

## ENGLISH

1.

[1]In the early part of the 3rd millennium, civilisation, in the sense of an organized system of government over a comparatively large area, developed nearly simultaneously in the river valleys of the Nile, Euphrates, and Indus. [2]We know a great deal about the civilisations of Egypt and Mesopotamia, for they have left us written material which has been satisfactorily deciphered. [3]# Indus people, # the other hand, did # engrave long inscriptions # stone or place papyrus scrolls # the tombs of their dead; all that we know # their writing is derived # the brief inscriptions of their seals, and there # no Indian counterpart of the Rosetta Stone. [4]Several brilliant efforts have been made to read the Indus seals, but none so far has succeeded. [5]Hence our knowledge of the Indus civilisation is inadequate in many respects, and it must be classed as prehistoric, for it has no history in the strict sense of the term.

[6]The civilisation of the Indus is known to the archaeologist as the Harappa Culture, from the modern name of the site of one of its two great cities, on the left bank of the Ravi, in the Panjab. MohenjoDaro, the second city, is on the right bank of the Indus, some 250 miles from its mouth. [7]Recently, excavations have been carried out on the site of Kalibangan, in the valley of the old River Sarasvati, now almost dried up, near the border of India and West Pakistan. [8]These have revealed a third city, almost as large as the two earlier known, and designed on the same plan. As well as these cities a few smaller towns are known, and a large number of village sites, from Rupar on the upper Satlaj to Lothal in Gujarat. [9]The area covered by the Harappa Culture therefore extends for some 950 miles from north to south, and the pattern of its civilisation can be so uniform that even the bricks were usually of the same size and shape from one end of it to the other. [10]Outside this area the village cultures of Baluchistan seem to have continued much as before.

[Edited, with extracts from: *The Wonder that was India*, by A. L. Basham, 3rd revised edition, 2004, Picador, page no. 14-15]

1.1 Which of the following contains the correct sequence of missing words in the sentence [3]? (Missing words indicated by #.)

- (a) An, on, not, in, on, about, by, was
- (b) The, on, not, in, on, about, of, from, is
- (c) The, on, not, on, in, of, from, is
- (d) The, on, not, in, in, in, from, was

(Answer: (c))

1.2 The word 'prehistoric' implies which of the following?

- (a) Of historic significance
- (b) Belonging to a period before documented human activity
- (c) Belonging to a period before the advent of the modern homo sapiens
- (d) Relates to the period before Christ (BC)

(Answer: (b))

1.3 Which set of words below contains the correct set of antonyms for all of the following words? - organised, brief, revealed, uniform

- (a) disorganised, lengthy, concealed, varied
- (b) uncoordinated, direct, hidden, constant
- (c) chaotic, protracted, secrete, different
- (d) trim, extended, disguised, haphazard

(Answer: (a))

1.4 All the sentences in the above passage are grammatically correct in the context of the passage, except -

- (a) [7]
- (b) [8]
- (c) [9]
- (d) [10]

(Answer: (c))

**Rationale:**

The correct answer is (c) – [9] - because it says ‘\_ extends’ where it should say ‘\_ extended’ and says ‘\_ can be’ where it should say ‘\_ was’.

1.5 According to the passage, the civilisation of the Indus is known to the archaeologist by:

- (a) the river Indus
- (b) the contemporary term for a great city on the bank of Ravi
- (c) MohenjoDaro, the second great city of the Indus civilisation
- (d) the site of Kalibangan

(Answer: (b))

2.

For some, it's simple: debts must always be paid back. There's no alternative to repentance, especially when it's engraved in the marble of European treaties. But a quick look at the history of public debt, a fascinating and unjustly neglected subject, shows that things are much more complicated.

First, the good news: in the past we find public debts even larger than those seen today, and we've always managed to overcome them, using a great variety of methods. We can distinguish, on the one hand, the slow method, which aims at patiently accumulating budget surpluses so that little by little the interest and then the principal of the debts are repaid; and on the other hand, a series of methods aiming to accelerate the process: inflation, exceptional taxes, cancellations pure and simple.

A particularly interesting case is that of Germany and France, which in 1945 found themselves with public debts of around two years' worth of GDP, levels even higher than Greece or Italy today. By the early 1950s those debts had fallen to less than 30% of GDP. Obviously, such a swift reduction wouldn't have been possible through accumulating budget surpluses. On the contrary, the two countries used the whole panoply of fast methods. Inflation played the central role. France also instituted an exceptional tax on private capital. Both countries also used various forms of \_ debt

restructuring,' the technical term used by financiers for simply cancelling all or part of a debt (the more prosaic term haircut is also used). And it's those same two countries that are now explaining to southern Europe that public debts must always be repaid, down to the last euro, without inflation and without exceptional measures.

Germany obviously bears a heavy responsibility for this extraordinary historical amnesia. But these decisions could never have been adopted if France had opposed them. Through their short-sighted selfishness, Germany and France are mistreating southern Europe.

[Extracted, with edits and revisions, from *Chronicles: On our Troubled Times*, by Thomas Piketty, Penguin Books, 2016.]

2.1 Which of the following is most like the 'slow method' of paying back debts that the author describes?

- (a) I take a loan, and pay it back by taking another loan.
- (b) I take a loan, avoid contact with the lender, and move to another city secretly.
- (c) I take a loan, and sell some of my belongings to pay the loan back in one shot.
- (d) I take a loan from a bank, and pay it back in small instalments from my monthly salary.

(Answer: (d))

**Rationale:**

The correct answer is (d) – I take a loan from a bank, and pay it back in small instalments from my monthly salary. This is similar to the 'slow method' the author describes in that it also requires accumulating, or paying back, small amounts over a period of time. Options (a) and (c) cannot be correct, since they involve paying the loan back in one go through means other than saving or accumulating small amounts over a period of time. Option (b) does not involve paying the loan back at all, and so, this cannot be the correct answer.

2.2 What does the author say is the 'good news' about public debt?

- (a) That there existed even larger public debts in the past than today, and that they were paid back through a combination of means.
- (b) That there were even larger public debts in the past than today, and so we are not as bad at accumulating debts today than we were in the past.
- (c) That there exist methods that can be used to pay back public debt in a fast manner.
- (d) That we prefer slow methods of paying back public debt, and that such means do exist even today.

(Answer: (a))

**Rationale:**

The correct answer is (a) – that there existed even larger public debts in the past than today, and that they were paid back through a combination of means. The author says this in the second paragraph. While the first part of option (b) may be right, the second part is not supported by the author's statements in the passage, and so, (b) cannot be the correct answer. While option (c) may be true, it only provides a partial response to the question and so, cannot be the correct answer. The first part of option (d) is not supported by anything in the passage and so, this cannot be the correct answer.

