth Subramanian, *The Guardian*, November 21, 2019, available online at: <https://www.theguardian.com/technology/2019/nov/21/how-our-home-delivery-habit-reshaped-the-world>’]

3.1 According to the passage, which of the following actions can be rightly justified by the opportunity cost principle?

- (a) Sapna utilises the time she spends in the cab on her way to work every day seeing memes that have the potential to go viral.
- (b) Rajesh chose the profession of a traffic policeman over that of a regular policeman despite the former being more dangerous to his respiratory health.
- (c) Instead of keeping his beach shack in Goa open in the summer, Pratap chose to close it and open a cafe in the hills of Himachal Pradesh which attracts more tourists during this time.
- (d) Christine was compelled to quit her job because her mother was diagnosed with a terminal illness and needed someone to care for her.

(Answer: (c))

**Rationale:**

The correct answer is (c) - instead of keeping his beach shack in Goa open in the summer, Pratap chose to open a cafe in the hills of Himachal Pradesh which attracts more tourists during this time. From the passage, we know that the opportunity cost principle can be used to justify a choice that is more valuable in comparison to other choices available. There is nothing in option

(a) or (b) to suggest that the choices made by Sapna and Rajesh respectively were of greater value than alternative choices available to them. In case of option (d) Christine acted under a compulsion rather than by choice. However, in option (c), Pratap's choice is likely to fetch him greater value since he is likely to attract more customers in Himachal Pradesh during the summer than in Goa. Hence, this action can be justified using the opportunity cost principle, as suggested in the passage.

3.2 Which of the following is not a correct inference from the above passage?

- (a) We have become more efficient in managing our time due to the phenomenon of home delivery.
- (b) We have only now begun to realise the adverse consequences of home delivery.
- (c) While it appears that online shopping saves time, the shopper who has saved time may in turn waste it by doing things on the internet that are of little value.
- (d) The trickiest aspect of home delivery is the stretch to be completed immediately prior to the parcel reaching the customer.

(Answer: (a))

**Rationale:**

The correct answer is (a) - we have become more efficient in managing our time due to the phenomenon of home delivery. The passage does not in any way suggest that home delivery has made us more efficient in how we manage our time. On the contrary, the author suggests that even if we save some time due to home delivery, we are likely to squander that time doing things of little or no value such as browsing through Instagram. However, the options (b), (c), and (d) contain points that may be correctly inferred from the passage.

3.3 In the context of the above passage, which of the following would be the most appropriate meaning of the term 'trial-balloon gimmick'?

- (a) An experimental measure taken to grab the attention of customers without much thought behind it.
- (b) An arrogant move.
- (c) A measure that is innovative and is likely to bring about a drastic change in customer behaviour.
- (d) A move that comes at an exorbitant cost.

(Answer: (a))

**Rationale:**

The correct answer is (a) - an experimental measure taken to grab the attention of customers without much thought behind it. The term 'trial-balloon' implies a short-term measure taken to assess how a new project or policy will be received. This implication can be inferred from the author's sceptical tone and the examples given by the author for the same: deliveries by drones and parachutes and autonomous vehicles, robots on sidewalks.

3.4 Which of the following statements is the author most likely to agree with?

- (a) Online shopping and home delivery have helped people optimise the time available for them to do things that are of value to them.

- (b) Home delivery allows customers to make prudent choices since they can order things in different colours or sizes and return the ones that they do not like.
- (c) The application of technology to solve problems of last mile delivery is changing the innovation landscape in the world by presenting complex and unprecedented problems to companies.
- (d) One must factor in the environmental cost and other costs in relation to our ecosystem when placing orders for home delivery.

(Answer: (d))

**Rationale:**

The correct answer is (d) - One must factor in the environmental cost and other costs in relation to our ecosystem when placing orders for home delivery. The author says “Beyond the fees we pay, our orders have costs – some that we have recognised, and some that are slowly starting to come to light. ... additionally, as our purchases hurtle towards us in ever-higher volumes and at ever-faster rates, they exert an unseen, transformative pressure – on infrastructure, on cities, on the companies themselves.” There is nothing in the passage that suggests that the author would agree with any of the statements contained in the options (a), (b), or (c).

4.

We still talk about the British conquering India, but that phrase disguises a more sinister reality. For it was not the British government that began seizing chunks of India in the mid-18<sup>th</sup> century, but a dangerously unregulated private company. The East India Company (the “**EIC**”) was headquartered in one small office, five windows wide, in London, and managed in India by a violent, ruthless and intermittently mentally unstable corporate predator—Robert Clive. India’s transition to colonialism, in other words, took place under a for-profit corporation, which existed entirely for the purpose of enriching its investors.

Historians have traditionally proposed many reasons for the astonishing success of the EIC over its Indian rivals in the sixty years between the Carnatic Wars of the 1740s and the EIC’s capture of Mughal Delhi at the end of the Second Anglo-Maratha War in 1803: the mid-18<sup>th</sup> century fracturing of India into tiny, competing post-Mughal successor states, and disunity within Indian states played an important role. Also crucially important was the support that the EIC enjoyed from the British parliament. The relationship between company and parliament grew steadily more symbiotic throughout the 18<sup>th</sup> century until eventually it turned into what we might today call a public–private partnership. Returned nabobs like Clive used their wealth to buy both MPs and parliamentary seats. In turn, parliament backed the company with state power: the ships and soldiers that were needed to achieve victory.

European arms remained technologically more advanced than those of their rivals until the mid-1760s, when both the Marathas and the Sultans of Mysore began to reach military technological parity. It had taken Indian states some twenty years to catch up with foreign innovations in military technology, tactics and discipline that had led to the Company’s early successes; but by 1765 that gap was fast being bridged.

Thereafter, European military tactics were less important than the question of resources, and the innovations in governance and taxation which allowed the Company to raise vast sums of ready money at a moment’s notice. For behind the scarlet uniforms and the Palladian palaces, the tiger shoots and the polkas at Government House always lay the balance sheets of the Company’s



accountants, with their ledgers laying out profit and loss, and the Company's fluctuating share price on the London Stock Exchange.

As Burton Stein put it, "The colonial conquest of India was as much bought as fought", and the finance which enabled that to happen came from India's own Jain and Marwari bankers. The Company traders and their Indian bankers had always spoken the same language and when they began to work closely together, from the 1750s onwards, the result was the victory of the Company Raj.

[Extracted, with edits and revisions, from: William Dalrymple, "Seths Underwrote The Company Raj", *Outlook*, <https://www.outlookindia.com/magazine/story/books-seths-underwrote-the-company-raj/302089>.]

4.1 Why does the author suggest that the colonisation of India was not undertaken by the British government?

- (a) Because the EIC, a private corporation, initially seized power and brought India under its rule.
- (b) Because the British government was short of funds, and did not have the resources to colonise India.
- (c) Because the British government had other priorities at the time, and did not give attention to India.
- (d) Because the EIC, a private corporation, had a symbiotic relationship with the British parliament.

(Answer: (a))

**Rationale:**

The correct answer is (a) – because the EIC, a private corporation, initially seized power and brought India under its rule. The author states this in the first paragraph, summarising: "India's transition to colonialism, in other words, took place under a for-profit corporation, which existed entirely for the purpose of enriching its investors." The author does not mention anything related to options (b) and (c), and so, neither of these can be the right answer. While the author does mention the matter in option (d), they do not offer this as a reason why the colonisation of India was not undertaken by the British government, and so, this cannot be the correct answer either.

4.2 According to the author, which of the following have been put forward by historians as reasons why the EIC was able to gain success over its enemies in India in the eighteenth century?

- (a) The massive salaries it paid its soldiers.
- (b) The support that the EIC received from the British parliament.
- (c) Both, (a) and (b).
- (d) Neither (a) nor (b)

(Answer: (b))

**Rationale:**

The correct answer is (b) – the support that the EIC received from the British parliament. The author describes this in the second paragraph, where they talk about the reasons historians put

forward for the EIC's astonishing success over its Indian rivals at that time. Since this is set out in the passage, (d) cannot be the correct answer. Option (a) is not supported by anything in the passage and so, cannot be the correct answer. Therefore, (c) cannot be the correct answer either.

4.3 Which of the following can be inferred from the passage above?

- (a) Indian bankers were keen to see British rule in India.
- (b) Indian bankers preferred to work with the EIC rather than with Indian rulers.
- (c) The EIC was focused on bringing military glory to the British government, and spent its energy on building a massive army.
- (d) The EIC was very concerned with making profits for its investors, and was good at ensuring lines of credit from Indian bankers.

(Answer: (d))

**Rationale:**

The correct answer is (d) – the EIC was very concerned with making profits for its investors, and was good at ensuring lines of credit from Indian bankers. The author tells us at the outset that the EIC was a private, for-profit corporation that “existed entirely for the purpose of enriching its investors”, and that the Company traders spoke “the same language” as their Indian bankers, and managed to raise the finances they needed to take over India. There is nothing in the passage to support either option (a) or (b), and so, neither of these can be the correct answer. Option (c) contradicts the author's statements in the passage, and so, cannot be the correct answer.

4.4 What does the author mean when they say that the EIC traders and Indian bankers spoke “the same language”?

- (a) They used the same accounting systems.
- (b) They conversed with each other in Hindi.
- (c) They understood each other well, and agreed on many things.
- (d) They both wished to see the commencement of British rule in India

(Answer: (c))

**Rationale:**

The correct answer is (c) – they understood each other well, and agreed on many things. This is apparent from the last paragraph, where the author describes how the EIC traders and Indian bankers worked together to realise the victory of the Company Raj. There is nothing in the passage to support options (a) and (b); neither is there anything to suggest that Indian bankers wished to see the commencement of British rule in India, and so, none of the other options can be the correct answer.

4.5 Based on the information in the passage above, which of the following is the author most likely to agree with?

- (a) Private corporations have nothing to gain from developing a relationship with governments.
- (b) Robert Clive was a brilliant man who should be celebrated as a national hero.

- (c) It is much better for a nation to be colonised by a foreign government than by a private corporation.
- (d) Advantages such as better weapons will only carry a colonising power so far, and it will eventually have to ensure it has enough resources to achieve its aims.

(Answer: (d))

**Rationale:**

The correct answer is (d) – advantages such as better weapons will only carry a colonising power so far, and it will eventually have to ensure it has enough resources to achieve its aims. This coincides with the main point in the passage above, which is that the EIC eventually had to ensure it raised enough finances to achieve its objectives in India, since the gap in military technology between the EIC and its Indian rivals was being bridged. Option (a) cannot be the correct answer, since the author describes how the EIC's relationship with the British parliament helped it get the backing of state power. Option (b) contradicts the author's description of Robert Clive as a "violent, ruthless and intermittently mentally unstable corporate predator", and so, cannot be the correct answer. There is nothing in the passage to support option (c), and so, this cannot be the correct answer.

5.

The role of county clergy was a remarkably loose one. Piety was not necessarily a requirement, or even an expectation. Ordination in the Church of England required a university degree, but most ministers read classics and didn't study divinity at all, and so had no training in how to preach, provide inspiration or solace or otherwise offer meaningful Christian support. Many didn't even bother composing sermons but just bought a big book of prepared sermons and read one out once a week.

Though no one intended it, the effect was to create a class of well-educated, wealthy people who had immense amounts of time on their hands. In consequence many of them began, quite spontaneously, to do remarkable things. Never in history have a group of people engaged in a broader range of creditable activities for which they were not in any sense actually employed.

Consider perhaps the most extraordinary clergyman of all, the Reverend Thomas Bayes, from Tunbridge Wells in Kent, who lived from about 1701 to 1761. He was by all accounts a shy and hopeless preacher, but a singularly gifted mathematician. He devised the mathematical equation that has come to be known as the Bayes theorem.

People who understand Bayes's theorem can use it to work out complex problems involving probability distributions – or inverse probabilities, as they are sometimes called. It is a way of arriving at statistically reliable probabilities based on partial information. The most remarkable feature of Bayes's theorem is that it had no practical application without computers to do the necessary calculations, so in his own day it was an interesting but fundamentally pointless exercise. Bayes evidently thought so little of his theorem that he didn't bother to make it public. A friend sent it to the Royal Society in London in 1763, two years after Bayes's death, where it was published in the society's *Philosophical Transactions* with the modest title of 'An Essay Towards Solving a Problem in the Doctrine of Chances'. In fact, it was a milestone in the history of mathematics. Today Bayes's theorem is used in modelling climate change, predicting the behaviour of stock markets, fixing radiocarbon dates, interpreting cosmological events and much else where the interpretation of probabilities is an issue – and all because of the thoughtful jottings of an eighteenth-century English clergyman.

[Extracted, with edits and revisions, from *At Home: A Short History of Private Life*, by Bill Bryson, Transworld Publishers, 2010.]

5.1 Which of the following cannot be rightly inferred from the passage above?

- (a) Thomas Bayes had time to spend on mathematical studies, aside from his professional duties.
- (b) Clergymen in the period described in the passage were not intelligent.
- (c) Ordination in the Church of England in the eighteenth century did not require specialised study.
- (d) Discoveries that have no applications in the present may prove valuable in the future.

(Answer: (b))

**Rationale:**

The correct answer is (b) – clergymen in the period described in the passage were not intelligent. There is nothing in the passage to support this statement; in fact, the passage supports the claim that many clergymen engaged in a broad range of ‘credible activities’, and goes on to describe how, for example, one of them, Thomas Bayes, was a brilliant mathematician. Options (a) and (c) are supported by the author’s description of how people did not study divinity at all, and how clergymen had ‘immense amounts of time on their hands’, and so, cannot be the correct answer. Option (d) is supported by the author’s description of how the Bayes theorem had no application at the time Bayes devised it, but was found to have a range of useful applications once computers were invented, and so, (d) cannot be the correct answer.

5.2 From the passage above, which of the following can we infer about Thomas Bayes?

- (a) His father had also been a clergyman, and that is why he chose to become one himself.
- (b) He was from a noble household, and his family was related to the royal family.
- (c) He did not like the people who came to his church, and so, spent all his time on mathematics.
- (d) He thought discoveries that did not have practical value were not worth telling others about.

(Answer: (d))

**Rationale:**

The correct answer is (d) – he thought discoveries that did not have practical value were not worth telling others about. This is apparent from the author’s description of how Bayes’s theorem had no application without computers to do the necessary calculations, and how Bayes thought so little of the theorem that he did not bother making it public. There is no information in the passage about Bayes’s family, and so, neither (a) nor (b) can be the correct answer. While he may have been interested in mathematics, there is nothing in the passage to suggest Bayes disliked the people who came to his church, and so, (c) cannot be the correct answer either.

5.3 Which of the following is the author most likely to agree with, based on the contents of the passage above?

- (a) No English clergymen in the eighteenth century wrote their own sermons.

- (b) People who have had a good education and a lot of money and spare time can sometimes do wonderful things.
- (c) Organised religion is of no use to anyone, since no priests or preachers are specially trained in religion.
- (d) Bayes was a very shy person, and that is why he did not like to make any of his mathematical discoveries public.

(Answer: (b))

**Rationale:**

The correct answer is (b) – people who have had a good education and a lot of money and spare time can sometimes do wonderful things. This is supported by the author’s statements in the second paragraph, where they state that a class of “well-educated, wealthy people who had immense amounts of time on their hands... [did] remarkable things. Never in history have a group of people engaged in a broader range of creditable activities for which they were not in any sense actually employed.” All the other options generalise too broadly from relatively narrow statements in the passage, and cannot be correct – while the author says ‘many’ clergymen did not bother composing their own sermons, option (a) extends this to ‘all’ clergymen; the author says that ‘most’ clergymen did not study divinity, or know how to perform their religious duties, but option (c) extends this to all priests and preachers, and indeed, to all organised religion and not just the Church of England in the eighteenth century; while the author says that Bayes was a shy preacher, option (d) extends this to all aspects of Bayes’s personality, as well as contradicting the reason the author offers in the passage for why Bayes did not make his theorem public.

5.4 What does the word ‘probabilities’, as used in the passage, mean?

- (a) The mathematical study of continuous change.
- (b) The collection, organisation, displaying, analysis, interpretation, and presentation of data.
- (c) The likelihood or chance of something occurring.
- (d) The branch of mathematics that studies relationships between side lengths and angles of triangles.

(Answer: (c))

**Rationale:**

The correct answer is (c) – the likelihood or chance of something occurring. This is supported by the author’s description of Bayes’s theorem and its applications – situations where the likelihood and extent of something occurring or not occurring is in question, such as climate change and stock market behaviour. Option (a) describes calculus, (b) describes trigonometry, and (d) describes statistics, and so, none of these is the correct answer.

5.5 Based on the information in the passage above, which of the following can we ascribe to the publishers of *Philosophical Transactions*?

- (a) They were interested in publishing theoretical mathematical discoveries.
- (b) They were interested in publishing discoveries that may not have had practical applications at the time of publication.
- (c) They did not restrict publication to full-time mathematicians.
- (d) All of the above.

(Answer: (d))

**Rationale:**

The correct answer is (d) – all of the above. The fact that they published Bayes's theorem even though it had no practical applications at that time, support options (a) and (b). Since Bayes himself was a clergyman as well as a mathematician, option (c) is also right. Therefore, (d) is the correct answer.

6.

I assume we all believe that bats have experience. After all, they are mammals, and there is no more doubt that they have experience than that mice or pigeons or whales have experience. Bats, although more closely related to us than those other species, nevertheless present a range of activity and a sensory apparatus so different from ours that the problem I want to pose is exceptionally vivid (though it certainly could be raised with other species). Even without the benefit of philosophical reflection, anyone who has spent some time in an enclosed space with an excited bat knows what it is to encounter a fundamentally *alien* form of life.

I have said that the essence of the belief that bats have experience is that there is something that it is like to be a bat. Now we know that most bats perceive the external world primarily by sonar, or echolocation. Their brains are designed to correlate the outgoing sounds with the subsequent echoes, and the information thus acquired enables bats to make precise discriminations of distance, size, shape, motion, and texture comparable to those we make by vision. But bat sonar, though clearly a form of perception, is not similar in its operation to any sense that we possess, and there is no reason to suppose that it is subjectively like anything we can experience or imagine. This appears to create difficulties for the notion of what it is like to be a bat. We must consider whether any method will permit us to extrapolate to the inner life of the bat from our own case, and if not, what alternative methods there may be for understanding the notion.