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

- (a) Good grooming, as reflected in a person's appearance.
- (b) Extinguishing some portion or all of an obligation to pay something back.
- (c) A combination of fast and slow means of paying back a debt.
- (d) Forcibly trimming a person's hair to make them more presentable.

(Answer: (b))

**Rationale:**

The correct answer is (b) – extinguishing some portion or all of an obligation to pay something back. The author says this term is used ‘for simply cancelling all or part of a debt’. In light of this explanation, none of the other options can be the correct answer.

2.4 According to the author, what restrictions have Germany and France placed on southern Europe in relation to paying off public debt?

- (a) That they may only pay the debt back after ten years.
- (b) That they may not employ means of accelerating their debt repayment.
- (c) That they may only pay their debt back in euros.
- (d) That they must pay very high rates of interest.

(Answer: (b))

**Rationale:**

The correct answer is (b) – that they may not employ means of accelerating their debt repayment. We see this at the end of the third paragraph, where the author states that Germany and France have told southern Europe to pay off public debt -without inflation and without exceptional measures, which the author describes as means of accelerating the process of paying back public debt, in the second paragraph. There is nothing in the passage to support the statements in any of the other options, and so, none of them can be the correct answer.

2.5 Why does the author say Germany owes a responsibility for the -extraordinary historical amnesia described in the passage?

- (a) Because it has forgotten how difficult it is to pay off public debt.
- (b) Because it has deleted all historical and archival records relating to its public debts.
- (c) Because it is trying to prohibit other countries from using the same means of paying off public debt that it used itself in the past.
- (d) Because it is charging very high rates of interest on other countries after suffering from public debt itself.

(Answer: (c))

**Rationale:**

The correct answer is (c) – because it is trying to prohibit other countries from using the same means of paying off public debt that it used itself in the past. The author describes how Germany and France used ‘slow methods’ as well as methods that would accelerate the repayment of public debt between 1945 and the early 1950s, and how -it’s those same two countries that are now explaining to southern Europe that public debts must always be repaid, down to the last euro, without inflation and without exceptional measures. There is nothing in the passage to support the statements in the other options, and so, none of them can be the correct answer.

2.6 What responsibility does the author ascribe to France in relation to the -extraordinary historical amnesia described in the passage?

- (a) It did not resist Germany’s decisions about how southern Europe should repay public debt.
- (b) It told southern Europe not to adopt any debt restructuring methods.
- (c) It told southern Europe to avoid inflationary economic policies.
- (d) It accumulated ever-increasing amounts of public debt.

(Answer: (a))

**Rationale:**

The correct answer is (a) – it did not resist Germany's decisions about how southern Europe should repay public debt. This is apparent from the author's statement about how the 'extraordinary historical amnesia' would not have been possible had France opposed Germany's decisions. While options (b) and (c) may be indirectly true, they do not address the question directly, and so, neither of these can be the correct answer. There is nothing in the passage to support option (d), and so, (d) cannot be the correct answer.

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

- (a) We should not accumulate large amounts of debt.
- (b) We should ensure private lenders take a haircut on their loans to countries.
- (c) We should not deny others the same means of improving their condition that we have employed in the past.
- (d) Countries should constantly aim to increase the rate of inflation in their economies.

(Answer: (c))

**Rationale:**

The correct answer is (c) – we should not deny others the same means of improving their condition that we have employed in the past. The author describes how Germany and France used certain means of repaying massive public debt after 1945, and then criticises them for not permitting southern Europe to use some of the same means. There is no information in the passage to suggest that the the author supports any of the statements in the other options – for example, while private lenders may have to take haircuts on loans to countries, we do not know whether the author supports this practice; similarly, while inflation may be a way of speeding up the repayment of public debt, we do not know whether the author supports inflation as a general rule, and so, none of the other options can be the correct answer.

3

[1]Annawadi sat two hundred yards off the Sahar Airport Road, a stretch where new India and old India collided and made new India late. [2]Chauffeurs in SUVs honked furiously at the bicycle delivery boys peeling off from a slum chicken shop, each carrying a rack of three hundred eggs. [3]Annawadi itself was nothing special, in the context of the slums of Mumbai. [4]Every house was off-kilter, so less off-kilter looked like straight. [5]Sewage and sickness looked like life.

[6]The slum had been settled in 1991 by a band of laborers trucked in from the southern Indian state of Tamil Nadu to repair a runway at the international airport. [7]The work complete, they decided to stay near the airport and its tantalizing construction possibilities. [8]In an area with little unclaimed space, a sodden, snake-filled bit of brush-land across the street from the international terminal seemed the least-bad place to live.

[9]Other poor people considered the spot too wet to be habitable, but the Tamils set to work, hacking down the brush that harbored the snakes, digging up dirt in drier places and packing it into the mud. [10]After a month, their bamboo poles stopped flopping over when they were stuck in the ground. [11]Draping empty cement sacks over the poles for cover, they had a settlement. [12]Residents of neighboring slums provided its name: Annawadi—the land of annas, a respectful Tamil word for older brothers. [13]Less respectful terms for Tamil migrants were in wider currency. [14]But other poor citizens had seen the Tamils sweat to summon solid land from a bog, and that labor had earned a certain deference.

[15]Seventeen years later, almost no one in this slum was considered poor by official Indian benchmarks. [16]Rather, the Annawadians were among roughly one hundred million Indians freed from poverty since 1991, when, around the same moment as the small slum's founding, the central government embraced economic liberalization. [17]The Annawadians were thus part of one of the

most stirring success narratives in the modern history of global market capitalism, a narrative still unfolding.

[18]True, only six of the slum's three thousand residents had permanent jobs. [19](The rest, like 85 percent of Indian workers, were part of the informal, unorganized economy.) [20]True, a few residents trapped rats and frogs and fried them for dinner. [21]A few ate the scrub grass at the sewage lake's edge. [22]And these individuals, miserable souls, thereby made an inestimable contribution to their neighbors. [23]They [x] those slumdweller[s] who [y] fry rats and eat weeds, like Abdul, a felt sense of their upward mobility.

[Edited, with extracts from: *Behind the beautiful forevers: life, death, and hope in a Mumbai undercity*, by Katherine Boo, 2012, Random House.]

3.1 'Off-kilter' means:

- (a) Complex
- (b) Out of balance
- (c) Zigzag
- (d) Curved

(Answer: (b))

3.2 Which of the following does the author imply when she says 'made new India late' in sentence [1]?

- (a) There were frequent accidents on Sahar Airport Road involving the rich and the poor and this caused delays for the rich.
- (b) Due to the proximity of Annawadi to the Sahar Airport, flights from the Sahar Airport could not take off on time.
- (c) The rich who travelled by car saw Annawadi as an impediment to the smooth flow of traffic around the Sahar Airport Road.
- (d) The presence of Annawadi acted as a hindrance to the progress of the newly arrived in Mumbai.

(Answer: (c))

**Rationale:**

The correct answer is (c) - the rich who travelled by car saw Annawadi as an impediment to the smooth flow of traffic around the Sahar Airport Road. This is apparent from the author's description of how 'new' and 'old' India collided in Annawadi, and how SUV drivers were obstructed by bicyclists from the slum. There is nothing in the passage to support either option (a) or (b), and so, neither of these can be the correct answer. While Annawadi may have acted as a hindrance to people on their way to the airport (or elsewhere), there is nothing to suggest it obstructed the progress of the newly arrived in Mumbai, and so, option (d) cannot be the correct answer.

3.3 According to the author, why did Annawadi seem like the 'least-bad place to live' to the band of labourers?

- (a) There was a lot of unclaimed space in the area where Annawadi was located.
- (b) They could eat weeds from the brush-land in Annawadi.
- (c) Because the labourers were respected in Annawadi.
- (d) Because there were prospects of finding work at the airport.

(Answer: (d))

**Rationale:**

The correct answer is (d) - because there were prospects of finding work at the airport. This is apparent from sentence [7] in the passage, where the author mentions the 'tantalizing construction possibilities' that the labourers may have perceived at the airport. While the other options may be true, the author does not provide these as the reason why the band of labourers thought Annawadi was the 'least-bad place to live', and so, none of them can be the correct answer.

3.4 Which of the following statements is inconsistent with the information in the passage above.

- (a) The poor people respected the Tamils for the toil that they had put in to convert wetland into a habitable area.
- (b) 'Anna' - a respectful Tamil word for an older brother - was the most widely used term for the Tamil people who had migrated.
- (c) Abdul felt that his social status was higher than that of the slumdweller who fried rats and ate grass.
- (d) Sewage was common in Annawadi.

(Answer: (b))

**Rationale:**

The correct answer is (b) - 'Anna' - a respectful Tamil word for an older brother - was the most widely used term for the Tamil people who had migrated. This is contradicted by the author's statement in sentence [13]. Each of the other options is supported by something in the passage – option (a) by sentence [14], option (c) by sentence [23], and option (d) by sentence [21], and so, none of them can be the correct answer.

3.5 Choose the correct set of missing words indicated by [x] and [y] in sentence [23].

- (a) give; doesn't
- (b) gave; won't
- (c) give; hadn't

(d) gave; didn't

(Answer: (d))

4.

If you're a girl in Heaven, you don't get out much. Too many pots to clean and meals to cook. Too many eyes watching you. When we leave, it's to go to the post office to fill out the deposit forms for our mothers' government-scheme bank accounts, or to the market where we've been sent for onions or tomatoes.

Joy goes out even less than the rest of us. When she leaves the muddy paths of Heaven, she leaves more than just tin roofs and hospital sludge. She leaves a fortress, a kingdom she built herself.

At the post office, the tellers ignore Joy, or ask her to do disgusting things when they think no one's listening. Only one vendor [1] the market sells her vegetables, and that too, [2] twice the cost. On the bus, women push her to the back, near the men's section. The section that's all perilous murmurs, malicious grasps and gropes.

Last year, when the health worker put Joy on the scale and told her she was underweight (just like the rest of us), Selvi Aunty took her to the hospital to get the iron pills the government is distributing to adolescent girls.

When the nurse asked for Joy's paperwork, Selvi Aunty handed over her birth certificate.

-I think you brought the wrong one, the nurse said. Purple lab coat over a red-checked sari. North Indian convent-school voice coated with the congratulations she must get for helping backward women, starving girls. -This looks like it's for your son. Do you have a child named Anand?

-That's right, Selvi Aunty said. Joy sat straight backed and stone faced, a granite statuette. -This is Anand. He's Joy now.

-Really, you people will stop at nothing for government hand-outs, the nurse said. Her fair face turned red up to the roots of her salon-cut hair.

-What do you mean? Selvi Aunty asked.

-Like you don't know, the nurse said. -This scheme is for girls! The lengths you'll go to for some extra rations. Really. Get a job.

-I have a job, Selvi Aunty said. -Four jobs at four different houses. And Joy is a girl. But anyway, what does it matter? She's underweight. The health worker said so. What's that word? Malnourished.

-I can't help you, the nurse said, waving her off. -Take your son elsewhere. And put some proper clothes on him.

But Selvi Aunty wasn't done yet. (Joy learned it from somewhere, didn't she?) She leaned across the table and stared into the nurse's eyes like a cobra hypnotising its prey.

-Not my son, she said quietly. -My daughter. Who is ten times the woman you will ever be.

[Extracted, with edits and revisions, from *A People's History of Heaven*, by Mathangi Subramanian, Penguin Random House, 2019.]

4.1 Which of the following is most likely to be true, based on the passage above?

- (a) The author thought Selvi Aunty was a weak person.
- (b) Joy is a transgender boy who was born a girl.



- (c) The author is a transgender girl who was born a boy.
- (d) Joy is a transgender girl who was born a boy.

(Answer: (d))

**Rationale:**

The correct answer is (d) - Joy is a transgender girl who was born a boy. This is apparent from the author's use of 'she' in describing Joy, the nurse's initial reaction upon seeing the birth certificate given to her, and SelviAunty's explanation that though the nurse was right about the birth certificate, Anand was now Joy, and that 'Joy is a girl'. Given the author's description of how Selvi Aunty responded to the nurse, (a) cannot be the correct answer. Option (b) contradicts the explanation given for why (d) is the correct answer, and so, (b) cannot be the correct answer. Option (c) is not supported by anything in the passage and so, cannot be the correct answer.

4.2 Why does the author say that girls from Heaven do not go out much?

- (a) Because their mothers have forbidden them from going out.
- (b) Because there is no public transport available near Heaven.
- (c) Because they have too much work to do, and there are too many people keeping an eye on them.
- (d) Because they are afraid of being molested in the public buses.

(Answer: (c))

**Rationale:**

The correct answer is (c) - because they have too much work to do, and there are too many people keeping an eye on them. This is clear from the first two sentences of the passage. There is nothing in the passage to support options (a) and (b), and so, neither of these can be the correct answer. While the author does mention that Joy was molested in the men's section of the bus, she does not give this as a reason why no girls from Heaven went out, and so, (d) cannot be the correct answer either.