Our own experience provides the basic material for our imagination, whose range is therefore limited. It will not help us to try to imagine that one has webbing on one's arms, which enables one to fly around at dusk and dawn catching insects in one's mouth, or that one perceives the world through echolocation. In so far as I can imagine this (which is not very far), it tells me only what it would be like for *me* to behave as a bat behaves. But that is not the question. I want to know what it is like for a *bat* to be a bat. Yet if I try to imagine this, I am restricted to the resources of my own mind, and those resources are inadequate to the task. I cannot perform it either by imagining additions to my present experience, or by imagining segments gradually subtracted from it, or by imagining some combinations of additions, subtractions, and modifications.

[Extracted, with edits and revisions, from Thomas Nagel, "What is it like to be a bat?", in William Lyons (Ed), *Modern Philosophy of Mind*, Hachette India, 2010.]

6.1 Why does the author choose bats instead of mice, pigeons, or whales to present the main problem in the passage?

- (a) Because bats are very similar to us, and it would be very easy for us to imagine what the mind of a bat would be like.
- (b) Because they are mammals, and people are willing to accept that mammals have experience.
- (c) Because mice, pigeons, or whales, are more closely related to us than bats are.

- (d) Because their habits, behaviour, and sense organs are very different from ours, yet people are willing to believe that they have experience.

(Answer: (d))

**Rationale:**

The correct answer is (d) - because their habits, behaviour, and sense organs are very different from ours, yet people are willing to believe that they have experience. The author states in the first paragraph that because of these reasons, the problem they wish to propose would be 'exceptionally vivid' if raised with bats. Options (a) and (c) clearly contradict the author's statements in the same paragraph, and so, neither can be the correct answer. While the author does use the fact that they are mammals to justify the belief that bats have experience, this does not distinguish them from mice or whales, and so, option (b) cannot be the correct answer.

6.2 What does the word 'alien' as used in the passage mean?

- (a) From another country
- (b) Unfamiliar and disturbing
- (c) From another planet
- (d) Hypothetical or fictional

(Answer: (b))

**Rationale:**

The correct answer is (b) - unfamiliar and disturbing. While options (a), (b), and (c) may all be valid meanings of 'alien', only (b) is appropriate in the context of the passage, since the author does not suggest that the bats in question are from another country or planet. The author does not discuss fictional bats either, and so, (d) cannot be the correct option.

6.3 Which of the following is the author most likely to agree with?

- (a) That we will only understand bats if we understand the chemical processes behind biological echolocation.
- (b) That the experiences of other species are not worth wondering about, since our sense organs are different from theirs.
- (c) That we cannot understand the experiences of other species by relying solely upon our own organs of perception.
- (d) That the experiences of other species are not worth wondering about, since we have our own experiences to worry about.

(Answer: (c))

**Rationale:**

The correct answer is (c) - that we cannot understand the experiences of other species by relying solely upon our own organs of perception. The author suggests this towards the end of the second paragraph, where they say that bats' perception and sensory organs are different from ours, and we must "consider whether any method will permit us to extrapolate to the inner life of the bat from our own case, and if not, what alternative methods there may be for understanding the notion." The author suggests that we do not understand the experience of sensing the world through echolocation, not that we do not understand how echolocation *works*, and so, option (a)

cannot be the correct answer. The author suggests that we have to look for alternate ways of understanding the experiences of other species, not that we should not try to understand them, and so, neither (b) nor (d) can be the correct answer.

6.4 Which of the following is most similar to the problem or question the author discusses in the passage above?

- (a) A doctor will not be able to understand what it is like to be an engineer.
- (b) A person of one race will not be able to understand what it is like to be a person of another race.
- (c) A citizen of India will not be able to understand what it is like to be a citizen of Sri Lanka.
- (d) A cricketer will not be able to understand what it is like to be a footballer.

(Answer: (b))

**Rationale:**

The correct answer is (b) – a person of one race will not be able to understand what it is like to be a person of another race. This option describes a problem related to an immutable characteristic, just like the problem in the passage, about how humans cannot understand what it is like to be a bat. The other options all describe problems related to mutable characteristics – after all, it is entirely conceivable that a doctor may change their profession to engineer, or a person changes their citizenship, or a sports person their sport – and therefore, cannot be correct.

6.5 What is the author's main point in the passage above?

- (a) That humans will never understand sonar or echolocation, since we do not have the biological apparatus for it.
- (b) That our imagination is very weak, and unless we make a dramatic effort, we will not be able to imagine what it is like to be a bat.
- (c) That while bats may have experience, it is very difficult for us to understand or describe that experience, since our minds and ways of perception are different from those of bats.
- (d) That bats cannot possibly have experience, since their sensory organs and ways of perceiving their surroundings are different from how we perceive and experience the world.

(Answer: (c))

**Rationale:**

The correct answer is (c) - that while bats may have experience, it is very difficult for us to understand or describe that experience, since our minds and ways of perception are different from those of bats. The author argues that bats have experience in the first paragraph, goes on to demonstrate how their sensory organs and ways of perceiving the world are different from ours, and finally, concludes that it is very difficult for us to understand what it is like to be a bat, since we are restricted to the resources of our own mind. Option (a) is inaccurate in that it misses the point which is not that we do not understand sonar, but that we do not understand the experience of perceiving the world through sonar. Though the author acknowledges that our imagination is limited by our experience, they do not say that making a dramatic effort will help us overcome this, and so, (b) cannot be the correct answer. Option (d) is incorrect, since the author states at the very beginning of that passage that "we all believe that bats have experience".



# Current Affairs, including General Knowledge

*Each set of questions in this section is based on topics that arise out of the excerpted passage. Answers may be implied by facts mentioned in the passage but need not be so. Please answer each question on its own merit on the basis of your knowledge of current affairs and general knowledge.*

1.

For a few weeks in August, the world's eyes were fixed on Brazil and its government's response. When the burning of the [1] was at its peak in August, there were thousands of individual fires, almost three times as many that month - 30,901 - compared with the same period last year.

What caused this? Forest fires do happen in the [1] during the dry season between July and October. They can be caused by naturally occurring events, like lightning strikes, but this year most are thought to have been started by farmers and loggers clearing land for crops or grazing.

This matters because the [1] is the largest rainforest in the world and a vital carbon store that slows down the pace of global warming.

The world reacted with fury to the fires - there were protests in dozens of cities, threats of financial penalties, and broad condemnation of Brazilian President [2]'s environmental policies.

In late August, Mr [2] deployed the army to the [1] and ordered a 60-day ban on setting fires to clear land there. The measures had an effect - the number of fires in the [1] dropped by a third between August and September. The pace has slowed even more this month, and is likely to do so even more now that annual rains have started.

There are signs, though, that the situation is worse than it appears. This is because the burning of the rainforest isn't the biggest problem - deforestation is.

Traditionally, [1] rainforest is felled, left to dry and then set on fire. By the time the moratorium came in, vast deforestation had already taken place. The only thing the ban prevented was more burning.

[Extracted, with edits and revisions, from: Roland Hughes, "Amazon fires: What's the latest in Brazil?", [bbc.com/news/world-latin-america-49971563](http://bbc.com/news/world-latin-america-49971563)]

1.1 In the passage above, the name of the rainforest that was on fire has been replaced with '[1]'. What is the name of the rainforest?

- (a) Congo
- (b) Amazon
- (c) Sunderbans
- (d) Australian outback

(Answer: (b))

1.2 In the passage above, the name of the President of the country where the rainforest being discussed is located, has been replaced with '[2]'. What is the name of the President?

- (a) Evo Morales
- (b) Luiz Inacio Lula da Silva
- (c) Dilma Rousseff
- (d) Jair Bolsonaro

(Answer: (d))

1.3 One of the biggest reasons why the fires described in the passage above were considered so devastating is because the rainforest in question is:

- (a) The world's largest habitat of orangutans
- (b) One of the world's smallest rainforests
- (c) The world's largest terrestrial carbon dioxide sink
- (d) The world's largest habitat of dolphins

(Answer: (c))

1.4 When a country is rated as '2 degree compatible' by Climate Action Tracker, it means that if all countries made efforts like that country, the average global temperature rise could be limited to 2°C by 2100. Which of the following countries is, or are, rated as '2 degree compatible' by Climate Action Tracker?

- (a) India
- (b) China
- (c) U.S.A.
- (d) All of the above

(Answer: (a))

1.5 The 2019 United Nations Climate Change Conference, held in Spain, is also known as:

- (a) COP22
- (b) COP25
- (c) UNCRP
- (d) G20

(Answer: (b))

2.

The President's notification of the *Constitution (Application to Jammu and Kashmir) Order* of August 5, 2019 amends Article 370 of the Indian Constitution and scraps its 65-year-old predecessor, the *Constitution (Application to Jammu and Kashmir) Order* of May 14, 1954.

By junking the 1954 Order, the notification takes away the special rights and privileges enjoyed by the residents of Kashmir.

The August 5 notification has been issued under Article 370 of the Constitution. In short, the government has employed Article 370, which had once protected the 1954 Order giving special rights to the people of Jammu and Kashmir, to scrap the sexagenarian Order.

The 1954 Order had also brought into existence Article [2]. This Article gave the State Legislature of Jammu and Kashmir exclusive power to define classes of persons who are/shall be permanent residents of the State; to confer permanent residents special rights and privileges and impose restrictions upon other persons from outside the State; make laws and conditions for State government employment, acquisition of immovable property, settlement rights, scholarships and other forms of aid from the State government.

With the removal of the 1954 Order, the power of the State Legislature ceases to exist and Parliamentary laws, including that of reservation, would apply to Jammu and Kashmir as it does in other parts of the country. The government called this the end of “positive discrimination” and the closing of the “chasm” between residents of J&K and citizens of other parts of the country.

[Extracted, with edits and revisions, from: Krishnadas Rajagopal, "Explained | President's Order scraps its predecessor and amends Article 370", <https://www.thehindu.com/news/national/explained-presidents-order-scraps-its-predecessor-and-amends-article-370/article28826722.ece>]

2.1 In 2018, the Supreme Court ruled that Article 370 had become a permanent part of the Constitution because:

- (a) the Constituent Assembly of Jammu and Kashmir had ceased to exist.
- (b) several elections had been held in the State since the introduction of Article 370.
- (c) no Article can exist as a temporary provision in the Constitution for over 60 years.
- (d) it had not been deleted from the Constitution.

Answer: (a)

2.2 Which Article has been replaced with '[2]' in the passage above?

- (a) Article 377
- (b) Article 365
- (c) Article 35A
- (d) Article 371

Answer: (c)

2.3 Which provisions of the Constitution would apply to Jammu and Kashmir as a result of the August 5, 2019 order mentioned in the passage above?

- (a) Articles 1, 365, 370, and 371 only.
- (b) Articles 367 and 370 only.
- (c) None, since the State was reorganised into 2 union territories.
- (d) All the provisions of the Constitution.

Answer: (d)

2.4 With effect from October 31, 2019 the former State of Jammu and Kashmir ceased to exist as a state, and was split into two new union territories, which are:

- (a) Kashmir and Leh
- (b) Jammu and Kashmir, and Ladakh
- (c) Kashmir and Ladakh
- (d) Jammu and Kashmir, and Leh and Ladakh

Answer: (b)

2.5 Who was appointed the first Lieutenant Governor of the Union Territory of Ladakh after its formation?

- (a) Anil Bajjal
- (b) Girish Chandra Murmu
- (c) Kiran Bedi
- (d) Radha Krishna Mathur

Answer: (d)

3..

The picture at Maharashtra's Bhima-Koregaon village is very different from what it was exactly a year ago. Locals are according a warm welcome to thousands of visitors who are arriving to pay tribute at the 'jay stambh' exactly a year after violence marred the 200<sup>th</sup> commemoration of the Bhima-Koregaon battle.

Bhima-Koregaon, a small village in Pune district of Maharashtra, has a rich Maratha history. Two hundred years ago, on January 1, 1818, a few hundred [1] soldiers of the [2], led by the British, defeated the massive [3] army, led by Bajirao II, in Koregaon.

This battle has, since, attained legendary stature in Dalit history. The Dalits who follow B.R. Ambedkar view this battle as a victory of [1] over the injustice and torture meted out to them by the Brahminical [2].

Every year on January 1 as the world stays drowned under the magic of New Year celebrations, it's the Ambedkarite Dalits who gather at Bhima Koregaon to pay their respect at the Vijay Sthamb (victory pillar).

The pillar was erected by the [2] in memory of those who fought the battle. The names of the [1] soldiers who unknowingly brought an end to the [3] rule in 1818 are inscribed on the pillar.

Dalit Ambedkarites draw inspiration from this victory at Bhima Koregaon. Ever since Bhima-Koregaon Ranstambh Seva Sangh (BKRSS) was formed, they regard the stambh or pillar as a site of their valour and a symbol of their place in the political diaspora.

2018 was the 200<sup>th</sup> year of the “victory of [1] over the Brahmanical [3]”. During the celebrations there were violent clashes between Dalit and Maratha groups, resulting in the death of at least one person and injuries to several others.

Being the 200<sup>th</sup> anniversary, the gathering in Bhima Koregaon last year was much larger than usual. Many Dalit and Bahujan groups collectively organised a public conference in the name of [4] at Shaniwar Wada, which was the seat of the [3] until 1818.

[Extracted, with edits and revisions, from: "Explainer: What Happened at the Battle of Bhima-Koregaon in 1818", News18, <https://www.news18.com/news/india/what-happened-at-the-battle-of-bhima-koregaon-in-1818-1988237.html>.]

3.1 The names of the two communities involved in the Bhima-Koregaon battle have been replaced with [1] and [3] in the passage above. What are their names?

- (a) Jatvas and Pushpakas
- (b) Mahars and Peshwas
- (c) Chamars and Pancha-Gaudas
- (d) Lonias and Halenadus

Answer: (b)

3.2 Which organisation's name has been replaced with '[2]' in the passage above?

- (a) Compagnie des Indes Orientales
- (b) Kingdom of Mysore
- (c) Mughal Army
- (d) East India Company

Answer: (d)

3.3 What is the name of the public conference organised by Dalit and Bahujan groups whose name has been replaced with [4] in the passage above?

- (a) Elgar Parishad
- (b) Dalit Sangh
- (c) Dalit Panthers
- (d) Ranvir Sena

Answer: (a)

3.4 The Pune Police claimed that [4] had been organised by the Communist Party of India (Maoist), but two retired judges refuted this claim, stating that they were the main organisers and sole funders of the event. One of these is a retired judge of the Supreme Court. What is his name?

- (a) Justice Madan Lokur

- (b) Justice B.G. Kolse-Patil
- (c) Justice Ranjan Gogoi
- (d) Justice P.B. Sawant

Answer: (d)

3.5 What is the name of the retired judge heading the Judicial Commission inquiring into the violence that occurred in Bhima Koregaon in 2018?

- (a) Prakash Ambedkar
- (b) Jai Narayan Patel
- (c) Milind Ekbote
- (d) Surendra Gadling

Answer: (b)

4.

On 8 May 2017, India filed an Application instituting proceedings against Pakistan in respect of a dispute concerning alleged violations of the [1] of 24 April 1963 “in the matter of the detention and trial of an Indian national, Mr. [2]”, who had been sentenced to death by a military court in Pakistan in April 2017. India claimed that Pakistan had failed to inform it, without delay, of the arrest and detention of its national. It further contended that Mr. [2] had not been informed of his rights under Article 36 of the [1], and that India’s consular officers had been denied access to Mr. [2] while he was in custody, detention and prison, and had been unable to converse and correspond with him, or arrange for his legal representation.

By an Order dated 18 May 2017, the Court directed Pakistan to “take all measures at its disposal” to ensure that Mr. [2] would not be executed pending a final decision in the case, and to inform the Court of all the measures taken in implementation of that Order. It also decided that, until the Court had given its final decision, it would remain seised of the matters which formed the subject matter of the Order.

Public hearings on the merits of the case were held from 18 to 21 February 2019. In its Judgment of 17 July 2019, the Court concluded that it had jurisdiction to entertain India’s claims based on alleged violations of the [1]. The Court concluded that India’s Application was admissible.

With regard to India’s request for the Court to annul the decision of the military court and restrain Pakistan from giving effect to the sentence or conviction, and its further request for the Court to direct Pakistan to take steps to annul the decision of the military court, release Mr. [2] and facilitate his safe passage to India, the Court found that the submissions made by India could not be upheld. The Court also found, however, that Pakistan was under an obligation to provide, by means of its own choosing, effective review and reconsideration of the conviction and sentence of Mr. [2], so as to ensure that full weight was given to the effect of the violation of the rights set forth in Article 36 of the [1].

[Extracted, with edits and revisions, from: "Overview of the case", International Court of Justice, <https://www.icj-cij.org/en/case/168>.]

4.1 In the passage above, the name of the person sentenced to death by Pakistan in April 2017 has been replaced with '[2]'. What is the name of the person?

- (a) Ajit Doval
- (b) Ajay Ahuja
- (c) Abhinandan Varthaman
- (d) Kulbhushan Jadhav

(Answer: (d))

4.2 In the passage above, the name of the Convention on the basis of which India filed its claims before the International Court of Justice has been replaced with '[2]'. What is the name of the Convention?

- (a) Convention relative to the Treatment of Prisoners of War, Geneva
- (b) Vienna Convention on the Law of Treaties
- (c) Vienna Convention on Consular Relations
- (d) Tokyo Convention

(Answer: (c))

4.3 Pakistan arrested Mr. [2] on charges of spying on behalf of which Indian agency?

- (a) Central Bureau of Investigation
- (b) Research and Analysis Wing
- (c) Intelligence Bureau
- (d) Criminal Investigation Department

(Answer: (b))

4.4 Who amongst the following Indians have also been judges of the International Court of Justice?

- (a) Nagendra Singh
- (b) Dalveer Bhandari
- (c) B.N. Rau
- (d) All of the above

(Answer: (d))

4.5 The law applied by the International Court of Justice is set out in:

- (a) The Statute of the International Court of Justice
- (b) Charter of the United Nations
- (c) Vienna Convention on Diplomatic Relations
- (d) International Covenant on Civil and Political Rights

(Answer: (a))

5.

[1] began a global movement by skipping school: starting in August 2018, she spent her days camped out in front of the Swedish Parliament, holding a sign painted in black letters on a white background that read Skolstrejk för klimatet: “School Strike for Climate.” In the 16 months since, she has addressed heads of state at the U.N., met with the Pope, sparred with the President of the United States and inspired 4 million people to join the [2] on September 20, 2019, in what was the largest climate demonstration in human history.

The politics of climate action are as entrenched and complex as the phenomenon itself, and [1] has no magic solution. But she has succeeded in creating a global attitudinal shift, transforming millions of vague, middle-of-the-night anxieties into a worldwide movement calling for urgent change. She has offered a moral clarion call to those who are willing to act, and hurled shame on those who are not. She has persuaded leaders, from mayors to Presidents, to make commitments where they had previously fumbled: after she spoke to Parliament and demonstrated with the British environmental group [3], the U.K. passed a law requiring that the country eliminate its carbon footprint. She has focused the world’s attention on environmental injustices that young indigenous activists have been protesting for years.

By early September, enough people had joined Thunberg’s climate strike in Stockholm that she announced she would continue every Friday until Sweden aligned with the Paris Agreement. The Fridays for Future movement was born.

In September, speaking to heads of state during the U.N. General Assembly, [1] pulled no punches: “We are in the beginning of a mass extinction, and all you can talk about is money and fairy tales of eternal economic growth,” she said. “How dare you.”

[Extracted, with edits and revisions, from: "Time 2019 Person of the Year", *Time*, <https://bit.ly/2MROxBV>.]

5.1 The name of the person that the passage above is about, and who was named Time Magazine’s Person of the Year for 2019, has been replaced with [1]. What is her name?

- (a) Tessa Khan
- (b) Hindou Oumarou Ibrahim
- (c) Christiana Figueres
- (d) Greta Thunberg

(Answer: (d))

5.2 What is the name of the demonstration termed the ‘largest climate demonstration in human history’ in the passage referred to by [2]’?

- (a) Fridays for Future
- (b) Global Week for Future
- (c) Extinction Rebellion
- (d) Sunrise Movement



(Answer: (b))

5.3 An Indian joined [1] and 14 other activists in filing a complaint before the United Nations Committee on the Rights of the Child against five respondent countries. Who is this Indian?

- (a) Prema Gopalan
- (b) Vandana Shiva
- (c) Ridhima Pandey
- (d) Sunita Narain

(Answer: (c))

5.4 A Union Minister stated before Parliament on December 6, 2019 that no Indian study has shown any correlation between pollution and shortening of lifespan. What is the name of this Minister?

- (a) Prakash Javadekar
- (b) Nirmala Sitharaman
- (c) Ravi Shankar Prasad
- (d) Smriti Irani

(Answer: (a))

5.5 A ban on this item in India was originally scheduled for October 2, 2019. The ban was, however, postponed, and it was announced that India would phase out this item by 2022. Which item are we talking about?

- (a) Styrofoam
- (b) Single-use plastics
- (c) Fossil fuel-powered cars
- (d) Stubble burning

(Answer: (b))

6.

Fame can be a burden, depending on how you make your name. Take Alfred Nobel. We now associate Nobel with international prizes for peace, science, and literature, but during his life, he was dubbed the “angel of death” by the press.

Nobel was a 19th-century Swedish chemist whose explosive success seems to have led to regrets. He never explicitly said as much, but in retrospect, it appears based on his actions and some evidence from his records that the scientist didn’t want to be remembered for what made his fortune: [1]. So he created one of the world’s most prestigious annual international prizes.

When he died in 1896, Nobel left a fund in his will for the creation of the eponymous prizes, first awarded in 1901. It included a grant for the person who accomplished “the most or the best work for

fraternity among nations, for the abolition or reduction of standing armies and for the promotion of peace congresses.”

This wording was particularly poignant coming from a man who perfected destruction. In the 1860s, the chemist experimented with controlled explosions for industrial purposes, fiddling with nitroglycerin and black powder (an early form of gunpowder), looking for a stable combination.

It had mixed results. In 1864, a nitroglycerin factory Nobel built exploded, killing one of his brothers. Yet the chemist had a feeling he was on the cusp of an invention that would change the world, so he continued his work. In 1867, Nobel discovered that mixing nitroglycerin with *kieselguhr*, an earthy silica used as filler in chemicals, made the nitroglycerin safer to handle and allowed for better control over explosions. He called the blend “[1],” stemming from the Greek word for power, and was soon granted patents for his invention in Europe and the US.

The inventor worked on other products, too, like artificial silk and leather, and even wrote novels (none of which were published). But [1] was Nobel’s big business. In fact, it led him to eventually work on armaments, despite his claim that he was a pacifist, according to the Nobel Foundation’s rumination on the chemist’s attitudes about war and peace.

[Extracted, with edits and revisions, from: Ephrat Livni, "The Nobel prize was created to make people forget its inventor’s past", *Quartz*, <https://qz.com/1092033/nobel-prize-2017-the-inventor-of-the-awards-alfred-nobel-didnt-want-to-be-remembered-for-his-work/>.]

6.1 In the passage above, the name of Alfred Nobel’s invention, which became his ‘big business’ and upon which he built his fortune, has been replaced with ‘[1]’. What is ‘[1]’?

- (a) TNT
- (b) Dynamite
- (c) RDX
- (d) HMX

(Answer: (b))

6.2 This person translated some of their writing into English as *Song Offerings*, and was awarded the Nobel Prize in Literature, largely for this English translation. Who is this author?

- (a) Orhan Pamuk
- (b) Sir V.S. Naipaul
- (c) Rabindranath Tagore
- (d) Kazuo Ishiguro

(Answer: (c))

6.3 This Nobel laureate was arrested and imprisoned in Tihar Jail during their university days after a protest at the university. Who are we talking about?

- (a) Har Gobind Khorana
- (b) Amartya Sen

- (c) Kailash Satyarthi
- (d) Abhijit Banerjee

(Answer: (d))

6.4 Abiy Ahmed Ali was awarded the Nobel Peace Prize 2019, in particular for his decisive initiative to resolve the border conflict with?

- (a) Eritrea
- (b) Ethiopia
- (c) South Sudan
- (d) Djibouti

(Answer: (a))

6.5 Who is the only person to have declined the Nobel Peace Prize?

- (a) Aung San Suu Kyi
- (b) Le Duc Tho
- (c) M.K. Gandhi
- (d) Mother Teresa

(Answer: (b))

6.6 Who among the following has not received the Nobel Prize twice?

- (a) Linus Pauling
- (b) William Shockley
- (c) Niels Bohr
- (d) Marie Curie

(Answer: (c))

7.

India has carried out a major structural reform of its defence services with the appointment of General [1] as the country's first Chief of Defence Staff. The move finally implements recommendations made following the Kargil War aimed at strengthening national security but which had failed to find political consensus. The CDS's job will be to bring convergence in the functioning of the Army, Navy and the Indian Air Force. Prime Minister Narendra Modi tweeted out his congratulations to General [1], who was appointed to the CDS role just a day before he was set to retire as army chief. Modi underlined the importance of the CDS position, saying it carries the "tremendous responsibility of modernising our military forces."

[1] has also been named the Permanent Chairman Chief of Staff Committee (PC-CoSC), which includes all three service chiefs. The CDS ranks *primus inter pares* – first among equals -- in the COSC and will function as the "Principal Military Adviser" to the defence minister. The establishment of the CDS role follows the recommendations of a 2001 report by a group of ministers under then-home minister L.K. Advani. The GoM report had urged the appointment of a CDS as a single-point

military advisor to the government which has now being modified as “to provide military advice to defence minister”. However, the three service chiefs will continue to provide advice to the defence minister on service specific issues.

[Extracted, with edits and revisions, from: Lt. Gen. (Dr.) Prakash Menon, "Chief of Defence Staff holds key to modernization of forces", *The Telegraph*, <https://www.telegraphindia.com/opinion/chief-of-defence-staff-holds-key-to-modernization-of-forces/cid/1732937>.]

7.1 The name of the General appointed as the first Chief of Defence Staff of India has been replaced with '[1]' in the passage above. What is this General's name?

- (a) V.K. Singh
- (b) Bipin Rawat
- (c) Ved Prakash Malik
- (d) Rakesh Kumar Singh Bhadauria

(Answer: (b))

7.2 Who is India's current Chief of the Army Staff?

- (a) General Deepak Kapoor
- (b) General Bikram Singh
- (c) General M.M. Naravane
- (d) General D.S. Suhag

(Answer: (c))

7.3 Who was the first woman to be appointed Defence Minister of India?

- (a) Sushma Swaraj
- (b) Sarojini Naidu
- (c) Indira Gandhi
- (d) Nirmala Sitharaman

(Answer: (c))

7.4 What was the name of the Indian operation to clear the Kargil sector of infiltrators, also used as the other name of the Kargil conflict in India?

- (a) Operation Vijay
- (b) Operation Surya Hope
- (c) Operation Meghdoot
- (d) Operation Talwar

(Answer: (a))

7.5 The Indian Army conducted Operation Cactus to prevent a coup d'état in which country?

- (a) Nepal
- (b) Sri Lanka
- (c) Mauritius
- (d) Maldives

(Answer: (d))

# Legal Reasoning

*Each set of questions in this section is based on the reasoning and arguments, or facts and principles set out in the preceding passage. Some of these principles may not be true in the real or legal sense, yet you must conclusively assume that they are true for the purposes of this Section. Please answer each question on the basis of what is stated or implied in the corresponding passage. Do not rely on any principle of law other than the ones supplied to you, and do not assume any facts other than those supplied to you when answering the questions. In some instances, more than one option may be the answer to the question; in such a case, please choose the option that most accurately and comprehensively answers the question.*

1.

The population of a state is divided into two categories: citizens and non-citizens. A citizen of a state enjoys all civil and political rights. A non-citizen, on the other hand, doesn't enjoy all these rights.

Under the Indian Constitution, certain fundamental rights are available only to citizens, namely: Right against discrimination on the grounds of religion, race, caste, sex or place of birth (Article 15); right to equality of opportunity in matters of public employment (Article 16); freedom of speech and expression, assembly, association, movement, residence and profession (Article 19); cultural and educational rights (Articles 29 and 30); and the right to vote and become members of the union and state legislatures.

Several offices can also be occupied exclusively by citizens: president (Article 58(1)(a)), vice-president (Article 66(2)), judges of the Supreme Court (Article 124(3)) and high courts (Article 217(2)), governor of a state (Article 157), attorney general (Article 76(1)) and advocate general (Article 165).

Equality before the law or equal protection of the laws within the territory of India (Article 14) and protection of life or personal liberty (Article 21) are applicable to non-citizens as well.

The Indian Constitution doesn't prescribe a permanent provision relating to citizenship in India. It simply describes categories of persons who are deemed to be citizens of India on the day the Indian Constitution was promulgated on January 26, 1950, and leaves citizenship to be regulated by law made by Parliament. Article 11 of the Constitution confers power on Parliament to make laws regarding citizenship. The Indian Citizenship Act, 1955 was enacted in exercise of this provision.

By the Citizenship Amendment Act, 2003, Section 3 of the Indian Citizenship Act, 1955 was amended to provide that persons born after December 3, 2004, would be deemed to be citizens of India if both their parents are Indian citizens, or one of their parents is a citizen of India and the other is not an illegal migrant, at the time of the person's birth.

"Illegal migrant" under the Indian Citizenship Act, 1955 means a foreigner who has entered India: without a valid passport or travel documents; or with a valid passport or travel documents but remained in the country beyond the permitted period of time.

If the Central Government is of the opinion that an applicant is a person who has rendered distinguished service to the cause of science, philosophy, art, literature, world peace or human progress generally, it may, under Section 6, waive all or any conditions specified to attain Indian citizenship.

[Source (edited): Shruti Jain, "What is Citizenship?", *The Wire*, <https://thewire.in/rights/india-citizenship-constitution.>]

- 1.1 The state passes a new law that prohibits foreigners visiting India from posting on their social media accounts for the duration of their stay in India. Alex, a foreigner visiting India, challenges this law on the ground that it violates the fundamental rights of foreigners in India. Will Alex's challenge succeed?
- (a) No, since prohibiting persons from posting on their social media accounts is not a violation of the freedom of speech and expression.
  - (b) Yes, since prohibiting persons from posting on their social media accounts is a violation of the freedom of speech and expression.
  - (c) No, since the fundamental right to freedom of speech and expression is only available to citizens, and foreigners staying in India temporarily are not citizens.
  - (d) Yes, since all foreigners have the right to post on their social media accounts, and the government cannot restrict this right.

(Answer: (c))

**Rationale:**

The correct answer is (c) - no, since the fundamental right to freedom of speech and expression is only available to citizens, and foreigners staying in India temporarily are not citizens. The author lists the right under Article 19 as one of the rights that is only available to Indian citizens, in the second paragraph. Since Alex and other foreigners would not qualify as citizens, they cannot claim that the new law violates their rights under Article 19. While option (b) may be right, it does not take into account the fact that Alex is a foreigner, and therefore cannot claim a violation of rights under Article 19, since such rights are not available to Alex. Option (a) is incorrect since prohibiting people from expressing themselves on public fora would clearly be a violation of the freedom of speech and expression. Options (b) and (d) are incorrect since they do not address the question of whether such rights are available to foreigners in India.

- 1.2 Alex was born in Germany in 2005; her mother is an Indian citizen who normally resides in New Delhi. Her father is a German citizen who had visited India often before Alex's birth, occasionally without a visa. Alex's application for Indian citizenship is rejected on the grounds that she does not qualify as a citizen under Section 3 of the Indian Citizenship Act. If Alex challenges this decision, based only on the information set out in the passage above and in this question, will she succeed?
- (a) No, since she was born in Germany, and not in India.
  - (b) Yes, since her mother was an Indian citizen, and her father was not an illegal migrant at the time of her birth.
  - (c) Yes, since her mother was an Indian citizen at the time of her birth, and her father had applied for Indian citizenship.
  - (d) No, since her father had visited India without a visa on occasion, and so, had been an illegal migrant in the past.

(Answer: (b))

**Rationale:**

The correct answer is (b) – yes, since her mother was an Indian citizen, and her father was not an illegal migrant at the time of her birth. The question tells us that Alex’s father had visited India without a visa before Alex’s birth, and so, he cannot be said to be an illegal migrant at the time of her birth. Since this is the case, and since Alex’s mother is an Indian citizen, she cannot be disqualified from Indian citizenship under Section 3 of the Indian Citizenship Act, 1955. Option (a) is irrelevant, since a person’s place of birth is not listed amongst the qualifying criteria for citizenship under Section 3. Option (c) cannot be the correct answer, since we are not told whether her father had applied for citizenship, nor is this a relevant criterion under Section 3. Option (d) cannot be the correct answer, since the disqualification under Section 3 is that the person’s parent be an illegal migrant at the time of that person’s birth, and not at some other time.

1.3 A historical monument situated in India is maintained by the Government. The monument is also a Hindu place of worship, and is visited by several thousand Hindu worshippers every day, who pray at the monument. The Government passes a rule making it compulsory for all visitors who are not Indian citizens to pay a fee of Rs. 500/- for each visit to the monument. A foreign citizen who is also a Hindu and regularly visits the monument, challenges this rule on the grounds that it is violative of their right under Article 15. Will this challenge succeed?

- (a) Yes, since it discriminates unfairly on the basis of a person’s place of birth.
- (b) No, since the right under Article 15 is only available to citizens.
- (c) Yes, since the rule discriminates on the basis of religion.
- (d) No, since the rule applies to all foreigners, regardless of whether they are Hindu or not.

(Answer: (b))

**Rationale:**

The correct answer is (b) – no, since the right under Article 15 is only available to citizens. We are told this by the author in the second paragraph of the passage, and we are told that the person posing the challenge is a foreign citizen. Since this right is not available to non-Indian citizens, their challenge will fail. For the same reason, options (a) and (d) cannot be the right answer. The rule applies to all visitors, regardless of religion, and so, option (c) cannot be the correct answer.

1.4 Sheila is an English citizen, who has made remarkable discoveries in the field of robotics. Sheila’s parents were both English citizens throughout their life. Sheila now wishes to apply for Indian citizenship. Which of the following would most likely help her application succeed?

- (a) Since Sheila’s parents were both citizens throughout their life, and were not illegal migrants at any time, she should be given Indian citizenship.
- (b) While Sheila may be an English citizen, she is of Indian ethnicity, and so, should be allowed to become a citizen of India.
- (c) Since Sheila is keen to acquire Indian citizenship despite being a citizen of a first-world country, the Government should allow her to become an Indian citizen as this will increase India’s international stature.
- (d) Since Sheila has made significant contributions to science, the Government should use its powers under Section 6 when considering her application.

(Answer: (d))

**Rationale:**



The correct answer is (d) – since Sheila has made significant contributions to science, the Government should use its powers under Section 6 when considering her application. Since she has, as we are told in the question, made “remarkable discoveries in the field of robotics”, it would certainly help her application to ask the Government to waive the requirements under Section 3 in light of her achievements. While option (a) may be right, it misses the point that neither of Sheila’s parents was an Indian citizen at the time of her birth, and so, cannot be the correct answer (leaving aside the question over Sheila’s date of birth, about which we have no information). There is no information to support option (b), and so, this cannot be the correct answer. Option (c) is irrelevant in light of the information we do have about Sections 3 and 6 of the Indian Citizenship Act, 1955, and so, cannot be the correct answer.

1.5 Sahil was born in Tanzania to parents who are both Tanzanian citizens. He studied law in India between 2002 and 2007, and later made a mark for himself as a lawyer in the trial courts. He also acquired Indian citizenship while studying law in India, and has now been nominated as a judge of the state high court. Which of the following, if true, would weaken Sahil’s right to be appointed as a judge of the high court?

- (a) Article 217(2) is amended to provide that only persons born in India may be appointed judges of high courts.
- (b) The Indian Citizenship Act, 1955 is amended to provide that after December 31, 2019, a person who is born outside India cannot become a citizen of India.
- (c) The Constitution is amended, and all fundamental rights are extended to all persons, regardless of whether they are citizens or not.
- (d) Article 124(3) is amended to provide that only persons born in India may be appointed judges of the Supreme Court.

(Answer: (a))

**Rationale:**

The correct answer is (a) – Article 217(2) is amended to provide that only persons born in India may be appointed judges of high courts. If this were true, Sahil could not be appointed a judge of the high court since he was born outside India. Since Sahil acquired Indian citizenship while studying law in India between 2002 and 2007, the amendment in option (b) would not affect him, and so, this cannot be the correct answer. Options (c) and (d) do not affect Sahil’s appointment as a judge of the high court, and so, neither can be the correct answer.

2.

Given that secularism had not been defined in the Constitution and did not form part of the preamble until the 1970s, and since the concept is neither self-evident nor self-explanatory, the task of defining and elaborating the concept of secularism has fallen upon the shoulders of the Supreme Court.

On 27 October 2016, amidst an acrimonious legal debate on curbing the role of religion in electioneering, the Supreme Court rhetorically asked whether secularism meant the complete separation of religion from politics. The bench concluded that secularism does not mean that the state should stay aloof from religion, but that it should give equal treatment to every religion.