4.3 Which of the following can we infer is likely to be true based on the information in the passage?

- (a) The nurse was unsympathetic to transgender people.
- (b) The nurse was very sympathetic to transgender people.
- (c) The nurse did not care who received government support, and handed these out to anyone.
- (d) The nurse thought iron pills were not good for the health of transgender people.

(Answer: (a))

**Rationale:**

The correct answer is (a) - the nurse was unsympathetic to transgender people. This is apparent from the author's description of the nurse's reaction to the fact that Joy is a transgender girl, and her statement that 'you people will stop at nothing for government hand-outs!'. There is nothing in the passage to support options (b) or (d), and so, neither of these can be the correct answer. Option (c) contradicts the nurse's response to SelviAunty's request for iron pills for Joy, and so, cannot be the correct answer.

4.4 Which of the following is most likely true, based on the information in the passage?

- (a) Joy wanted to be like the nurse when she grew up.
- (b) Joy learnt how to stand up to people from Selvi Aunty.
- (c) Joy did not like taking medicines.
- (d) Joy never left Heaven.

(Answer: (b))

**Rationale:**

The correct answer is (b) – Joy learnt how to stand up to people from Selvi Aunty. We can infer this from the author's description of how Selvi Aunty did not leave when the nurse asked her to, but gave her a fitting reply, and in the context in which the author says –Joy learned it from somewhere, didn't she?|| There is nothing in the passage to support options (a) or (c), and so, neither of these can be the correct answer. While the author says that Joy left Heaven even less than other girls, there is nothing to suggest that Joy never left Heaven, and so, (d) cannot be the correct answer.

4.5 Choose the correct set of missing words indicated by [1] and [2] in the passage:

- (a) at; at
- (b) in; under
- (c) for; for
- (d) at; in

(Answer: (a))

4.6 What does the word 'perilous' mean?

- (a) Thrill-seeking and adventurous.
- (b) Sharpened to a point.
- (c) Full of risk or danger.
- (d) Joyful and happy.

(Answer: (c))

4.7 Which of the following must necessarily be true, based on the information in the passage above?

- (a) Many transgender girls call themselves Joy.
- (b) No government healthcare professionals in India like transgender people.
- (c) Transgender persons are always malnourished.
- (d) None of the above.

(Answer: (d))

**Rationale:**

The correct answer is (d) – None of the above. Each of the options (a) to (c) is a generalisation that is not supported by the information in the passage. While the transgender girl in the passage is called Joy, that does not tell us whether many such girls call themselves Joy, and so, (a) cannot be the correct answer. Similarly, while the nurse in the passage was unsympathetic to Joy, and while Joy was malnourished, there is nothing in the passage to support that this must necessarily be true about all government healthcare professionals or all transgender persons, and so, neither (b) nor (c) can be the correct answer.

4.8 Which of the following could be an appropriate title for the passage?

- (a) The plight of transgender people in India.
- (b) Transgender people and malnourishment.
- (c) From Anand to Joy.
- (d) How to leave Heaven.

(Answer: (a))

**Rationale:**

The correct answer is (a) - the plight of transgender people in India. Given the author's description of the various problems that Joy faced at the market, at the post office, in buses, and in the main incident described in the passage, with the nurse, this option would be most appropriate. While each of the other options touches upon a matter described in the passage, option (a) is the only one that expresses the main idea of the passage as a whole, and so, none of (b), (c), or (d) can be the correct answer.

5.

Around the world, steps to tackle invasive species have been attempted. In May this year, Cyprus began culling lionfish, a species that is popular with aquarium owners. Native to the South Pacific and Indian Oceans, it began to appear in U.S. waters after pet owners started releasing the fish from home aquariums into the sea. They have begun to appear all across the Atlantic in Europe, and colonised the entire coast of Cyprus within a year.

In 2013, the Kerala government attempted to remove the African catfish manually from Periyar as it was threatening six globally threatened, endemic species, including the only species of snow trout found south of the Himalayas. The government planned to net the catfish and manually remove them. The effort was not very successful.

Biju Kumar adds that the government needs to come out with a policy for dealing with invasive species before they overwhelm ecosystems. -Early detection is one of the best methods of control and management. Once they establish themselves and devastate the ecosystem, its rather difficult, he says.

The trade is completely unregulated. -We need to have some kind of a quarantine system before introducing these species into natural ecosystems across India, he adds.

The other important step is to educate hobbyists and more importantly, shopkeepers.

-Unfortunately, shopkeepers can't identify fish species by their proper names, he says Subramanian. He cites the example of a cichlid called severum. -In India, this fish is referred to as Shivram, he says. -If you go to the shop and ask for severum, he will give you a blank stare. But if you ask him for Shivram, he will say yes.

This lack of knowledge can percolate down to hobbyists. -Hobbyists won't know anything about the life cycle or the care required to be taken for ensuring the survival of the fish if they don't even know its name, he adds.

There are primarily two channels of invasion—via hobbyists and through breeders. The mechanisms are different and driven by various factors. Hobbyists, often unbeknownst to them, acquire ornamental fish that eventually outgrow their tanks. They dispose of them in water bodies, in effect engineering an invasion. The other, more common, vector of invasion is breeders. Poor fish breeders, using cement cisterns or earthen ponds, are unable to afford proper fencing or filtering. Consequently, during the monsoon, these sites overflow into adjacent water bodies, and the fish escape.

[Extracted, with edits, from: *The Freshwater Capture*, by Shamsheer Yousaf, *The Fountain Ink*, <https://fountainink.in/reportage/the-freshwater-capture> ]

5.1 Which of the following is the correct meaning of the word 'quarantine'?

- (a) A mechanism to breed a species in captivity that leads to a higher number of offspring than what is ordinary.
- (b) A system to immunise a species before exposing it to a natural environment in which it may catch a disease.
- (c) A container or an artificial pond in which living aquatic animals or plants are kept for exhibition.

(d) A restriction on movement to prevent the spread of disease or pests.

(Answer: (d))

5.2 Of the two underlined statements attributed to Mr. Biju Kumar and Mr. Subramanian respectively, which one is grammatically incorrect?

(a) The statement attributed to Mr. Biju Kumar.

(b) The statement attributed to Mr. Subramanian.

(c) Both (a) and (b).

(d) Neither (a) nor (b).

(Answer: (a))

**Rationale:**

The correct answer is (a) - Once they establish themselves and devastate the ecosystem, it's rather difficult. In this statement the possessive form of the word 'it' is used, instead of the contraction of the words 'it is' which is written as 'it's'.

5.3 Which of the following statements is not supported by the passage above?

(a) Regulation of the fish trade is necessary.

(b) Hobbyists inadvertently end up aiding the proliferation of invasive fish species in natural water bodies.