The Supreme Court reiterated an earlier ruling in the case of SR Bommai vs The Union of India in 1993. The set of judgments in the Bommai case are lengthy and complex but we can isolate the following themes from that case that are of interest to the argument at hand.

One, secularism is part of the basic structure of the Constitution and therefore cannot be amended.

Two, secularism is derived from the cultural principle of tolerance and ensures the equality of religions.

Three, the Court reiterated that no religion will be at risk in a secular India, because the government will not be aligned to any religion.

Four, there is an essential connection between secularism and democracy; the concept of the secular state is needed for the working of democracy, and the realisation of social and economic needs that are essential for material and moral prosperity and political justice.

I feel there is a need to secularise secularism for a multireligious society.

How can we recover secularism in and for a plural society that is wracked with anxieties about its own pretensions to democracy, and about the many injustices that have led to violence and disregard for the human condition?

Let us take stock of secularism within the context of democracy, and see what a reworked concept of secularism would look like.

If the basic aim of secularism as it has historically developed in India is to secure equality of all religious denominations, the concept of secularism is derived from the principle of equality. In fact, let me suggest that secularism gains meaning and substance only when we see it as legitimate from the perspective of democracy and its core principle of equality. Logically, there is no reason why a society should be committed to secularism, unless it is committed beforehand to the concept of equality.

Secularism can, justifiably, be interpreted as a companion concept of democracy. Both democracy and secularism are constitutive of a just state, a state that ensures equality of status between individuals, as well as between religious communities.

[Source (edited): "Secularism: Central to a Democratic Nation", Neera Chandhoke, from *Vision For A Nation: Paths And Perspectives*, edited by Ashis Nandy and Aakash Singh Rathore, Penguin Books India, 2019]

2.1 The Government seeks to move an amendment that would delete references to 'secularism' from the Constitution. Based only on the themes from the Bommai case identified by the author above, would such an amendment be valid?

- (a) The amendment would be valid, since the government is not aligned to any religion.
- (b) The amendment would not be valid, since secularism is part of the basic structure of the Constitution.
- (c) Since there is an essential connection between democracy and secularism, the amendment would be valid, as the amendment does not remove references to 'democracy'.
- (d) The amendment would not be valid, since it is not backed by a cultural principle.

(Answer: (b))

**Rationale:**

The correct answer is (b) - The amendment would not be valid, since secularism is part of the basic structure of the Constitution. This is a direct application of the first theme from the Bommai case identified by the author. The other options do not directly address whether such an amendment would be valid, and therefore, none of them can be the correct answer.

2.2 The Constitution is amended to remove the concept of equality. In such a situation, based only on the author's reworked concept of secularism in the passage above, would the removal of secularism from the Constitution be valid?

- (a) Yes, it would be valid, since secularism is not part of the basic structure of the Constitution.
- (b) No, it would not be valid, since the basic aim of secularism is to ensure equality amongst religions.
- (c) Yes, it would be valid, since a society that is not committed to equality need not be committed to secularism.
- (d) No, it would not be valid, since secularism is part of the basic structure of the Constitution.

(Answer: (c))

**Rationale:**

The correct answer is (c) – yes, it would be valid, since a society that is not committed to equality need not be committed to secularism. The author states this clearly in the last line of the second-to-last paragraph of the passage. The author does not rely on secularism being part of the basic structure of the Constitution in their reworked concept of secularism in the passage above, and so neither option (a) nor option (d) can be the correct answer. Option (b) would not be the correct answer, since the question provides that equality is no longer part of the Constitution.

2.3 Two religious denominations are involved in a dispute over a plot of land. Each claims it has the right to build a place of worship on that plot of land, but neither denomination is able to establish that they have better rights over the land. Assume there are no other claims over the land. In such a situation, based on the themes from the Bommai case identified by the author in the passage above:

- (a) The land should be given to the denomination that first raises a claim in court.
- (b) The land should be given to the denomination that has a longer history of existence in the country.
- (c) The land should be given to the denomination that has more followers in the country.
- (d) Since neither denomination has a better right over the land, they should be given equal rights over the land.

(Answer: (d))

**Rationale:**

The correct answer is (d) – since neither denomination has a better right over the land, they should be given equal rights over the land. The second theme from the Bommai case identified by

the author supports this as the correct answer, since secularism ensures the equality of all religions. None of the themes from the Bommai case identified by the author support (a), (b), or (c) as the correct option.

2.4 Ms. Rule is a devout follower of a religion that is also followed by the vast majority of the country. She is often seen visiting places of worship of that religion, and publicly declares that she believes strongly in the beliefs of that religion. Ms. Rule is appointed the Prime Minister after the general elections. Ms. Ojini, her political opponent, is a follower of another religion, which is followed by a minority in the country. Ms. Ojini challenges Ms. Rule's appointment, on the grounds that the appointment of a religious person as Prime Minister would violate the principle of secularism. Based on the principles and information set out in the passage above:

- (a) Ms. Ojini's challenge would not succeed, since there is a need for greater representation of women in political office.
- (b) Ms. Ojini's challenge would not succeed, since secularism does not mean that the state stays aloof from religion, but that it grants equal treatment to all religions.
- (c) Ms. Rule would be disqualified from being appointed as Prime Minister, since secularism is derived from the cultural principle of tolerance and ensures the equality of religions.
- (d) Ms. Ojini's challenge would succeed, since secularism requires that only an atheist may be appointed as the Prime Minister of the country.

(Answer: (b))

**Rationale:**

The correct answer is (b) – Ms. Ojini's challenge would not succeed, since secularism does not mean that the state stays aloof from religion, but that it grants equal treatment to all religions. This reflects the conclusion of the Supreme Court in the 2016 case, as described in the second paragraph of the passage above. Option (a) has no relation to the matters discussed in the paragraph. Option (c) is not supported by any of the information set out in the passage – there is nothing in the passage to indicate that Ms. Rule is intolerant of other religions or their followers. Option (d) would not be correct, since it contradicts the conclusion of the Supreme Court in the 2016 case about the meaning of secularism.

2.5 The government announces a rule making the provision of a prayer room mandatory in all government offices. The rule provides that followers of any religion may use the prayer rooms for their religious observances. Based on the principles and information set out in the passage above:

- (a) The rule would be valid, since it allows for the equal treatment of all religions and is therefore secular.
- (b) The rule would be invalid, since secularism requires that the government stay away from all religions.
- (c) The rule would be invalid, since secularism is derived from the cultural principle of tolerance, and it would not be possible for followers of different religions to tolerate each other in the same prayer room.
- (d) The rule would be valid, since secularism requires that all persons must follow a religion of their choice, and atheism should be banned.

(Answer: (a))

**Rationale:**

The correct answer is (a) – the rule would be valid, since it allows for the equal treatment of all religions and is therefore secular. Option (b) contradicts the descriptions of secularism set out in the passage and so cannot be correct. There is no information in the passage to support either (c) or (d) as the correct answer.

3.

In the case of *Beena v. Caruti Car Company*, the Supreme Court ruled that that Caruti Car Company (“**Caruti**”), a manufacturer of passenger automobiles, would be liable to someone who had purchased a second-hand Caruti car from someone in Guwahati, for damages produced by Caruti’s incorporation into the car of a defective wheel manufactured by one of its suppliers, despite the lack of privity of contract between the purchaser and Caruti. The doctrine of privity of contract is a principle of law, which provides that a contract cannot confer rights or impose obligations upon any person who is not a party to the contract. Sometime later, the case of *Saaboo v. Drinkistaan Drinks Company* came before the Supreme Court. In that case, the consumer, Saaboo, a patron at the Welcome Café in Mangalore, was with a companion who ordered a soft drink for her. Saaboo drank about half a glass of the soft drink, and then the proprietor of the Café refilled her glass from the opaque bottle, at which time the remnants of a dead snail tumbled into Saaboo’s glass. The sight and smell of the decomposed snail caused Saaboo gastric distress and mental shock, and she sued the manufacturer (who was also the bottler) of the soft drink, the Drinkistaan Drinks Company (“**Drinkistaan**”).

Saaboo’s lawyer argues that the Supreme Court was bound to follow the decision in the case of *Beena v. Caruti Car Company*, and should award compensation to Saaboo for the harm she suffered, even though there was no contract between her and Drinkistaan. The rule of precedent provides that a court must follow its own previous decisions in cases that are similar to the cases that resulted in such previous decisions, but not in cases that are different from the cases that resulted in such previous decisions. Drinkistaan’s lawyer argues that the present case is very different from the *Caruti Car Company* case, and so, the Supreme Court should not follow its decision in that case in the present matter.

[Extracted, with edits, revisions, and with additions, from *Thinking Like a Lawyer*, Frederick Schauer, Harvard University Press, 2009.]

- 3.1 Based on the information in the passage above, which of the following, if correct, would most strengthen Drinkistaan’s case?
- (a) Since the *Caruti Car Company* case involved cars, which are inherently more dangerous and likely to cause more harm than soft drinks, ignoring the doctrine of privity was justified in that case, but cannot be justified in the present case.
  - (b) A car manufacturer has a duty of care towards its customers, and so, should manufacture all the parts of the car itself.
  - (c) Regardless of whether the transaction leading to the harm occurred in Guwahati or Mangalore, the underlying principle in both cases is the same, and so, privity should be ignored in the present case.
  - (d) The purchase of some goods by a person automatically creates a contract between such person and the manufacturer of the goods, regardless of whether they have interacted directly or not.

(Answer: (a))

**Rationale:**

The correct answer is (a) - since the *Caruti Car Company case* involved cars, which are inherently more dangerous and likely to cause more harm than soft drinks, ignoring the doctrine of privity was justified in that case, but cannot be justified in the present case. This is an argument that tries to show the difference between the two cases, and why the rule followed in the previous case should not be followed in the present case – which would strengthen Drinkistaan’s case. The other options strengthen the case for ignoring the doctrine of privity, just like in the *Caruti Car Company case*, and so, none of them can be the correct answer.

3.2 Based on the information in the passage above, which of the following, if correct, would most strengthen Saaboo’s case?

- (a) The doctrine of privity is an inviolable rule of law, and cannot be ignored in any case.
- (b) Since Guwahati is a very different place from Mangalore, the two cases are dissimilar, and therefore, the decision in the *Caruti Car Company case* cannot be followed in the *Drinkistaan Drinks Company case*.
- (c) The rule of precedent would apply in the present case, and the Supreme Court should ignore the doctrine of privity in this case as well, since a manufacturer of a product owes a duty of care towards the eventual user of that product.
- (d) All of the above.

(Answer: (c))

**Rationale:**

The correct answer is (c) – the rule of precedent would apply in the present case, and the Supreme Court should ignore the doctrine of privity in this case as well, since a manufacturer of a product owes a duty of care towards the eventual user of that product. This would result in the finding that Drinkistaan owed a duty of care toward Saaboo, the eventual user of Drinkistaan’s product. Option (a) would result in the doctrine of privity being applied, and since there was no contract between Saaboo and Drinkistaan, her case would fall, and so, this cannot be the right answer. Option (b), if correct, would mean that the Supreme Court would not follow its decision in the *Caruti Car Company case* in the present matter, and would therefore not ignore the doctrine of privity, thereby weakening Saaboo’s case, so this cannot be the correct answer. Since neither (a) nor (b) can be the correct answer, (d) cannot be the correct answer either.

3.3 Saaboo buys a car directly from the Caruti Car Company, and later replaces the brakes in the car with a set of brakes she had purchased from another manufacturer. The car is later involved in an accident, and Saaboo suffers some injuries because the brakes in the car did not work. Saaboo sues the Caruti Car Company, claiming that the rule of precedent should apply, and she should be awarded damages, just as in *Beena’s case*. Which of the following would be the correct result?

- (a) The rule of precedent would apply in this case, since, just like *Beena’s case*, this case involved injuries caused by a part in a Caruti car.
- (b) The rule of precedent would apply in this case, since, just like *Beena’s case*, this case involved damages caused by a Caruti car.
- (c) The rule of precedent would not apply in this case, since Saaboo had purchased the car directly from Caruti, and therefore, this case is different from *Beena’s case*.

- (d) The rule of precedent would not apply in this case; since Saaboo had replaced the brakes herself, this case is different from *Beena's case*, and Saaboo would not be awarded damages.

(Answer: (d))

**Rationale:**

The correct answer is (d) – the rule of precedent would not apply in this case; since Saaboo had replaced the brakes herself, this case is different from *Beena's case*, and Saaboo would not be awarded damages. A careful reading of the passage above would show that *Beena's case* decided two things – first, that a manufacturer would have to compensate harm caused to the eventual customer for any fault in the product caused by the manufacturer, and second, that the duty of care would exist even without privity of contract, in some cases. Option (c) only addresses the second of these two things, but not the first, and so, cannot be the correct answer. Options (a) and (b) are incorrect, since they ignore the fact that Saaboo had replaced the brakes herself, which makes this case very different from *Beena's case*.

3.4 Assume the following are all valid principles of Indian law. Which of these would result in the decision in the *Caruti case* not being applied to the *Drinkistaan case*?

- (a) Regardless of the extent of danger a product can cause, the manufacturer owes a reasonable duty of care to the consumer.
- (b) Even though a manufacturer owes a duty of care to the customer, even the person who finally sells the product to the consumer owes the consumer a duty of care.
- (c) Matters such as mental distress, though hard to diagnose, do constitute sufficient grounds for the award of damages.
- (d) None of the above would result in the decision in the *Caruti case* not being applied to the *Drinkistaan case*.

(Answer: (d))

**Rationale:**

The correct answer is (d) – none of the above. Option (a) strengthens the case that Drinkistaan should pay damages to Saaboo, just like in the *Caruti case*. While option (b) may result in the proprietor of the Welcome Café also having to pay damages to Saaboo, it does not take away from Drinkistaan's responsibility, and so, does not affect whether the *Caruti case* decision would be applied to the *Drinkistaan case*; therefore, this cannot be the correct answer. Similarly, option (c) would result in damages being awarded for the mental shock caused to Saaboo, but does not affect whether the decision in the *Caruti case* should be applied to the *Drinkistaan case*, and so, cannot be the correct answer.

3.5 Based on the description of the rule of precedent set out in the passage above, which of the following is likely to be a result of the application of the rule?

- (a) Courts would award higher damages to people.
- (b) Courts would treat people who are in similar situations, in a similar fashion.
- (c) Courts would award lesser damages to people.
- (d) Courts would discourage people from buying cars or visiting cafes.

(Answer: (b))

**Rationale:**

The correct answer is (b) – courts would treat people who are in similar situations, in a similar fashion. Since, as the statement of the rule of precedent in the passage provides, courts would have to follow their previous decisions in similar future cases, people in similar situations would be treated in a similar manner by the courts. None of the other options logically follows from an application of the rule of precedent as set out in the passage, and so, none of the other options can be the correct answer.

4.

The proposal to further simplify the regulatory regime for startups is most welcome. In particular, the promise to create a tax compliance regime that would permit a start-up to not spend more than an hour a month on tax matters sounds most appealing. India has a considerably large startup ecosystem and ensuring that the regulatory regime is conducive to innovation and setting up new businesses is essential for economic growth. The government has already put in place self-certification and other measures to ease compliance. The effort to reduce the time taken to comply with regulatory requirements without diluting the protections that the regulations provide is critical for sustainable economic growth.

A simpler regime must not become synonymous with a lax regime, nor with dilution of labour protection, security and safety, and environmental norms. It must ensure that businesses have access to space to operate — this requires reasonable rents and stability of tenancy. This will mean creating functional markets in land and rental spaces. Access to stable power supply calls for ending the ills of the power sector. Easier starting up calls for systemic reform, for everyone.

[Source (edited): “Welcome move to ease starting-up pains”, Editorial, *The Economic Times*, [https://economictimes.indiatimes.com/blogs/et-editorials/welcome-move-to-ease-starting-up-pains/.](https://economictimes.indiatimes.com/blogs/et-editorials/welcome-move-to-ease-starting-up-pains/)]

4.1 The Government proposes a new law that would require startups to prepare daily reports on various aspects of their business for submission to the tax authorities. Based on the author’s argument about what is necessary for sustainable economic growth in the passage above, would the author be in support of such a law?

- (a) No, since the new law would affect environmental norms as more paper would be used.
- (b) Yes, since the new law strengthens labour protection.
- (c) Yes, since the new law does not dilute the protections that existing regulations provide.
- (d) No, since the new law would increase the time spent on regulatory compliance.

(Answer: (d))

**Rationale:**

The correct answer is (d) - no, since the new law would increase the time spent on regulatory compliance. Preparing daily reports on various aspects of business and submitting them to the tax authorities would certainly increase the time spent on compliance and would therefore be contrary to the author’s suggestions. There is nothing in the passage to support (a) – the reports could, for



all we know, be electronic, and thus consume no additional paper; therefore, (a) cannot be the correct answer. There is no information in the passage to support either (b) or (c), and so, neither of these can be the correct answer.

4.2 A new law is passed that permits startups to operate their offices twenty-four hours a day, and removes an existing obligation on them to provide transport for their female employees between 9 p.m. and 6 a.m. Would such a law be valid in light of the author's statements in the passage above?

- (a) No, it would not be valid, since it would lead to a more lax regime about office operating hours.
- (b) No, it would not be valid, since it is unfair towards businesses other than startups.
- (c) No, it would not be valid, since it compromises on the safety and security of startups' female employees.
- (d) All of the above.

(Answer: (c))

**Rationale:**

The correct answer is (c) – no, it would not be valid, since it compromises on the safety and security of startups' female employees. The author argues that regulatory reforms must not lead to a dilution of the protections they offer, nor should they dilute safety and security. Removing the obligation to provide transport for female employees at night would affect their safety and security, and so, such a law would not be valid in light of the author's statements in the passage above. There is no information in the passage to support (a), and so, this cannot be the correct answer. The author does not argue that startups should not be provided favourable treatment over other businesses, and so, (b) cannot be the correct answer. Therefore, (d) cannot be the correct answer either.

4.3 The Government introduces a new law that prohibits landlords from increasing the rent they charge for startups' offices more than 10% in a year. Based on the information and arguments in the passage above, is the author likely to support such a law?

- (a) Yes, since this will reduce the time taken for regulatory compliance by startups.
- (b) Yes, since this provides startups stability and will ensure the reasonableness of rents in the long term.
- (c) No, since this increases startups' regulatory obligations.
- (d) No, since this relates to an issue that startups do not currently face.

(Answer: (b))

**Rationale:**

The correct answer is (b) – yes, since this provides startups stability and will ensure the reasonableness of rents in the long term. The author argues that businesses need space to operate, as well as reasonable rents and stability of tenancy, and this law would help achieve those aims. There is no information in the passage to suggest that such a law would affect startups' regulatory compliance obligations in any manner, and so, neither (a) nor (c) can be the correct answer. There is nothing in the passage to support option (d), and so, this cannot be the correct answer.

4.4 Kabir starts a new company that provides offices on rent to other businesses, and argues that the new law described in the previous question is invalid, since it prevents him from growing his business. Based on the information and arguments in the passage above, would Kabir's challenge succeed?

- (a) Yes, since the 10% limit on rent increases means that Kabir's businesses can only grow 10% each year.
- (b) No, since the law does not increase the regulatory burden on Kabir's business, and he can grow his business through means other than increasing rents more than 10% every year.
- (c) Yes, since Kabir will be required to submit reports to the authorities proving that his business has not increased rents more than 10% in any year.
- (d) No, since a rental business cannot be considered a startup.

(Answer: (b))

**Rationale:**

The correct answer is (b) – no, since the law does not increase the regulatory burden on Kabir's business, and he can grow his business through means other than increasing rents more than 10% every year. As this option suggests, Kabir could grow his business through means other than increasing rent, such as by providing more spaces for rent; furthermore, there is no information provided to us that suggest Kabir's regulatory burden would increase, and so, (b) is the correct answer. For the same reasons, neither (a) nor (c) can be the correct answer. There is nothing in the passage to support (d), and so, this cannot be the right answer.

4.5 Which of the following is the author of the passage above most likely to agree with?

- (a) The Government should focus all its policies on making matters easier for startups, without regard to any other considerations.
- (b) The Government should try to achieve a balance between economic growth and protection of weaker and underprivileged sections of society, as well as of shared resources.
- (c) Systemic reforms are unimportant, and the Government should focus solely on easing startups' regulatory compliance burden.
- (d) The most important problem that startups face is lack of access to space to operate their businesses, and so, the Government should focus all its policies on solving this problem.

(Answer: (b))

**Rationale:**

The correct answer is (b) – the Government should try to achieve a balance between economic growth and protection of weaker and underprivileged sections of society, as well as of shared resources. This is apparent from the author's argument that reduced regulatory requirements should not result in dilution of labour protection, security and safety, and environmental norms. Since this argument is contrary to option (a), (a) cannot be the correct answer. The author argues that "Easier starting up calls for systemic reform, for everyone", and so, (c) cannot be the correct answer. There is no information to support the claim in option (d) that lack of access to space to operate their businesses is the biggest problem that startups face, and so, (d) cannot be the correct answer.

5.

One day, Behram Khurshed Pesikaka, a middle-aged government servant, left home after dinner for a drive to escape the oppressive summer heat. As he returned to his home at 9:30 p.m., some people emerged from behind a stationary vehicle and suddenly stepped out on the path of his jeep. Although he braked, he was unable to avoid them, and his jeep knocked down three of them. A police constable on the scene reported that Pesikaka's breath smelled of alcohol. Pesikaka was accordingly charged under the Indian Penal Code for rash and negligent driving, as well as under the Maharashtra Prohibition Act, a state law. Section 279 of the Indian Penal Code defines the offence of rash and negligent driving as: "Whoever drives any vehicle, or rides, on any public way in a manner so rash or negligent as to endanger human life, or to be likely to cause hurt or injury to any other person, shall be punished with imprisonment". The Maharashtra Prohibition Act prohibits "the import, export, transport, manufacture, sale, purchase, possession, use, or consumption of any intoxicant, except in accordance with the terms and conditions of a license granted under the Act."

During the trial the neighbourhood watchman, an independent witness, testified that Pesikaka was driving at an ordinary speed and exercising adequate care. Furthermore, the medical evidence confirmed that even though Pesikaka had smelled of alcohol, his pupils reacted to light, his speech was coherent, he was well behaved, and he could walk in a straight line. The police doctor testified that Pesikaka had not been acting under the influence of alcohol. Pesikaka attributed the smell of alcohol to BG Phos, a health tonic with 17% alcohol content. He also argued that while he did not have the necessary license, the Maharashtra Prohibition Act did not extend to the consumption of BG Phos, because of Article 19 of the Constitution. Article 19 provides that the powers of the state legislature do not extend to the legitimate use of medicinal preparations and non-alcoholic beverages. The Constitution prevails over all other laws in the country.

[Extracted, with edits and revisions, from *A People's Constitution*, by Rohit De, Princeton University Press, 2018.]

- 5.1 Based on the information in the passage above, can Pesikaka be convicted of rash and negligent driving under the Indian Penal Code?
- (a) No, since it would be more appropriate to convict him under the Maharashtra Prohibition Act.
  - (b) No, since he was not driving in a rash or negligent manner.
  - (c) Yes, since he had knocked down three people with his jeep.
  - (d) No, since the people had suddenly stepped out on the path of his jeep, and the fault was theirs, not Pesikaka's.

(Answer: (b))

**Rationale:**

The correct answer is (b) - no, since he was not driving in a rash or negligent manner. This is borne out from the testimony of the neighbourhood watchman, who stated that Pesikaka was driving "at an ordinary speed and exercising adequate care". Option (a) is irrelevant to the

question, and so cannot be the correct answer. Options (c) and (d) cannot be the right answer, since they do not fulfil the criteria of the definition of rash and negligent driving provided to us.

5.2 Suppose Pesikaka had consumed an alcoholic beverage before driving his jeep, and that he was found to have been under the influence of alcohol at the time of the incident described in the passage. If all other facts set out in the passage continue to be true, could Pesikaka be convicted of rash and negligent driving under the Indian Penal Code?

- (a) No, since the consumption of alcohol while driving a vehicle is not prohibited under S. 279 of the Indian Penal Code.
- (b) Yes, since drunken driving is an offence under the Indian Penal Code.
- (c) No, since he was driving with adequate care at the time of the incident.
- (d) Yes, since a person driving while under the influence of alcohol is likely to cause harm or injury to other people.

(Answer: (d))

**Rationale:**

The correct answer is (d) – yes, since a person driving while under the influence of alcohol is likely to cause harm or injury to other people. A complete reading of S. 279 as set out in the passage makes it clear that the offence under that Section arises when someone “...drives any vehicle, or rides, on any public way in a manner... likely to cause hurt or injury to any other person”. Driving under the influence of alcohol is clearly likely to cause hurt or injury to others on the road, and so, would be an offence under S. 279. The responses in options (a) and (b) may be right, but they cannot be the right answer, since they are not supported by anything provided to us in the passage. Option (c) only addresses one part of S. 279, without addressing the part about driving in a manner that is likely to cause injury to others, and so, cannot be the correct answer.

5.3 Based on the information in the passage above, can Pesikaka be convicted under the Maharashtra Prohibition Act?

- (a) No, since the Maharashtra Prohibition Act cannot extend to the use of medicinal preparations, and BG Phos is a health tonic.
- (b) No, since the requirement to obtain a license to consume alcohol is onerous and unconstitutional.
- (c) Yes, since he had consumed an alcoholic preparation without the necessary license.
- (d) Yes, since BG Phos has a very high alcohol content.

(Answer: (a))

**Rationale:**

The correct answer is (a) – no, since the Maharashtra Prohibition Act cannot extend to the use of medicinal preparations, and BG Phos is a health tonic. We are provided this information towards the end of the passage – because the Constitution prevails over all other laws in the country, and because it provides that the powers of the state legislature do not extend to the legitimate consumption of medicinal preparations, the requirement of a license under the Maharashtra Prohibition Act cannot extend to Pesikaka’s consumption of BG Phos. There is nothing in the passage to support option (b), and so, this cannot be the right answer. While (c) may be true, it does not take into account the other information provided to us about the Constitution, and so, cannot be the correct answer. (d) is irrelevant to the question, and so, cannot be the right answer.

5.4 If Article 19 of the Constitution is amended to allow state legislatures to pass laws relating to the consumption of medicinal preparations, can Pesikaka be convicted under the Maharashtra Prohibition Act?

- (a) No, since, as a middle-aged person, he needed to consume health tonics with an alcohol content.
- (b) Yes, since BG Phos could be considered an intoxicant, and he did not have the necessary license.
- (c) Yes, but only if Pesikaka had not applied for a license under the Maharashtra Prohibition Act.
- (d) No, since the Constitution cannot be amended in the manner described in the question.

(Answer: (b))

**Rationale:**

The correct answer is (b) – yes, since BG Phos could be considered an intoxicant, and he did not have the necessary license. Since the tonic contained alcohol (17%), and since Pesikaka did not have the necessary license, he could be convicted under the Maharashtra Prohibition Act, in the circumstances described in the question. There is no information in the passage to support any of the other options, and so, none of them can be the correct answer.

5.5 Which of the following, if true, would strengthen the case for Pesikaka's conviction under S. 279 of the Indian Penal Code?

- (a) The Maharashtra Prohibition Act has been held to be constitutionally valid, even though it regulates the use of medicinal preparations.
- (b) Many people walk around at night in the area where Pesikaka lived.
- (c) BG Phos is a weak tonic, and is not proven to have any major health benefits.
- (d) Pesikaka was aware that the brakes on his jeep were faulty, but had not bothered repairing them.

(Answer: (d))

**Rationale:**

The correct answer is (d) – Pesikaka was aware that the brakes on his jeep were faulty, but had not bothered repairing them. Knowingly driving a vehicle on the streets even though its brakes are faulty can be considered rash and negligent, since such an act is likely to cause harm or injury to other people. Options (a) and (c) are irrelevant to the question of conviction under S. 279 of the Indian Penal Code, and so, cannot be the correct answer. Even if option (b) is true, the neighbourhood watchman's testimony tells us that Pesikaka was driving with adequate care, and so, this would not strengthen the case for Pesikaka's conviction and consequently, cannot be the correct answer.

6.

Seema is an international wrestler and a member of the Mahabali Akhada in Thane, Maharashtra. The Mahabali Akhada has strict rules against doping and also on possession of Prohibited Substances. It had circulated to each of its members, a list of Prohibited Substances, including the substance

Dexamethasone. On Tuesday, Seema caught a severe cold and her doctor prescribed her a cough syrup, Cofdex. Acting on her doctor's advice, Seema requested her driver to get Cofdex from the local pharmacy. Naina, who happens to be a rival of Seema and also a member of the Mahabali Akhada, saw Seema's driver purchasing Cofdex from the pharmacy. Naina knew that Cofdex contains Dexamethasone and, on the same day, made an anonymous complaint to the Mahabali Akhada that Seema is in constructive possession of a Prohibited Substance. The next day, Seema took one dose of Cofdex and then checked the ingredients of the medicine. She found out that it contains Dexamethasone. She immediately reported to the Anti-Doping Wing of Mahabali Akhada that she came in possession of the cough syrup and intends to surrender it since it contains Dexamethasone. On Thursday, the Anti-Doping Wing of the Mahabali Akhada requested Seema for her urine samples, which tested positive for the presence of Dexamethasone.

The Mahabali Akhada's Anti-Doping Code on 'Possession of Prohibited Substances' states the following: "The actual, physical or constructive possession of a Prohibited Substance amounts to a violation of this Anti-Doping Code; provided, however, constructive possession shall only be found if the person knew about the presence of the Prohibited Substance and exercised control to acquire possession of it. Provided, however, there shall be no violation of this Anti-Doping Code on Possession of Prohibited Substances, if, prior to receiving notification of any kind that the person has committed an anti-doping rule violation, the person has taken concrete action demonstrating that the person never intended to have possession of the Prohibited Substance and has renounced its possession by explicitly declaring it to the Anti-Doping Wing of Mahabali Akhada. Notwithstanding anything to the contrary in this definition, the purchase (including by any electronic or other means) of a Prohibited Substance constitutes possession by the Person who makes the purchase."

6.1 At the time of making her complaint, did Naina have sufficient basis to say that Seema had constructive possession of a Prohibited Substance? Choose the option with the correct answer as well as the most appropriate explanation for it.

- (a) Yes; Seema's samples tested positive for Dexamethasone.
- (b) No; Seema did not know that Cofdex contained the Prohibited Substance at the time of Naina's complaint.
- (c) Yes; Seema's driver was procuring it for Seema.
- (d) Yes; Seema exercised control over her driver and thereby acquired constructive possession.

(Answer: (b))

**Rationale:**

The correct answer is (b) - no; Seema did not know that Cofdex contained the Prohibited Substance at the time of Naina's complaint. The Anti-Doping Code specifies two elements for constructive possession: (i) knowledge of the Person about the presence of the Prohibited Substance; and (ii) exercise of control to acquire possession of it. As is evident from the facts, it was only on Wednesday that Seema checked the ingredients of Cofdex and found that it contained Dexamethasone, the Prohibited Substance. Therefore, the first of the two elements of constructive possession had not been met as of Tuesday when Naina made the complaint, so it cannot be said that Naina had sufficient basis when she made the complaint.

6.2 Did Seema violate the Mahabali Akhada's Anti-Doping Code on Possession of Prohibited Substances? Choose the option with the correct answer as well as the most appropriate explanation for it.

- (a) No; prior to being notified of an anti-doping rule violation, Seema took action to demonstrate that she never intended to have possession of the Prohibited Substance and renounced its possession.
- (b) Yes; Seema's samples tested positive for the Prohibited Substance.
- (c) No; because the Code states that purchase of a Prohibited Substance constitutes possession by the person and Seema did not make the purchase herself.
- (d) Yes; she gained constructive possession of Dexamethasone and consumed it.

(Answer (a))

**Rationale:**

The correct answer is (a) - no; prior to being notified of an anti-doping rule violation, Seema took action to demonstrate that she never intended to have possession of the Prohibited Substance and renounced its possession. The Anti-Doping Code clearly states that there shall be no anti-doping rule violation based solely on possession if, prior to receiving notification of any kind that the person has committed an anti-doping rule violation, the person has taken concrete action demonstrating that the person never intended to have possession and has renounced possession by explicitly declaring it to the Anti-Doping Wing of Mahabali Akhada. As soon as she learnt that Cofdex contains Dexamethasone, Seema took steps to demonstrate that she never intended to have possession by notifying the Anti-Doping Wing of Mahabali Akhada and renouncing possession. Therefore, she did not violate the Anti-Doping Code on Possession of Prohibited Substances.

6.3 A precedent is either binding on or persuasive when deciding subsequent cases with similar issues or facts. Which of the following would not be a valid precedent for deciding on Naina's complaint against Seema?

- (a) A case involving an athlete in whose car, a protein supplement containing a banned steroid was found.
- (b) A case involving an athlete who added a sauce containing a banned growth hormone to a bowl of pasta to be consumed by a rival athlete.
- (c) A case involving a weightlifter whose spouse operated a pharmacy that stocked medicines with prohibited substances and traces of which were found in the weightlifter's samples.
- (d) A case involving a badminton player who was caught with energy bars that contained a prohibited performance-enhancing drug.

(Answer (b))

**Rationale:**

The correct answer is (b) – a case involving an athlete who added a sauce containing a banned growth hormone to a bowl of pasta to be consumed by a rival athlete. Barring option (b), all the other options involve actual, physical or constructive 'possession' of a banned substance by an athlete. However, option (b) involves a case where one athlete chooses to contaminate a rival athlete's food with a banned substance, presumably to frame the rival athlete. This is not similar to the facts or the allegation in Naina's complaint.

6.4 Azim is a member of Mahabali Akhada, and one day, his son purchases an anti-inflammatory medicine from an e-commerce site using his father's credit card and account but without his father's knowledge. Has Azim violated the Mahabali Akhada's Anti-Doping Code on Possession of Prohibited Substances?

- (a) Yes; the purchase was made by Azim's son, and Azim's personal credit card and account were used.
- (b) Yes; possession by one's own son will amount to constructive possession.
- (c) No; Azim did not make the purchase and did not instruct his son to do so either.
- (d) (a) and (b) above, but not (c).

(Answer: (c))

**Rationale:**

The correct answer is (c) - no; Azim did not make the purchase and did not instruct his son to do so either. The facts don't suggest that Azim exercised control to make the purchase and he clearly did not make the purchase himself. Therefore, there is no violation of the Mahabali Akhada's Anti-Doping Code on Possession of Prohibited Substances by Azim.

6.5 The Mahabali Akhada's Anti-Doping Code on 'Presence of Prohibited Substances in an Athlete's Sample' contains a rule that states the following: "It is the Athletes' personal duty to ensure that no Prohibited Substance enters their bodies. Athletes are responsible for any Prohibited Substance or its metabolites found to be present in their Samples." Has Seema violated this rule? Choose the option with the correct answer as well as the most appropriate explanation for it.

- (a) No; Seema was only following her doctor's advice.
- (b) No; Seema followed her personal duty to ensure that the Prohibited Substance does not enter her body by renouncing its possession as soon as she learnt that the Cofdex contains a Prohibited Substance.
- (c) Yes; Seema violated the rule by providing her samples before the Prohibited Substance had left her system.
- (d) Yes; Seema failed to prevent the banned substance from entering her body.

(Answer: (d))

**Rationale:**

The correct answer is (d) - yes; Seema failed to prevent the banned substance from entering her body. The rule clearly states that it is the personal duty and responsibility of the athletes to ensure that no Prohibited Substance enters their body. On this count, Seema clearly failed since she did not prevent the Prohibited Substance, Dexamethasone from entering her body.

7.

**Principles :**

An "insider" in relation to any company is any person who is an employee, director, or holder of more than 10% or more of that company's shares, or who is in possession of, or has access to, unpublished information that may affect the price of that company's shares on the market (such information is called "unpublished price sensitive information").

No insider in possession of unpublished price sensitive information shall communicate, provide, or allow access to any unpublished price sensitive information, relating to the company in relation to which they are an insider, or its shares, to any person, including other insiders, except where such



communication is in furtherance of legitimate purposes, performance of duties or discharge of legal obligations. Any insider that does so shall be guilty of the offence of insider trading.

No insider may buy and then sell, or sell and then buy the shares of any company in relation to which they are an insider, within a six-month period. Any insider that does this shall be guilty of committing a contra trade.