(c) All ornamental fish species are invasive and destroy other forms of fish.

(d) After an invasive species establishes a colony, it is very difficult to cull them.

(Answer: (c))

**Rationale:**

The correct answer is (c) - all ornamental fish species are invasive and destroy other forms of fish. While the passage states that hobbyists, often unbeknownst to them, acquire ornamental fish that are invasive and release them into water bodies where they can harm other species, there is nothing in the passage to support the generalisation that all ornamental fish species are invasive and destroy other forms of fish. Support can be drawn for the statements contained in other options: option (a) is supported by statements made by Mr. Biju Kumar; option (b) is supported by the last paragraph of the passage; and option (d) is supported by the information provided regarding the experience of the Kerala government in culling the African catfish in the Periyar.

5.4 The cichlid 'severum' being called 'Shivram' in India has been cited by Mr. Subramanian as an example of:

- (a) The fish traders' ignorance of names of fish species.
- (b) The indigenisation of foreign fish species.
- (c) An invasive fish species that can be harmful to other species.
- (d) An ornamental fish species that is sold by shopkeepers in the fish trade.

(Answer: (a))

**Rationale:**

The correct answer is (a) - the fish traders' ignorance of names of fish species. This is evident from the statement made by Subramanian immediately before giving this example: -Unfortunately, shopkeepers can't identify fish species by their proper names. There is nothing in the passage to suggest that the example is of the phenomenon mentioned in (b) or the type of fish mentioned in option (c). There is no information in the passage about whether the cichlid 'severum' is an ornamental fish or not, although it can be inferred from the passage that certain shopkeepers engaged in the fish trade stock this fish for sale. Therefore, options (b), (c), and (d) are incorrect.

5.5 Which of the following statements is fully supported by the passage above?

- (a) Cyprus is better at removing invasive species of fish than Kerala.
- (b) Shopkeepers deceive fish buyers by giving foreign fish species Indian names.
- (c) It's easier to cull the lionfish as compared to the African catfish.
- (d) Fish breeders are a bigger cause of invasion than hobbyists who own fish as pets.

(Answer: (d))

**Rationale:**

The correct answer is (d) - fish breeders are a bigger cause of invasion than hobbyists who own fish as pets. This can be inferred from the sentence 'The other, more common, vector of invasion is breeders,' in the last paragraph that follows the mention of hobbyists as a source of invasion by fish species. The passage does not provide any yardstick to compare the efficacy of Cyprus and Kerala in culling fish or the ease of culling the lionfish and the African catfish. Therefore, neither (a) nor (c) can be the correct answer. There is nothing in the passage to support the statement in option (b) and therefore, it cannot be the correct answer.

## Current Affairs, including General Knowledge

1.

China was sharply criticised for its mass detention of members of the Muslim [1] community at a United Nations Human Rights Council meeting — but the country pushed back, saying that the condemnation was politically motivated.

Western governments, including those in Europe, the United States, and Canada, had the harshest words for China. The United States chargé d'affaires Mark Cassayre demanded that China -abolish all forms of arbitrary detention for [1] and other Muslims minorities, and that China release the -possibly millions of individuals detained there.

China's Vice Foreign Minister Le Yucheng dismissed these and other comments as -politically driven accusations from a few countries that are fraught with biases.

China has detained as many as 1 million [1] in so-called -re-education centres and forced them to undergo psychological indoctrination programs — like studying communist propaganda and giving thanks to Chinese President Xi Jinping. Chinese authorities have also reportedly used waterboarding and other forms of torture on the ethnic minority.

The Chinese government, however, claims that the camps are merely vocational and training centres intended to combat extremism, and that they're teaching detainees useful and valuable skills.

[2], where about 10 million [1] and a few other Muslim minorities live, is an autonomous region in China's northwest that borders Kazakhstan, Kyrgyzstan, and Mongolia. It has been under Chinese control since 1949, when the communist People's Republic of China was established.

Once situated along the ancient Silk Road trading route, [2] is oil- and resource-rich. As it developed along with the rest of China, the region attracted more Han Chinese, a migration encouraged by the Chinese government.

[2] is also a major logistics hub of Beijing's ambitious [3], a trillion-dollar infrastructure project along the old Silk Road meant to boost China's economic and political influence around the world. [2]'s increasing importance to China's global aspirations is likely a major reason Beijing is tightening its grip.

The Chinese government justifies its clampdown on the [1] and other Muslim minorities by saying it's trying to eradicate extremism and separatist groups. But while attacks, some violent, by [1] separatists have occurred in recent years, there's little evidence of any cohesive separatist movement — with jihadist roots or otherwise — that could challenge the Chinese government, experts say.

[Extracted, with edits and revisions, from: Jen Kirby, "China's brutal crackdown on the [1] Muslim minority, explained", Vox, <https://bit.ly/2tmaySC>.]

1.1 In the passage above, the name of the Muslim community that China has recently faced criticism for persecuting has been replaced with [1]. What is the name of the community?

- (a) Han
- (b) Hui
- (c) Uighur
- (d) Kazakh

(Answer: (c))

1.2 In the passage above, the name of the Chinese region where the alleged persecution of the [1] is taking place, has been replaced with '[2]'. What is the name of the region?

- (a) Sichuan
- (b) Xinjiang
- (c) Guangdong
- (d) Qinghai

(Answer: (b))

1.3 What is the name of the trillion-dollar infrastructure project whose name has been replaced with '[3]' in the passage above?

- (a) Intercity Railway along the Yangtze River
- (b) Super grid
- (c) Silk Road Economic Shipping Lane
- (d) Belt and Road Initiative

(Answer: (d))

1.4 The Indian government turned down an invitation to attend the second Forum for the [3] in 2019; in doing so, it mentioned which of the following as a concern for not participating in the Forum?

- (a) Intercity Railway along the Yangtze River
- (b) Jiaozhou Bay Bridge
- (c) East Container Terminal at the Colombo Port
- (d) China-Pakistan Economic Corridor

(Answer: (d))

1.5 Which of the following is the name of the current Indian policy that aims to strengthen ties with India's neighbours in Southeast Asia?

- (a) Act East Policy
- (b) Non-Alignment Policy
- (c) Panchsheel
- (d) Doklam Diplomacy

(Answer: (a))

2.

It was billed as one of the most unpredictable elections in decades but after six weeks of hard campaigning by two historically unpopular party leaders the UK general election on 12 December 2019 ended with a conclusive result.

Conservative Party leader Boris Johnson won a sweeping victory, handing him a clear mandate to "get Brexit done".