**Facts :**

Salim works as a secretary in Super Cement Company Limited (the “**Company**”). He has been in the Company’s employ for over seven years, but only as a secretary, and does not usually have access to any sensitive information at the Company’s offices. Salim’s wife, Sunaina, is a share trader, and makes her living buying and selling shares on the stock market. One day in February, Salim returned home and left his bag on the table. Sunaina noticed a piece of paper that had fallen out of the bag, and while picking it up, she saw that the paper described certain important plans that the company was about to put into motion to expand its business dramatically by taking huge loans. Salim saw the paper in Sunaina’s hands, and asked her to put it away; his boss, a director of the Company, had asked Salim to proof-read the paper and give it back to him the next day. He had also told Salim that the paper contained secret information that should not be revealed to anyone.

The next day, Sunaina sold all the shares she owned in the Company. Salim’s boss owned 15% of the Company’s shares, and he sold all his shares that same day.

In November of the same year, the Company’s shares were trading at a price much lower than they were in February. Sunaina and Salim’s boss bought a number of the Company’s shares in November, at the lower price.

7.1 Has Salim committed the offence of insider trading?

- (a) No, since he did not buy or sell any of the Company’s shares.
- (b) No, since he did not have access to any unpublished price sensitive information.
- (c) Yes, since it was because of him that Sunaina gained access to the unpublished price sensitive information.
- (d) Yes, since his wife bought and sold shares in the Company based on unpublished price sensitive information.

(Answer: (c))

**Rationale:**

The correct answer is (c) - yes, since it was because of him that Sunaina gained access to the unpublished price sensitive information. Salim’s boss had told him that the paper contained secret information that should not be revealed to anyone. As such, Salim should have been more careful handling that paper, and he should not have allowed it to fall from his bag. Since he is an “insider” by reason of being employed at the Company, and since he allowed such information to fall into Sunaina’s possession, he is guilty of the offence of insider trading. Given this, neither (a) nor (b) can be the correct answer. While (d) may be right, it does not explain how Salim is guilty, and so, cannot be the right answer.

7.2 Who, if any, amongst the following has committed a contra trade?

- (a) Sunaina
- (b) Salim's boss
- (c) Both Sunaina, and Salim's boss
- (d) Neither Sunaina nor Salim's boss

(Answer: (d))

**Rationale:**

The correct answer is (d) – neither Sunaina nor Salim's boss. This is because while they are both insiders since they have access to unpublished price sensitive information in relation to the Company, the gap between their selling and then buying the shares of the Company is more than six months.

7.3 Assume that Salim's boss owned only 8% of the Company's shares in February. Would he then be guilty of insider trading?

- (a) Yes, since he was an employee of the Company and had access to unpublished price sensitive information at the time of selling the Company's shares.
- (b) No, since he did not share unpublished price sensitive information in a prohibited manner.
- (c) No, since he owned less than 10% of the Company's shares.
- (d) Yes, since he was a director of the Company and had access to unpublished price sensitive information at the time of selling the Company's shares.

(Answer: (b))

**Rationale:**

The correct answer is (b) – no, since he did not share unpublished price sensitive information in a prohibited manner. While he may have been a director in the Company, he did not violate the rule against insider trading. That rule prohibits sharing unpublished price sensitive information in the manners described in the rule, but Salim's boss had given Salim the information in the course of his duties, and had asked Salim to be careful with it. Options (a) and (d) cannot be correct, since the rule against insider trading does not prohibit trading in shares when in possession of unpublished price sensitive information. Option (c) is irrelevant – even if he owned less than 10% of the Company's shares, Salim's boss was still an 'insider' by virtue of being a director in the Company.

7.4 Salim is charged with the offence of insider trading by the authorities. Which of the following, if true, would be a valid defence for Salim?

- (a) He had not been an employee of the Company, but a mere consultant.
- (b) He had not bought nor sold any shares of the Company, ever.
- (c) He had locked his bag, and Sunaina had picked the lock on his bag and retrieved the paper.
- (d) He did not know that Sunaina traded in shares; she had kept this a secret from him.

(Answer: (c))

**Rationale:**

The correct answer is (c) – he had locked his bag, and Sunaina had picked the lock on his bag and retrieved the paper. If this were true, it cannot be said that Salim had communicated, provided, or allowed access to Sunaina to the unpublished price sensitive information, and so, he cannot be held guilty of insider trading. None of the other options affects the fact that Salim was an ‘insider’ by virtue of being in possession of unpublished price sensitive information, and that it was his error that led to Sunaina’s getting access to such information, and so, none of them can be the correct answer.

7.5 Sunaina is charged with the offence of insider trading by the authorities. Which of the following, if true, would not be a valid defence for Sunaina?

- (a) She had bought the Company’s shares more than six months after selling them.
- (b) She had not shared the unpublished price sensitive information with anyone.
- (c) She had not picked up the paper from Salim’s bag; she had another piece of paper in her hands which Salim mistook for the paper containing the sensitive information.
- (d) She had poor eyesight, and since she did not have her glasses on at the time, she could not read anything written on the paper.

(Answer: (a))

**Rationale:**

The correct answer is (a) – she had bought the Company’s shares more than six months after selling them. This option does not relate to the offence of insider trading at all, and so, cannot be a valid defence for Sunaina. Option (b) directly relates to the main ingredient of the offence, which is sharing unpublished price sensitive information with others, and so, cannot be the correct answer. Options (c) and (d), if true, would mean that Sunaina could not be said, at any time in the fact situation given to us, to have possession of the unpublished price sensitive information, and so, neither can be the correct answer.

8.

**Principles:**

- Regulation 1: Operation of drones for commercial purposes shall require a permit under law, except for those in the Nano category flown below a height of 50 feet and those in the Micro category flown below a height of 200 feet. Nano: weight of less than or equal to 250 grams. Micro: weight between 250 grams and 2 kg.
- Regulation 2: “No Drone Zones” include areas near airports, international borders, strategic locations, and military installations; the law prohibits the operation of drones in No Drone Zones.
- Regulation 3: The remote pilot of a drone shall ensure that there is no trespass into private property and the privacy of a third party is not compromised in any manner. Trespass includes drones entering the private property of a person without being authorised to do so.
- The master is vicariously liable for wrongful acts of their servant which are done by the servant in the course of their employment.

**Facts:**

Drone Boyz Co is a company that specialises in photography including photography with the use of Nano drones. Drone Boyz Co does not have any permit to operate drones. Mehek entered into an

agreement with Drone Boyz Co to have her birthday party photographed. At the time of entering into the contract, the venue of Mehek's birthday party was supposed to be her farmhouse on the outskirts of the city. However, due to a large number of her friends finding it inconvenient to travel till there, Mehek shifted the venue of the birthday party to her uncle's bungalow adjoining the city airport a few hours before the scheduled time of the party. Drone Boyz Co assigned one of its employees, Rajat, to do the photography using drones. Rajat used a drone weighing 179 grams to do the photography of the event. However, the app on his phone with which the drone is controlled crashed and the drone ended up next to Robin, who lived in the neighbourhood. Robin saw the camera on a drone flash outside his bedroom and seeing that an unauthorised drone had entered into his property, Robin decided to disable and crush the drone and threw it into the air about 55 feet high and 35 feet away.

8.1 Which regulations did Drone Boys Co violate, if any?

- (a) Regulations 1, 2 and 3
- (b) Regulation 1 and 2, but not Regulation 3
- (c) Regulations 1 and 3, but not Regulation 2
- (d) Regulation 2 and 3, but not Regulation 1

(Answer: (d))

**Rationale:**

The correct answer is (d) - regulation 2 and 3 but not Regulation 1. The permit for flying drones commercially is not applicable to Nano drones flown below 50 feet. Drone Boyz Co only operated Nano drones and hence, they would not be in breach of the requirement of the permit so long as they flew the drones below 50 feet. There is nothing in the facts to suggest that they flew the drones at 50 feet or higher. However, they did violate Regulations 2 and 3, respectively, by operating a drone in a No Drone Zone, and trespassing on Robin's property and breaching his privacy.

8.2 Has Mehek violated the law? Choose the option with the correct answer and explanation.

- (a) Yes, she shifted the venue of her birthday party to an area that is close to the airport.
- (b) No, she was not aware of the laws against flying of drones near the airport.
- (c) Yes, she is liable for the acts of her employees.
- (d) No, she did not require that the photography of her event be done using drones.

(Answer: (d))

**Rationale:**

The correct answer is (d) - no, she did not require that the photography of her event be done using drones. There is nothing in the facts to suggest that Mehek requested the photography of her birthday party to be done with the use of drones, and so, neither (a) nor (b) can be the correct answer. Moreover, Rajat is an employee of Drone Boyz Co and not Mehek, therefore option (c) cannot be the correct answer.

8.3 Did Robin breach the requirement of a permit?

- (a) No, he did not operate a drone for commercial purposes.
- (b) Yes, the drone he threw was being used for commercial purposes.
- (c) Yes, his house is near the airport.
- (d) No, the drone weighed only 179 grams.

(Answer: (a))

**Rationale:**

The correct answer is (a) - no, he did not operate a drone for commercial purposes. As is evident from the facts, Robin did not fly nor operate the drone. He also disabled and crushed the drone before throwing it away. The requirement of the permit is applicable to the operation of the drone for commercial purposes and therefore, did not apply to Robin, who merely threw a drone, therefore, neither option (b) nor option (d) can be the right answer. Option (c) is irrelevant to the question and so, cannot be the right answer.

8.4 Assuming that Drone Boyz Co is charged with violating Regulations on operation of drones, which of the following is good defence for Drone Boyz Co to take?

- (a) That Rajat breached the Regulations in his individual capacity.
- (b) That Mehek shifted the venue of her birthday party at the last minute.
- (c) That the makers of the app to control the Drone are liable.
- (d) None of the above.

(Answer: (d))

**Rationale:**

The correct answer is (d) - none of the above. Rajat breached the Regulation of not operating drones in No Drone Zones in the course of his employment. Mehek did not require the photography of her birthday party to be done with the use of drones. The law makes the remote pilot of the drone responsible for trespass and breach of privacy, regardless of the cause leading to trespass or breach of privacy.

8.5 Drone Boyz Co intends to acquire a drone weighing 250 gm to photograph a football match. It intends to fly the drone to the roof of a pavilion at the football stadium that is exactly at a height of 200 feet from the ground. Will it require a permit to do so?

- (a) Yes, the new drone cannot be flown at that height without a permit.
- (b) No, the new drone is proposed to be flown at a height allowed under the exception.
- (c) No, the new drone is within the weight category for Micro drones which are exempt from the requirement of a permit.
- (d) There is insufficient information to answer this question.

(Answer: (a))

**Rationale:**

The correct answer is (a) - yes, the new drone cannot be flown at that height without a permit. Since the exception allows operation of Micro drones below the height of 200 feet, operating one at the height of 200 feet is not covered by the exception. Hence, Drone Boyz Co will need a permit for the same. Option (b) contradicts Regulation 1, and so, cannot be the correct answer. Since Drone Boyz Co proposes to operate the drone at a height greater than that permitted by the exception, option (c) cannot be the correct answer either. Based on the explanation for why option (a) is the correct answer, option (d) cannot be the correct answer.

# Logical Reasoning

Each set of questions in this section is based on the reasoning and arguments set out in the preceding passage. Please answer each question on the basis of what is stated or implied in the corresponding passage. Do not rely on any information or facts other than the ones supplied to you. In some instances, more than one option may be the answer to the question; in such a case, please choose the option that most accurately and comprehensively answers the question.

1.

We all make ethical choices, often without being conscious of doing so. Too often we assume that ethics is about obeying the rules that begin with “You must not...” If that were all there is to living ethically, then as long as we were not violating one of those rules, whatever we were doing would be ethical. That view of ethics, however, is incomplete. It fails to consider the good we can do for others less fortunate than ourselves, not only in our own community, but anywhere within the reach of our help. We ought also to extend our concern to future generations, and beyond our own species to nonhuman animals.

Another important ethical responsibility applies to citizens of democratic society: to be an educated citizen and a participant in the decisions our society makes. Many of these decisions involve ethical choices. In public discussions of these ethical issues, people with training in ethics can play a valuable role. In the 1960s, philosophers used to proclaim that it was a mistake to think that they have any expertise that would qualify them to address substantive ethical issues. They said that philosophy is concerned with the analysis of words and concepts, and so is neutral on substantive ethical questions.

[Extracted, with edits and revisions, from *Ethics in the Real World: 82 Brief Essays on Things that Matter*, by Peter Singer, Princeton University Press, 2016.]

1.1 Why does the author say that ethics is not just about obeying rules that forbid one from doing certain things?

- (a) Because ethics is not about doing anything; it only requires thinking about things.
- (b) Because ethics requires that one poses questions to other people.
- (c) Because ethics also requires that one does good for those who are not as fortunate as us.
- (d) Because ethics requires that one follows rules that direct one to do certain things.

(Answer: (c))

**Rationale:**

The correct answer is (c) – because ethics also requires that one does good for those who are not as fortunate as us. The author states this in the first paragraph as the reason why ethics is not just about following certain rules. While (b) and (d) may be right, neither is the correct option, as the author does not present either as the reason why ethics is not just about following certain rules. Option (a) is not supported by any information in the passage, and so cannot be the right answer.

1.2 Which of the following is not an example of the important ethical responsibility that the author says applies to citizens of a democratic society?

- (a) Understanding one's fundamental rights and participating in debates about how these rights may have to change with the times.
- (b) Closely tracking the performance of the national cricket team and commenting on individual players' performances.
- (c) Finding out about the candidates in local elections and casting one's vote.
- (d) Staying abreast of news about legal matters and talking to other people about one's opinions on those laws.

(Answer: (b))

**Rationale:**

The correct answer is (b) – closely tracking the performance of the national cricket team and commenting on individual players' performances. Following cricket and commenting on players is not directly related to being an educated citizen. (a), (b), and (c) all describe matters that are directly related to being an educated citizen, and participating in society's decisions.

1.3 Which of the following is similar to the reason philosophers gave in the 1960s for claiming they were not qualified to comment on substantive ethical issues?

- (a) Athletes are concerned with improving their physical performance, and so are qualified to help others improve their physical abilities.
- (b) Engineers are experts in construction, and so should not build bridges.
- (c) Lawyers are experts in understanding and explaining the law, and are not capable of advising others on the law.
- (d) Doctors are concerned with understanding how the chemistry of the body works, and so are not qualified to advise patients on how to improve their health.

(Answer: (d))

**Rationale:**

The correct answer is (d) – doctors are concerned with understanding how the chemistry of the body works, and so are not qualified to advise patients on how to improve their health. Just as philosophers claimed that philosophy is concerned with the analysis of words and concepts, and so is neutral on substantive ethical questions (second paragraph), this option provides that doctors are focused on understanding body chemistry, which is different from advising patients on how to improve their health. Option (a) cannot be the right answer as it provides a reason why athletes can help others improve their physical abilities. Options (b) and (c) cannot be the correct option; philosophers in the 1960s claimed expertise in something other than the act they said they were not qualified to participate in, that is, commenting on substantive ethical issues, whereas these options tell us that engineers and lawyers are experts in the very thing the option tells us they cannot do.

1.4 Which of the following can be inferred from the author's description of ethics and living ethically?

- (a) The author thinks polluting the environment is bad as this may affect people who have not been born yet.
- (b) The author thinks hunting wild animals is bad as it is cruel and unnecessary.
- (c) (a), but not (b).
- (d) Both (a) and (b).

(Answer: (d))

**Rationale:**

The correct answer is (d) – both (a) and (b). This is apparent from the last line of the first paragraph, where the author states: “We ought also to extend our concern to future generations, and beyond our own species to nonhuman animals.”

1.5 Who amongst the following would be ‘living ethically’ if all there were to ethics was following the rule “You must not kill other humans”?

- (a) An alcoholic husband who beats his wife, causing her injuries.
- (b) A factory owner who releases massive quantities of lethal pollutants in a town’s drinking-water supply.
- (c) A rash and negligent driver who causes the death of other people.
- (d) Someone who adulterates life-saving medicines, rendering them ineffective.

(Answer: (a))

**Rationale:**

The correct answer is (a) - an alcoholic husband who beats his wife, causing her injuries. If, as the question provides, all there is to living ethically is following the rule “You must not kill other humans”, then the husband has not violated the rule, and so can be said to be ‘living ethically’. Each of the actions in options (b), (c), and (d) would lead to the death of other people, or, as option (c) tells us, cause the death of other people.

2.

The industrial nations which are adding alarming amounts of carbon dioxide to the atmosphere will at some point need to go beyond today’s insufficient efforts to stop the accumulation of this gas in the atmosphere. They will need to put the world machine into reverse, and start taking carbon dioxide out. They are nowhere near ready to meet this challenge. This is because of two problems, one technological, the other psychological.

The technological one is that sucking tens of billions of tonnes of carbon dioxide out of the atmosphere is an enormous undertaking for which the world is not prepared. In principle it is simple to remove carbon dioxide by incorporating it in trees and plants. But planting trees on a scale even remotely adequate to the task requires something close to a small continent.

The psychological problem is that, even while the capacity to ensure negative emissions languishes underdeveloped, the mere idea that they will one day be possible eats away at the perceived urgency of cutting emissions today.



This puts policymakers in a bind. It would be reckless not to try to develop the technology for negative emissions. But strict limits need to be kept on the tendency to demand more and more of that technology in future scenarios.

[Extracted, with edits and revisions, from "Reverse Gear", The Economist, Vol. 433, No. 9172.]

2.1 Which of the following situations is similar in nature to the 'technological problem' that the author describes?

- (a) Global poverty can be reduced by lowering the income level below which people are classified as living in poverty.
- (b) Traffic jams in Mumbai can be eliminated by building more roads, but this will require more miles of road area than the total surface area of Mumbai.
- (c) Suffering due to illness can be reduced, but this will require investing more money in medical research.
- (d) Global warming can be reduced, but this will mean all of us will have to take steps to use less fossil fuels.

(Answer: (b))

**Rationale:**

The correct answer is (b) – Traffic jams in Mumbai can be eliminated by building more roads, but this will require more miles of road area than the total surface area of Mumbai. The 'technological problem' the author describes is a situation where we do not have enough resources for the solution to be practical. Similarly, option (b) describes a situation where there is not enough surface area in Mumbai to build all the roads it will take to eliminate traffic jams. None of the other options describes a situation where the solution is impractical because of a lack of resources, and so, cannot be the correct answer.

2.2 Which of the following behaviours is unlike the psychological problem that the author describes?

- (a) College students spend all their money in the first week of term, because they think their parents will send them more money the next week.
- (b) Smokers do not stop smoking, because they think medical science will one day develop a cure for all illnesses.
- (c) Farmers use up all the water in reservoirs because they think there will be abundant rainfall later in the year to refill the reservoirs.
- (d) Some countries do not permit refugees to enter because they feel that they do not have adequate resources to support them.

(Answer: (d))

**Rationale:**

The correct answer is (d) – some countries do not permit refugees to enter because they feel that they do not have adequate resources to support them. Each of the other options describes a situation similar to the author's 'psychological problem', which is a situation where someone indulges in potentially negative or harmful behaviour in the present because they feel that a solution will emerge in the future that will solve the problem. Option (d) is different in that the

countries that do not permit refugees perceive no such solution emerging in the future, and act the way they do because of a lack of resources in the present.

2.3 Based on the author's arguments in the passage above, what would be the best way for policymakers to make people reduce emissions today?

- (a) They should tell people that carbon dioxide in the atmosphere is not a problem.
- (b) They should tell people that emerging technologies will easily remove carbon dioxide from the atmosphere.
- (c) They should tell people that it is unlikely we will discover technologies that can remove enough carbon dioxide from the atmosphere.
- (d) They should tell people that a heavy fine would be imposed on carbon dioxide emissions.

(Answer: (c))

**Rationale:**

The correct answer is (c) - they should tell people that it is unlikely we will discover technologies that can remove enough carbon dioxide from the atmosphere. This can be inferred from both, the author's description of the 'psychological problem', as well as the last sentence of the passage. Neither (a) nor (b) would offer people incentives to reduce emissions. While (d) may seem right, it is not the correct answer, since the author does not discuss this option in the passage.

2.4 Which of the following, based on the author's arguments, would be the best approach for policymakers to ensure the reduction of carbon dioxide in the atmosphere?

- (a) Remove aid for negative emissions technology research, so as to encourage people to reduce emissions today.
- (b) Provide aid for negative emissions technology research only if such research leads to technology which removes extraordinary amounts of carbon dioxide from the atmosphere.
- (c) Provide aid for negative emissions technology research while giving people incentives to reduce emissions today.
- (d) Remove aid for negative emissions technology research and impose strict penalties on carbon dioxide emissions today.

(Answer: (c))

**Rationale:**

The correct answer is (c) - provide aid for negative emissions technology research while giving people incentives to reduce emissions today. This is the only option that satisfies both conditions in the author's recommendations to policymakers in the last paragraph of the passage, that is, to try and develop technology for negative emissions, while limiting expectations from what such technology can achieve.

2.5 Which of the following can we infer from the passage above?

- (a) Natural ways of reducing carbon dioxide in the atmosphere are not feasible since we do not have enough resources to achieve the required level of reduction through such means.
- (b) Technological progress in ways of reducing carbon dioxide in the atmosphere has been insufficient, and we need to boost our efforts in this regard.

- (c) Neither (a) nor (b).
- (d) Both (a) and (b).

(Answer: (d))

**Rationale:**

The correct answer is (d) – both (a) and (b). (a) is supported by the author’s statement in the second paragraph, about how “...planting trees on a scale even remotely adequate to the task requires something close to a small continent”. (b) is supported by the statement in the last paragraph that “It would be reckless not to try to develop the technology for negative emissions.”

3.

The magnetic North Pole, it turns out, is shifting eastwards at an unprecedented pace. About 15 years ago, this would have made little difference to the daily lives of people and even Google Maps relies largely on satellite imaging, which is mostly unaffected by this shift. But now, in addition to its implications for industries and sectors that rely on the magnetic north — airports, defence, drilling — it will affect smartphones as well. Most contemporary phones have three magnetic sensors that tell the direction the user is facing. This feature could be compromised with the pole shifting, and people would be, quite literally, direction-less. They will thus have to ask other people for directions.

But learning to navigate by memory, and, more importantly, asking for directions may not be a terrible development. In fact, in India, it is a necessary skill. The spate of frequent internet shutdowns means that Google is of erratic help across cities in India.

[Extracted, with edits and revisions, from “Where I Am”, Editorial, *The Indian Express*, <https://indianexpress.com/article/opinion/editorials/navigation-systems-google-maps-where-i-am-north-pole-shifting-6184815/>.]

3.1 Which of the following best represents the main point of the passage above?

- (a) Smartphones rely on magnetic sensors to tell the user which direction they are facing.
- (b) The shifting of the North Pole may not be a bad thing, since asking for directions is an important skill in India.
- (c) Internet shutdowns are very frequent in India.
- (d) The shifting of the North Pole will not affect Google Maps too much.

(Answer: (b))

**Rationale:**

The correct answer is (b) – the shifting of the North Pole may not be a bad thing, since asking for directions is an important skill in India. This is apparent from the author’s arguments in the second paragraph. While the statements in the other options may be true, they are used in support of the main conclusion, and are not the main conclusion themselves.

3.2 If the statements in the passage above are true, then which of the following would also be true?

- (a) The political maps of the world will have to be redrawn to reflect the new position of the North Pole.
- (b) Smartphone sales will reduce drastically.
- (c) People will stop relying on their smartphones and instead ask other people for directions.
- (d) Weather patterns across the world will change dramatically because of the shifting of the North Pole.

(Answer: (c))

**Rationale:**

The correct answer is (c) – people will stop relying on their smartphones and instead ask other people for directions. Since smartphones will no longer be able to tell users which direction they are facing, people will have to ask other people for directions. There is no information in the passage to support any of the other options as the correct answer.

3.3 Which of the following, if true, most weakens the author's arguments in the passage above?

- (a) The drilling industry does not rely on the magnetic North Pole.
- (b) People in India are very familiar with the streets close to their home.
- (c) Road signs in India are very badly made and are of no help.
- (d) Smartphones rely on satellite imaging rather than magnetic sensors to tell the user which direction they are facing.

(Answer: (d))

**Rationale:**

The correct answer is (d) – smartphones rely on satellite imaging rather than magnetic sensors to tell the user which direction they are facing. If this were true, then, since we are told satellite imaging is unaffected by the shifting of the magnetic North Pole, the ability of smartphones to tell the user which direction they are facing would also remain unaffected, and this would defeat the author's argument in the passage above that people would have to rely on asking other people for directions. Option (c) supports the author's argument, and so cannot be the correct answer. Option (a) is irrelevant to the author's argument, and so cannot be the correct answer. Even if option (b) is true, people may of course travel away from their homes, and will still need directions; thus, this cannot be the correct answer either.

3.4 The author's claim that smartphones rely on magnetic sensors to tell users the direction they are facing plays which of the following roles in the author's argument that people will soon have to ask other people for directions?

- (a) It forms the conclusion of the argument.
- (b) It forms the premise of the argument.
- (c) Neither (a) nor (b).
- (d) Both (a) and (b).

(Answer: (b))

**Rationale:**

The correct answer is (b) – it forms the premise of the argument. This is one of the premises in the passage, based on which the author draws the conclusion that even if smartphones cannot

help tell directions anymore, this may not be a bad thing in India. Since this is a premise and not the conclusion of the author's argument, none of the other options can be the correct answer.

3.5 Which of the following is an assumption, on which the argument that people will have to ask others for directions since their smartphones will no longer be able to give directions, is based?

- (a) People rely on other people to get directions.
- (b) People rely on their smartphones to get directions.
- (c) Both (a) and (b).
- (d) Neither (a) nor (b).

(Answer: (b))

**Rationale:**

The correct answer is (b) - people rely on their smartphones to get directions. If this were not the case, they would not need to ask other people for directions if their smartphones were no longer able to give them directions. If people already relied on other people for directions, they would be unaffected by their smartphones not being able to give them directions, and so, neither (a) nor (c) can be the correct answer. Since we have determined that (b) is the correct answer, (d) cannot be the correct answer.

4.

Research has now found that the key to a long life lies not in medicine but in museums. A study conducted by researchers at University College London says on the basis of its examination of a sample of 6,000 adults in the United Kingdom aged 50 years and above that frequent trips to the museum and sites of art — concerts, opera, exhibition galleries — can play an instrumental role in prolonging life. The findings complement earlier research, which argued that engaging with community art projects helps battle serious health conditions such as depression, chronic pain and even dementia. It seems that investments in creative pursuits — watching, appreciating or critiquing art — could have therapeutic consequences for cognitive ability. It would be unwise to scoff at these inferences. For data seem to bear out the hypothesis. The life expectancy at birth in the UK is nearly 80 years for men and almost 83 for women, while the corresponding figures for India are 67.8 and 70.4. This difference can be attributed to the fact that a lot many people visit the UK's museums, which are stupendous repositories of not just the past but also culture.

[Extracted, with edits and revisions, from "History for health", Editorial, *The Telegraph*, <https://www.telegraphindia.com/opinion/history-for-health/cid/1729241>.]

4.1 If the author's arguments in the passage above are true, which of the following must also be true?

- (a) Countries can increase the lifespan of their citizens by building more exhibition galleries and opera houses.
- (b) Countries can increase the lifespan of their citizens by prohibiting smoking.
- (c) Regular exercise greatly increases lifespan.
- (d) Eating fruits daily helps increase lifespan.

(Answer: (a))

**Rationale:**

The correct answer is (a) – countries can increase the lifespan of their citizens by building more exhibition galleries and opera houses. This follows logically from the author’s description of the study conducted at University College London – since frequent trips to museums and sites of art can play an instrumental role in prolonging life, it follows that building more such sites – and thereby making them more accessible – would result in increasing people’s lifespans. While (b), (c), and (d) may be true, they are not related to the author’s arguments, and so, cannot be the correct answer.

4.2 Which of the following, if true, most weakens the author’s conclusion?

- (a) Indian prefer to spend money on going to restaurants rather than museums.
- (b) India has more museums than exhibition galleries.
- (c) The UK provides free medicines and medical advice at museums.
- (d) People in the UK have access to better and cheaper healthcare than people in India.

(Answer: (d))

**Rationale:**

The correct answer is (d) – people in the UK have access to better and cheaper healthcare than people in India. If this is true, then the longer lifespan of people in the UK could be attributed to the fact that they have access to better healthcare than people in India, rather than to the fact that more people in the UK visit museums. (c) does not weaken the author’s conclusion, and so cannot be the correct answer. (a), arguably, support the author’s conclusion, and thus cannot be the correct answer. (b) neither supports nor weakens the author’s conclusion, and so, cannot be the correct answer.

4.3 What role does the author’s claim that a lot many people visit the UK’s museums play in the argument in the passage?

- (a) It is the conclusion that the author draws based on the findings of research studies.
- (b) It supports the author’s conclusion as to why people in the UK have a longer lifespan than people in India.
- (c) It contradicts the claim that people in India have longer lifespans than people in the UK.
- (d) It supports the findings of the earlier research about engaging with community art projects.

(Answer: (b))

**Rationale:**

The correct answer is (b) - it supports the author’s conclusion as to why people in the UK have a longer lifespan than people in India. This, in addition to the author’s discussion about the findings of the University College London study, and the data about people in the UK having longer lifespans than people in India, form the premises for the author’s conclusion. Since the claim in the question is a premise rather than a conclusion, (a) cannot be the correct answer. The claim described in (c) is not supported by any information in the passage, and therefore cannot be

correct answer. The claim described in the question is not related to the matter in option (d), and so, (d) cannot be the right answer.

4.4 Which of the following does not weaken the conclusions drawn by the researchers at University College London?

- (a) Data show that visiting museums frequently does not affect the lifespans of adults aged 25-40.
- (b) Data show that people who visit museums and art sites are also better educated.
- (c) Both (a) and (b) above weaken the conclusions.
- (d) Neither (a) nor (b) weakens the conclusions.

(Answer: (d))

**Rationale:**

The correct answer is (d) – both, (a) and (b). Since the University College London study was conducted on a sample of adults aged 50 and over, the effects of more frequent museum visits on adults aged 25-40 would have no relevance and so would not weaken the researchers' conclusions. Similarly, whether or not people who visit museums and art sites are better educated does not affect the researchers' conclusions.

4.5 Which of the following best expresses the main conclusion of the passage above?

- (a) Universities in the UK conduct more studies on reasons affecting people's lifespans.
- (b) Engaging with community art projects can help treat dementia.
- (c) People in the UK have longer lifespans because they visit museums more often.
- (d) More people in the UK visit museums than in India.

(Answer: (c))

**Rationale:**

The correct answer is (c) – People in the UK have longer lifespans because they visit museums more often. This conclusion is supported by the various pieces of information the author provides – such as the findings of the study conducted at University College London, and that a lot more people visit museums in the UK. There is nothing in the passage to support (a) as the correct answer. The information in (b) and (d) are premises for the author's conclusion, but not the main conclusion, and so, neither (b) nor (d) can be the correct answer.

5.

One day, Ramesh tells all his friends that there is a ghost that makes strange screeching sounds in the tree adjoining his house. When two of his friends, Suresh and Mahesh, visited the spot where the tree was, they refuted Ramesh's claim and told all their other friends that the noise was made by an owl that lived in that tree.

5.1 Which method did Suresh and Mahesh use to refute Ramesh's claim?

- (a) They refuted Ramesh's claim by providing an alternate explanation.
- (b) They established their conclusion by providing an explanation.

- (c) They provided Ramesh information to support his claim.
- (d) They provided support for Ramesh's claim by providing a plausible explanation for it.

(Answer: (a))

**Rationale:**

The correct answer is (a) – they refuted Ramesh's claim by providing an alternate explanation. They explained that the screeching sounds were made by an owl rather than a ghost. While option (b) may arguably be true, it does not answer how they refuted Ramesh's claim. Since they refuted his claim rather than support it, neither (c) nor (d) can be the correct answer.

6.

I can either take the highway to reach school, or the ring road. I find taking the ring road more convenient, since it is a shorter route, and I take less time to reach school. I prefer taking the ring road over the highway even though the ring road is often jam-packed with traffic.

6.1 Based on the information in the passage above, which of the following is most likely to be true?

- (a) The highway is always free of traffic.
- (b) The author does not mind reaching school late.
- (c) Even though the ring road has a lot of traffic, it is still a faster route to school than the highway.
- (d) The highway has a lot of potholes which make for an uncomfortable journey.

(Answer: (c))

**Rationale:**

The correct answer is (c) – even though the ring road has a lot of traffic, it is still a faster route to school than the highway. The author explains that they prefer the ring road over the highway since it takes less time to reach school using the ring road. There is nothing in the passage supporting the statements in any of the other options, and so, none of them can be the correct answer.

7.

In each of the questions below, you are provided a statement, and two assumptions, numbered 'I' and 'II'. Read each statement, and determine which assumption or assumptions are implicit in the statement.

7.1 Statement: Mumbai Indians won the Indian Premier League last year.

Assumption I : The Indian Premier League takes place every year.  
Assumption II : Mumbai Indians has the best batting line-up of all teams.

- (a) Only 'I' is implicit.
- (b) Only 'II' is implicit.
- (c) Both, 'I' and 'II' are implicit.
- (d) Neither 'I' nor 'II' is implicit.

(Answer: (d))



**Rationale:**

The correct answer is (d) – neither ‘I’ nor ‘II’ is implicit. There is no information in the passage that suggests it is based on either assumption.

7.2 Statement: “Free home delivery for all orders above Rs. 500” – offer from an online shopping website.

Assumption I : People like to have their shopping delivered home free.

Assumption II : People enjoy shopping online.

- (a) Only ‘I’ is implicit.
- (b) Only ‘II’ is implicit.
- (c) Both, ‘I’ and ‘II’ are implicit.
- (d) Neither ‘I’ nor ‘II’ is implicit.

(Answer: (a))

**Rationale:**

The correct answer is (a) – only ‘I’ is implicit. This assumption is what makes the offer attractive, and it is reasonable to assume that the website made this offer to attract customers. Nothing in the statement suggests that it is based on assumption ‘II’.

7.3 Statement: It takes years of training to become a performing classical musician.

Assumption I : Classical music performances are very rare.

Assumption II : Learning to play classical music is difficult.

- (a) Only ‘I’ is implicit.
- (b) Only ‘II’ is implicit.
- (c) Both, ‘I’ and ‘II’ are implicit.
- (d) Neither ‘I’ nor ‘II’ is implicit.

(Answer: (b))

**Rationale:**

The correct answer is (b) - only ‘II’ is implicit. Since it takes years of training, it is reasonable to assume that learning to play classical music is difficult. There is nothing in the statement to suggest that assumption I is implicit – it is quite possible that classical musicians perform very often, even if it takes them years to become performing musicians.

8.

The Mehtas have four daughters, Sejal, Tejal, Nehal, and Meenal; they are aged a year apart, with the youngest 6 years old, and the eldest 9 years old. Each of them plays a different sport for their school. Sejal plays Cricket. The girl playing Football is 2 years younger than Meenal. The 7-year-old girl plays Hockey. Tejal is either 6 or 8 years old.

8.1 Which of the Mehta sisters plays Hockey?

- (a) Sejal
- (b) Tejal
- (c) Nehal
- (d) Meenal

(Answer: (c))

8.2 How old is Meenal?

- (a) 6 years
- (b) 7 years
- (c) 8 years
- (d) 9 years

(Answer: (c))

8.3 What sport does the youngest girl play?

- (a) Cricket
- (b) Football
- (c) Hockey
- (d) Badminton

(Answer: (b))

**Rationale:**

Creating a table with the names of the four girls as the first column, and the names of the sports and ages in years as the first row, and filling in a '1' for each sport or age, based on the clues provided, we get the following:

Names	Cricket	Football	Hockey	Badminton	6 Years	7 Years	8 Years	9 Years
Sejal	1							1
Tejal		1			1			
Nehal			1			1		
Meenal				1			1	

9.

Five musicians gather to form a band:

Suresh and Ganesh can play the drums as well as the guitar.

Mahesh and Ganesh can play the drums as well as the piano.

Ramesh and Dinesh can play the flute as well as the banjo.

Dinesh can play the banjo, the guitar, and the flute.

Mahesh, Dinesh, and Ramesh can play the flute as well as the piano.

9.1 Which instrument do the most number of musicians in the group play?

- (a) Banjo
- (b) Flute
- (c) Piano
- (d) Guitar

(Answer: (c))

9.2 Which of the musicians can play the piano and the flute, but not the banjo?

- (a) Suresh
- (b) Mahesh
- (c) Ramesh
- (d) Dinesh

(Answer: (b))

**Rationale:**

Creating a table with the names of the musicians in the first column, and the names of the instruments in the first row, and filling in a '1' for each instrument that a musician plays, based on the clues provided, we get the following:

<b>Musician</b>	<b>Drums</b>	<b>Guitar</b>	<b>Piano</b>	<b>Flute</b>	<b>Banjo</b>
<b>Suresh</b>	1	1			
<b>Ganesh</b>	1	1	1		
<b>Mahesh</b>	1		1	1	
<b>Ramesh</b>			1	1	1
<b>Dinesh</b>		1	1	1	1

# Quantitative Techniques

Each set of questions in this section is based on a single passage, graph or other representation. Please answer each question by deriving information from such passage, graph, or other representation, or applying mathematical operations on such information as required by the question.