He had called the UK's third general election since 2015 - and the first to be held in December for almost 100 years - in an effort to increase his parliamentary majority and end months of deadlock over the UK's exit from the European Union.

It was a thumping defeat for the main opposition Labour party. Leader Jeremy Corbyn said Brexit had "polarised and divided debate", shifting focus away from other, more traditional issues.

There were significant losses for the Labour party, which analysts said were not just down to Brexit but to the leadership of veteran socialist Jeremy Corbyn.

Conservative party candidates triumphed in constituencies that had backed Labour for decades. The Welsh town of Wrexham had solidly supported the party since 1935, but on Thursday elected the first ever female Conservative MP in Wales.

The other big winners of the night were the pro-independence Scottish National Party (SNP). Party leader Nicola Sturgeon said there was a "renewed, refreshed and strengthened mandate" for a second Scottish independence referendum.

The election result empowers the prime minister to see through whichever kind of Brexit he sees fit, however he may find it hard to secure a full deal by the end of next year. EU leaders said they were ready to start talks with the aim of maintaining "close co-operation" with the UK.

Mr Johnson has vowed to end freedom of movement between the EU and the UK and implement a new points-based immigration system. His government will also negotiate free trade agreements with other trading partners around the world.

[Extracted, with edits and revisions, from: "UK general election 2019: Who won and what happens now?", *BBC News*, <https://www.bbc.com/news/world-europe-50746464>.]

2.1 Who was the Prime Minister of the United Kingdom immediately prior to the elections described in the passage above?

- (a) Theresa May
- (b) Jeremy Corbyn
- (c) David Cameron
- (d) Boris Johnson

(Answer: (d))

2.2 Nicola Sturgeon mentioned a mandate for a second Scottish independence referendum after the elections. What was the result of the first such referendum?

- (a) Voters voted to remain in the European Union.
- (b) Voters voted against Scotland becoming an independent country.
- (c) Voters voted for Scotland becoming an independent country.
- (d) Voters voted to leave the European Union.

(Answer: (b))

2.3 Who among the following is currently the youngest serving state leader?

- (a) Kim Jong-un
- (b) Sebastian Kurz
- (c) Sanna Marin
- (d) Jacinda Arden

(Answer: (b))

2.4 2019 also saw general elections being conducted in India. Which of the following is not true about these elections?

- (a) They had the highest-ever voter turnout.



- (b) They had the highest-ever participation by women voters.
- (c) Electronic Voting Machines were used for the first time ever in these elections.
- (d) Residents of former enclaves exchanged with Bangladesh in 2015 voted in a general election for the first time.

(Answer: (c))

2.5 The 2019 general elections in India were the first general elections after the introduction of which of the following forms of political financing in India?

- (a) Dark Money
- (b) Party Subsidies
- (c) Electoral Bonds
- (d) Political Action Committees

(Answer: (c))

3.

Paralympic silver-medallist [1] on Thursday became the first Indian woman para-athlete and the oldest to be conferred the Rajiv Gandhi KhelRatna award, but training commitments kept co-awardee BajrangPunia away from the ceremony at the RashtrapatiBhawan here.

[1], who won a silver medal in the shot put F53 category in the 2016 Rio Paralympics, was joint winner of the top honour with Asian and Commonwealth Games champion Punia, who is in Russia to prepare for the upcoming World Championships in Kazakhstan.

[1] became only the second para-athlete after double Paralympic gold-medallist javelin thrower [2], who received the recognition in 2017, to have won the prestigious award. At 49, she also became the oldest athlete ever to have claimed the honour.

The National Sports Awards are given on August 29 every year to commemorate the birth anniversary of [3].

-I am very happy. This whole journey has been more about changing the attitude of people towards disability and the hidden potential in people with disability,|| [1] said. -I think the award is going to be a huge inspiration to women athletes in disability. It took 70 years for independent India to win medal in Paralympic,|| she added.

[Extracted, with edits and revisions, from: "[1] basks in KhelRatna glory ", *The Hindu Business Line*, <https://bit.ly/36Elus6>.]

3.1 What is the name of the athlete whose name has been replaced with [1] in the passage above?

- (a) Deepa Malik
- (b) MariyappanThangavelu
- (c) KaramjyotiDalal
- (d) RinkuHooda

(Answer: (a))

3.2 Who is the first para-athlete to be awarded the Rajiv Gandhi KhelRatna award?

- (a) Rajinder Singh
- (b) SuyashJadhav

- (c) DevendraJhajharia
- (d) Varun Singh Bhati

(Answer: (c))

3.3 Who is the only woman other than P.V. Sindhu to have won a World Championship Gold in badminton for India?

- (a) JwalaGutta
- (b) AshwiniPonnappa
- (c) SainaNehwal
- (d) Manasi Joshi

(Answer: (d))

3.4 In which city were the 2019 World Para Athletics Championships held?

- (a) Dubai
- (b) Abu Dhabi
- (c) Qatar
- (d) Sharjah

(Answer: (a))

3.5 Whose name has been replaced with [3] in the passage above?

- (a) M.A.K. Pataudi
- (b) P.T. Usha
- (c) Dhyan Chand
- (d) Milkha Singh

(Answer: (c))

4.

The Lok Sabha on July 25, 2019 passed the contentious Triple Talaq bill. Law Minister Ravi Shankar Prasad, moving the bill for consideration, said the bill is about gender justice.

Prasad, according to PTI, said the legislation was a must for gender equality and justice as despite an August 2017 Supreme Court verdict striking down the practice of instant triple talaq, women are being divorced by [1].

He said, since January 2017, 574 such cases have been reported by the media.

Three ordinances have so far been promulgated as a similar bill moved by the previous government could not get the parliamentary nod.

A fresh bill was introduced by the new government in June during the ongoing Parliament session.

Under the [2], divorcing through instant triple talaq will be illegal, void and would attract a jail term of three years for the husband.

Prasad said to allay fears that the law could be misused, the government has included certain safeguards in it such as adding a provision of bail for the accused before trial.

While the law makes triple talaq a -non-bailable offence, an accused can approach a magistrate even before trial to seek bail. A provision has been added to allow the magistrate to grant bail -after hearing the wife, the minister said.

[Extracted, with edits and revisions, from: "Lok Sabha Passes Triple Talaq Bill", *Huff Post*, [https://www.huffingtonpost.in/entry/lok-sabha-passes-triple-talaq-bill\\_in\\_5d395898e4b0419fd3380270](https://www.huffingtonpost.in/entry/lok-sabha-passes-triple-talaq-bill_in_5d395898e4b0419fd3380270).]

4.1 The name of the practice whereby Muslim men could grant an instant divorce through triple talaq to their wives has been replaced with '[1]' in the passage above. What is the name of the practice replaced with '[1]'?

- (a) Talaq-e-ahsan
- (b) Talaq al-sunnah
- (c) Talaq-e-biddat
- (d) Talaq-e-tafweez

(Answer: (c))

4.2 Which of the following is the 2017 case before the Supreme Court mentioned in the passage above?

- (a) Mohd. Ahmed Khan v. Shah Bano Begum
- (b) ShayaraBano v. Union of India and Others
- (c) Dr.NoorjehanSafiaNiaz and 1 Other v. State of Maharashtra and Others
- (d) YasmeenZuber Ahmad Peerzade and Another v. Union of India

(Answer: (b))

4.3 The petitioner in the 2017 case mentioned in the previous judgment asked for two other practices to be declared unconstitutional, in addition to the practice of instant triple talaq. Which are these two other practices?

- (a) Polygamy
- (b) Nikah-halala
- (c) Both, (a) and (b)
- (d) None of the above

(Answer: (c))

4.4 Which of the following is the name of the law under which the practice of triple talaq is declared illegal, and whose name has been replaced with '[2]' in the passage above?

- (a) The Dissolution of Muslim Marriages Act
- (b) The Muslim Personal Law (Shariat) Application Act
- (c) The Muslim Women (Protection of Rights on Divorce) Act
- (d) The Muslim Women (Protection of Rights on Marriage) Act

(Answer: (d))

4.5 Respondents in the 2017 Supreme Court case mentioned in the passage above claimed that the practice of triple talaq is protected under which of the following Articles of the Constitution of India?

- (a) Article 25
- (b) Article 12
- (c) Article 32
- (d) Article 256

(Answer: (a))

5.

Record sales by Indian artists pointed to the continuing steady interest in modern Indian art in an eventful 2019 that ended globally on a note of 'fruitful' controversy over a banana duct-taped to a wall in a Miami gallery -- and soon eaten by a visitor.

In the Indian art-scape, [1] was the undisputed star, bagging the top two spots for the most expensive Indian artworks sold in the year. While his 1982 Untitled oil-on-canvas fetched Rs 26.7 crore, another 1973 Untitled oil-on-canvas was picked up for Rs 25.2 crore at Mumbai-based auction house Saffronart sales.

Two more of his Untitled works, one created in 1958 and another in 1963, were sold for Rs 9.5 crore each at the Saffronart and Astaguru sales, respectively, making it to the "Top 10 artworks of 2019" list brought out by Artery India, an art intelligence and sales advisory, and shared exclusively with PTI.

While no contemporary painter made it to the list of top 10 most expensive artworks by Indians, London-based contemporary sculptor Anish Kapoor was named the most successful Indian artist alive by Hurun India Art List brought out by the Hurun Research Institute, a luxury publishing group based in Shanghai in China.

The year for the art world ended in a pandemonium like situation with a banana duct-taped to a wall up for sale at a booth in the 2019 edition of Art Basel Miami.

Of the three editions of the artwork titled "Comedian", created by Italian artist [2] and presented by gallery Perrotin, two sold for \$120,000 and one for \$150,000.

Before being removed, the banana was eaten by a visitor at the fair who claimed the act was part of a performance.

[Extracted, with edits and revisions, from: "Art in 2019 showed record-breaking sales -- and a banana taped to the wall", PTI, *Business Standard*, [https://www.business-standard.com/article/pti-stories/art-in-2019-record-breaking-sales-steady-interest-in-indian-modernists-and-a-banana-on-wall-119123100403\\_1.html](https://www.business-standard.com/article/pti-stories/art-in-2019-record-breaking-sales-steady-interest-in-indian-modernists-and-a-banana-on-wall-119123100403_1.html).]

5.1 What is the name of the artist whose name has been replaced with [1] in the passage above?

- (a) Raja Ravi Verma
- (b) Francis Newton Souza
- (c) Syed Haider Raza
- (d) Vasudeo S. Gaitonde

(Answer: (d))

5.2 What is the name of the artist who created the artwork titled -Comedian, whose name has been replaced with [2] in the passage above?

- (a) Emmanuel Perrotin
- (b) Maurizio Cattelan
- (c) Billy Cox
- (d) David Datun

(Answer: (b))

5.3 Which of the following artists' group, whose members included M.F. Husain, Tyeb Mehta, and K.H. Ara, was [1] invited to join in 1950?

- (a) Bombay Progressive Artists' Group
- (b) Calcutta Group
- (c) Sir J.J. School of Arts Group
- (d) Art Society of India

(Answer: (a))

5.4 One of the members of the Group mentioned in the previous question passed away in January 2020. What was their name?

- (a) HariAmbadasGade
- (b) SadanandBakre
- (c) Akbar Padamsee
- (d) ManishiDey

(Answer: (c))

5.5 Who amongst the following was awarded the Bharat Ratna posthumously in 2019?

- (a) BhupenHazarika
- (b) Ravi Shankar
- (c) Bhimsen Joshi
- (d) Bismillah Khan

(Answer: (a))

6.

The Kartarpur Sahib Corridor, which has materialised against all odds, is a political enigma. Some see it as a ray of hope amidst the darkness that has enveloped India-Pakistan ties. For others, it is very much part of the problem that afflicts the bilateral relationship. The divergence cuts across the political divide.

For former Prime Minister Manmohan Singh, the corridor could be a harbinger of improved relations between Delhi and Islamabad. But his party colleague and chief minister of Punjab, Amarinder Singh, had consistently drawn attention to the possibility that the initiative is part of Pakistan's longstanding interest in stoking Sikh separatism.

On its part, Delhi has extended strong support to the construction of the four-kilometre corridor connecting GurdwaraDera Baba Nanak on the Indian side and GurudwaraDarbar Sahib at Kartarpur across the border. But there is no hiding the wariness in the Indian security establishment about Pakistan's sudden enthusiasm for the corridor that it was unwilling to consider in the past.

While some in Rawalpindi might want to use the Kartarpur corridor to play the Khalistan card, Delhi must focus on the possibility of strengthening what unites the people of the province — the idea of Punjabiyat. Since the late 1990s, the governments led by AtalBihari Vajpayee and Manmohan Singh in Delhi, as well as the Congress and Akali governments — led respectively by Amarinder Singh and Parkash Singh Badal, have actively sought to develop economic and cultural cooperation across the [1] that divides the two Punjabs.

There were moments in the last two decades when these initiatives appeared very close to fruition. The plans included the expansion of the scope of overland trade at the Attari-Wagah border, facilitating hydrocarbon and electricity exports from the Indian Punjab to Pakistan and expanding cultural contacts.