1.

The distance between Delhi and Agra is 200 km. The New Delhi Shatabdi Express starts from Delhi towards Agra at 12 noon. On the way, it crosses a bridge measuring 200 m in 35 seconds, and a pillar on the bridge in 25 seconds. At the same time, the Hazrat Nizamuddin Singrauli SF Express, which is 300 m in length, starts from Agra towards Delhi at 58 km/h. However, due to the holiday season, the railways decides to run the holiday special train Sheetakal Express, which is 400 m in length, from Delhi to Agra, leaving at 12:15 pm at a speed of 84 km/h.

1.1 At what distance from Agra will the New Delhi Shatabdi Express and the Hazrat Nizamuddin Singrauli SF Express cross each other?

- (a) 100.16 km
- (b) 72,729 m
- (c) 89.32 km
- (d) 82.91 km

(Answer: (c))

**Rationale:**

The correct answer is (c).

Length of the bridge = 200 m

Let the length of the New Delhi Shatabdi Express be 'L' and its speed be 'S'.

$$L + 200 = 35 \times S$$

$$S = (L + 200) / 35$$

$$L = 25 \times S$$

$$S = L / 25$$

$$L / 25 = (L + 200) / 35$$

$$35L = 25L + 5000$$

$$10L = 5000$$

$$L = 500 \text{ m}$$

Therefore, speed  $S = 500 / 25 = 20 \text{ m/s}$

$$(20 \text{ m/s} \times 18) / 5 = 72 \text{ km/h}$$

Distance between the 2 cities = 200 km

Speed of New Delhi Shatabdi Express = 72 km/h

Speed of Hazrat Nizamuddin Singrauli SF Express = 58 km/h

Since, the trains are moving towards each other the speed of the trains will be added up to compute the time taken for the trains to cross each other.

Therefore, Total Speed =  $72 + 58 = 130$  km/h

Distance = Speed x time

$$200 = 130 \times \text{time}$$

Time it will take for the two trains to meet =  $200/130 = 1.54$  hours

Therefore, the trains will meet 1.54 hours after starting from their respective locations.

Distance from Agra = 1.54 hours x speed of Hazrat Nizamuddin Singrauli SF Express (Starts from Agra)

$$= 1.54 \times 58 = 89.32 \text{ km}$$

Distance from Delhi =  $1.4 \times$  New Delhi Shatabdi Express =  $1.54 \times 72 = 110.88$  km

1.2 Assuming no stoppages, at what time will the Sheetkal Express overtake the New Delhi Shatabdi Express?

- (a) 1:00 pm
- (b) 1:30 pm
- (c) 1:15 pm
- (d) 1:45 pm

(Answer (d))

**Rationale:**

Speed of New Delhi Shatabdi Express = 72 km/h. (See Rationale for 1.1)

Speed of Sheetkal Express = 84 km/h.

Time at which New Delhi Shatabdi Express starts = 12 pm

Time at which Sheetkal Express starts = 12.15 pm

Therefore, let us assume that the time taken by Sheetkal Express to overtake New Delhi Shatabdi Express is t.

Both the trains would have covered the same distance D at the time of overtaking.

$$D = 72 \times (t + 0.25) \text{ [As New Delhi Shatabdi Express started 15 minutes early]}$$

$$D = 84 \times t$$

$$72 \times (t + 0.25) = 84 \times t$$

$$72t + 18 = 84t$$

$$84t - 72t = 18$$

$$t = 18 / 12$$

$t = 1.5$  hours.

Therefore, the Sheetkal Express would overtake the New Delhi Shatabdi Express at 1.45 pm.

1.3 How much time will the New Delhi Shatabdi Express and the Hazrat Nizamuddin Singrauli SF Express take to cross each other and how much time will the New Delhi Shatabdi Express and the Sheetkal Express take to cross each other?

- (a) 22.15 seconds, 4.5 minutes
- (b) 0.5 minutes, 300 seconds
- (c) 270 seconds, 330 seconds
- (d) 1.8 minutes, 37 seconds

(Answer (a))

**Rationale:**

Since, the New Delhi Shatabdi Express and the Hazrat Nizamuddin Singrauli SF Express cross each other in opposite directions, the speeds of the trains and the distance must be added.

Therefore, the formula Distance = Speed x Time is modified as,

$$(\text{Length of Train1} + \text{Length of Train2}) = (\text{Speed of train 1} + \text{Speed of train 2}) \times \text{Time}$$

Length of New Delhi Shatabdi Express is 500 m (See Rationale for 1.1)

Speed of Hazrat Nizamuddin Singrauli SF Express = 58 km/h

$$(58 \text{ km/h} \times 5) / 18 = 16.11 \text{ m/s}$$

$$(500 \text{ metres} + 300 \text{ metres}) = (20 \text{ m/s} + 16.11 \text{ m/s}) \times \text{Time}$$

$$800 \text{ metres} = 36.11 \text{ m/s} \times \text{Time}$$

$$\text{Time} = 22.15 \text{ seconds}$$

Since the New Delhi Shatabdi Express and the Sheetkal Express are travelling in the same direction, the distance is the added length of both the trains, but we subtract the speed of the trains.

$$500 \text{ metres} + 400 \text{ metres} = 900 \text{ m} = .9 \text{ km}$$

$$0.9 \text{ km} = 84 \text{ km/h} - 72 \text{ km/h}$$

$$t = 0.9/12 = (9/120) \times 60 = 4.5 \text{ minutes}$$

2.

The data below represents the **State-wise Literacy Rate** of 10 states, in percentages. Use the data to answer the questions that follow.

States/Union Territories	1971	1981	1991	2001	2011
Andhra Pradesh	24.57	35.66	44.08	60.47	67.02
Arunachal Pradesh	11.29	25.55	41.59	54.34	65.39
Bihar	23.17	32.32	37.49	47.00	61.80
Goa	51.96	65.71	75.51	82.01	88.70
Jharkhand	23.87	35.03	41.39	53.56	66.41
Kerala	69.75	78.85	89.81	90.86	94.00
Lakshadweep	51.76	68.42	81.78	86.66	91.85
Mizoram	53.80	59.88	82.26	88.80	91.33
Rajasthan	22.57	30.11	38.55	60.41	66.11
Tripura	30.98	50.10	60.44	73.19	87.22

Source: Office of the Registrar General and Census Commissioner, Ministry of Home Affairs, Government of India.

[Data extracted from table: <https://www.rbi.org.in/scripts/PublicationsView.aspx?Id=18802>]

2.1. In how many states did the literacy rate increase less than 10% between the years 2001 and 2011? In percentage terms, what was the increase in literacy rate for the state that saw the lowest increase in literacy rate from 2001 to 2011?

- (a) 6, 2.53%
- (b) 4, 2.69%
- (c) 6, 2.85%
- (d) 4, 2.53%

(Answer: (c))

**Rationale:**

States that saw less than 10% increase between the last two decades are Andhra Pradesh, Goa, Kerala, Lakshadweep, Mizoram, and Rajasthan. In absolute terms, Mizoram showed the lowest change in literacy rate between the years 2011 and 2001 of 2.53. When converted to percentage terms, this is  $(2.53/88.8) * 100 = 2.85$ . Hence, in percentage terms the change for Mizoram is 2.77%.

2.2 Over the 5 decades represented in the table, only these states have occupied the top 3 ranks in terms of the literacy rate. Choose the correct option:

- (a) Mizoram, Goa, Kerala, Lakshadweep
- (b) Lakshadweep, Kerala, Goa
- (c) Mizoram, Kerala, Goa, Tripura
- (d) Kerala, Lakshadweep, Mizoram

(Answer: (a))

**Rationale:**

Rank – Year / State

Rank 1 – 1971, 1981, 1991, 2001, 2011 / Kerala

Rank 2 – 1971, 1991, 2001 / Mizoram; 1981, 2011 / Lakshadweep

Rank 3 – 1971, 1981 / Goa; 1991, 2001 / Lakshadweep; 2011 - Mizoram

2.3 Identify the states whose rank in terms of literacy rate remained unchanged during the 5 decades represented in the table.

- (a) Kerala, Mizoram, Goa, Tripura
- (b) Kerala, Tripura, Andhra Pradesh
- (c) Andhra Pradesh, Mizoram, Kerala
- (d) Kerala, Lakshadweep, Tripura, Andhra Pradesh

(Answer: (b))

**Rationale:**

Kerala – Rank 1, Tripura – Rank 5, Andhra Pradesh – Rank 6

2.4. Which state saw the maximum rise in literacy over the 5 decades and how much did it change by? Choose the correct option.

- (a) Bihar, the literacy rate doubled but did not triple.
- (b) Tripura, the literacy rate grew five-fold but not six-fold.
- (c) Tripura, the literacy rate doubled but did not triple.
- (d) Bihar, the literacy rate tripled.

(Answer: (c))

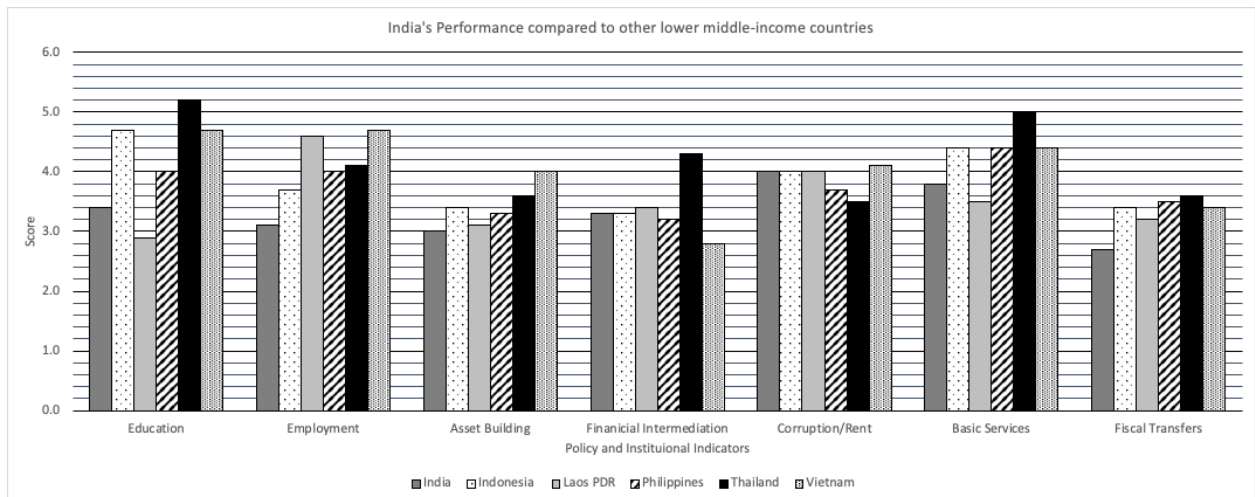
**Rationale:**

The maximum rise was in Tripura from 30.98 in 1971 to 87.22 in 2011 =  $87.22 - 30.98 = 56.24$

The change between the 5 decades is  $87.22 / 30.98 = 2.81$ . Therefore, the literacy rate doubled but did not triple.

3. The graph below compares India's performance with other lower middle-income countries on various policy and institutional indicators. Use the data available in the graph to answer the questions that following





[Data extracted from table: <https://www.weforum.org/agenda/2015/11/19-charts-that-explain-indias-economic-challenge/>]

(Note: Rounded off to one decimal place)

3.1. Which country's score is the poorest in each indicator – Education, Employment, Asset Building, Financial Intermediation, Corruption/Rent, Basic Services and Fiscal Transfers?

- (a) Laos PDR, Indonesia, Vietnam, Thailand, Thailand, India, India
- (b) Laos PDR, India, India, Vietnam, Thailand, Laos PDR, India
- (c) Laos PDR, India, Vietnam, Vietnam, Philippines, Laos PDR, India
- (d) Laos PDR, India, India, Vietnam, Thailand, Philippines, India

(Answer: (b))

3.2. Which Policy and Institutional Indicators have the lowest and highest average scores?

- (a) Corruption/Rent, Education
- (b) Asset Building, Fiscal Transfers
- (c) Fiscal Transfers, Basic Services
- (d) Financial Intermediation, Employment

(Answer: (c))

**Rationale:**

The correct answer is (c).

Average score for Education –  $(3.4 + 4.7 + 2.9 + 4.0 + 5.2 + 4.7) / 6 = 4.15$

Average score for Employment –  $(3.1 + 3.7 + 4.6 + 4.0 + 4.1 + 4.7) / 6 = 4.03$

Average score for Asset Building –  $(3.0 + 3.4 + 3.1 + 3.3 + 3.6 + 4.0) / 6 = 3.40$

Average score for Financial Intermediation –  $(3.3 + 3.3 + 3.4 + 3.2 + 4.3 + 2.8) / 6 = 3.38$

Average score for Corruption/Rent –  $(4.0 + 4.0 + 4.0 + 3.7 + 3.5 + 4.1) / 6 = 3.88$

**Average score for Basic Services –  $(3.8 + 4.4 + 3.5 + 4.4 + 5.0 + 4.4) / 6 = 4.25$  - Highest**

**Average score for Fiscal Transfers –  $(2.7 + 3.4 + 3.2 + 3.5 + 3.6 + 3.4) / 6 = 3.30$  - Lowest**

3.3. What is the highest percentage score in the employment indicator?

(Note: The scores were awarded on a scale of 7)

- (a) 67.22%
- (b) 67.14%
- (c) 65.71%
- (d) 68.14%

(Answer: (b))

**Rationale:**

Employment – Percent score

India –  $(3.1 / 7) * 100 = 44.29\%$

Indonesia –  $(3.7 / 7) * 100 = 52.86\%$

Laos PDR –  $(4.6 / 7) * 100 = 65.71\%$

Philippines –  $(4.0 / 7) * 100 = 57.14\%$

Thailand –  $(4.1 / 7) * 100 = 58.57\%$

**Vietnam –  $(4.7 / 7) * 100 = 67.14\%$**

3.4. Identify the country and the indicator with the lowest percentage score, and the country and indicator with the highest percentage score across all Policy and Institutional Indicators:

- (a) Lowest - Financial Intermediation, Vietnam; Highest - Basic Services, Thailand
- (b) Lowest - Vietnam, Asset Building; Highest - Education, Thailand
- (c) Lowest - Education, Laos; Highest - Employment, Vietnam
- (d) Lowest - Fiscal Transfers, India; Highest - Education, Thailand

(Answer: (d))

**Rationale:**

Highest score is in the Education indicator, scored by Thailand – 5.2

Percentage –  $5.2 / 7 * 100 = 74.29\%$

Lowest score is in the Fiscal Transfers indicator, scored by India – 2.7

Percentage –  $2.7 / 7 * 100 = 38.57\%$

3.5. What country has the maximum score difference between its highest and lowest scores across all indicators?

- (a) Vietnam
- (b) Laos PDR
- (c) Thailand
- (d) Philippines

(Answer: (a))

**Rationale:**

India's score: Lowest in Fiscal Transfers – 2.7; Highest in Corruption/Rent – 4.0.

Therefore, difference =  $4.0 - 2.7 = 1.3$

Indonesia's score: Lowest in Financial Intermediation – 3.3; Highest in Education – 4.7

Therefore, difference =  $4.7 - 3.3 = 1.4$

Laos PDR's score: Lowest in Education – 2.9; Highest in Employment – 4.6

Therefore, difference =  $4.6 - 2.9 = 1.7$

Philippines' score: Lowest in Financial Intermediation – 3.2; Highest in Basic Services – 4.4

Therefore, difference =  $4.4 - 3.2 = 1.2$

Thailand's score: Lowest in Corruption/Rent – 3.5; Highest in Education – 5.2

Therefore, difference =  $5.2 - 3.5 = 1.7$

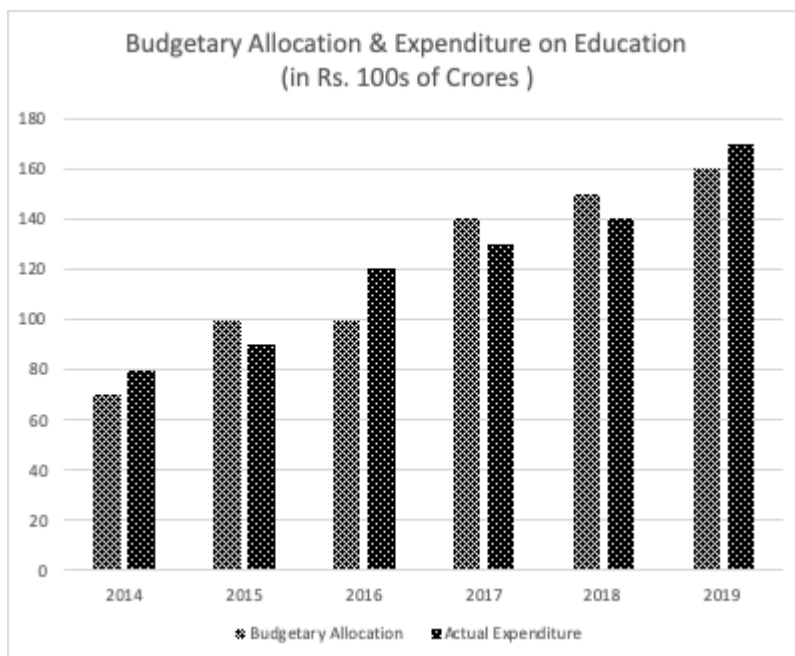
Vietnam's score: Lowest in Financial Intermediation – 2.8; Highest in Education/Employment –

4.7

Therefore, difference =  $4.7 - 2.8 = 1.9$

4.

The graph below illustrates the budgetary allocation and actual expenditure by a state government on education. Use the data available to answer the questions that follow.



(note: round off to the nearest 100)

4.1 What is the average budgetary allocation (in Rs. 100 cr.) between 2014 to 2017?

- (a) 100
- (b) 120
- (c) 102.5
- (d) 105

(Answer: (c))

4.2 Which year saw the highest percentage growth of actual expenditure compared to the previous year?

- (a) 2015
- (b) 2019
- (c) 2017
- (d) 2016

(Answer: (d))

4.3 In how many of the years were the budgetary allocations at least 5% more than the actual expenditure?

- (a) 2
- (b) 3
- (c) 1
- (d) 4

(Answer: (b))