That Rawalpindi seemed to pull the plug each time might suggest that the prospects to advance cooperation between the two Punjabs is limited. Even as he lauds the corridor as a new beginning in bilateral relations, Imran Khan insists that the resolution of Kashmir is critical for normalisation of bilateral relations between the two countries.

But, the fact that the Kartarpur corridor has been realised despite Pakistan's traditional logic on the relationship with India, should encourage Delhi to reconsider initiatives to promote cooperation across the [1]. Even more important, Delhi must look beyond the formal dialogue with Islamabad and the para diplomacy between Chandigarh and Lahore.

[Extracted, with edits and revisions, from: ||Kartarpur Corridor is a remarkable exception to the current dynamic between India, Pakistan||, C. Raja Mohan, *The Indian Express*, November 12, 2019, available online at:<https://indianexpress.com/article/opinion/columns/going-beyond-kartarpur-corridor-inauguration-opening-india-pakistan-amarinder-singh-pm-modi-imran-khan-6115072/>]

6.1 Which of the following is true of Kartarpur, the town?

- (a) It is the birthplace of Guru Nanak
- (b) The Harmandir Sahib is located there
- (c) Guru Nanak died at Kartarpur
- (d) It became a centre of conflict between the Indian government and a militant movement led by Jarnail Singh Bhindranwale

(Answer: (c))

6.2 The Kartarpur corridor is:

- (a) A visa-free border crossing between India and Pakistan
- (b) A segment of the Silk Road Economic Belt that is a part of the One Belt One Road Initiative
- (c) Both (a) and (b)
- (d) None of the above

(Answer: (a))

6.3 The line between the two Punjabs replaced by [1] is the -

- (a) McMahon Line
- (b) Durand Line
- (c) Radcliffe Line
- (d) Mountbatten Line

(Answer: (c))

6.4 The Khalistan movement was:

- (a) An alliance of political, social and religious organisations for an independent Kashmir
- (b) A separatist movement seeking to create a separate country called Khalistan as a homeland for Sikhs
- (c) A militia that was mobilised for anti-insurgency operations in Punjab to counter Naxalite violence in the region
- (d) A Sikh movement to free Balochistan from Pakistan supported by India

(Answer: (b))

6.5 If Afghanistan is considered as sharing a land border with India (in the Pakistan-occupied-Kashmir region), how many countries does India share its land borders with in total (including Afghanistan)?

- (a) 5
- (b) 6
- (c) 7
- (d) 8

(Answer: (c))

7.

On 16 January 2020, displaced [1] tribals from Mizoram, living as refugees in [2] since 1997, were allowed to permanently settle in [2]. The agreement, allowing 30,000 [1] tribals to permanently settle in [2], took 20 years and nine attempts in the making, and was signed between the Centre, the state governments of [2] and Mizoram, and [1]-Reang representatives in the national capital in the presence of union home minister Amit Shah.

The [1]-spread across [2], Mizoram and parts of southern Assam-are the most populous tribe in [2]. Also known as Reangs in the state, they are ethnically different from the Mizos, with their own distinct language and dialect and form one of the 21 scheduled tribes of [2].

In 1997, roughly half the [1] population fled to [2], following violent clashes with the Mizo population, which led to the [1]s' demand for an Autonomous District Council (ADC), under the 6th Schedule of the Constitution, in western Mizoram, where they were the more dominant lot, outnumbering the ethnic Mizo population.

On 1 October, as the Centre's ninth repatriation attempt began, the tribe's food and cash supply was stopped – prompting the tribe to take to the streets. On 3 October, the union home ministry started a round of talks with the state governments of Mizoram and [2] to legitimize the 30,000-odd refugees.

[Extracted, with edits and revisions, from: "Who are the [1] refugees?", Shashwati Das, *LiveMint*, <https://bit.ly/3angwDz>.]

7.1 The name of the tribe that is discussed in the passage above, and who are also known as the 'Reang', has been replaced with '[1]' in the passage above. What is '[1]'?

- (a) Lepcha
- (b) Jamatia
- (c) Bru
- (d) Halam

(Answer: (c))

7.2 The name of the state where the displaced [1] refugees have now been allowed to settle permanently according to the pact signed on 16 January 2020 has been replaced with '[2]' in the passage above. What is '[2]'?

- (a) Tripura
- (b) Manipur
- (c) Meghalaya
- (d) Assam

(Answer: (a))

7.3 What is the name of the Act, passed in 1958 and applied to several states in northeast India, which allows special powers to the Indian Armed Forces to maintain public order in –disturbed areas, and which was recently partially withdrawn from some areas?

- (a) Prevention of Terrorism Act
- (b) Armed Forces (Special Powers) Act
- (c) National Security Act
- (d) Army Act

(Answer: (b))

7.4 This person went on a 16-year-long hunger strike to demand the abolition of the Act mentioned in the previous question. What is this person's name?

- (a) Khaidem Mani
- (b) Babloo Loitongbam
- (c) Sanjoy Hazarika
- (d) Irom Sharmila

(Answer: (d))

7.5 This person signed the '[1] Merger Agreement' on September 9, 1949, as a result of which '[1]' became a part of India on October 15, 1949. Who is this person?

- (a) Maharani Kanchan Prava Devi
- (b) Maharaja Bir Bikram Kishore Debbarman Manikya Bahadur
- (c) Maharaja Kirit Bikram Kishore Deb Barman
- (d) Maharaja Birendra Kishore Manikya

(Answer: (a))



8.

Extremely severe cyclonic storm [1] hit the Odisha coast in Puri early morning on May 3, 2019 with a wind speed of around 175 kmph.

The Navy, the National Disaster Response Force and the Coast Guard are on high alert. The Met department has issued a "yellow warning" for Odisha, predicting heavy to very heavy rain in several areas. Tamil Nadu and Andhra Pradesh have been placed on high alert too.

According to the IMD, in the past 126 years (1891-2017) only 14 severe tropical cyclones have formed in April over the Bay of Bengal. Out of those, only one storm crossed the Indian mainland. Cyclone [1] was the second storm to form in April and cross the mainland. The last severe cyclone 'Nargis' in 2008 devastated Myanmar.

Cyclones are not new to Odisha. The worst one, a super cyclone had hit the state in 1999, killing more than 15,000 people, with most of the casualty being reported from Odisha.

[Extracted, with edits and revisions, from: –Cyclone [1]: 6 things you should know about this severe cyclone, *The Economic times*, <https://bit.ly/2tBoiJr>.]

8.1 What is the name of the cyclonic storm whose name has been replaced with '[1]' in the passage above?

- (a) Bulbul
- (b) Titli
- (c) Fani
- (d) Viyaru

(Answer: (c))

8.2 What was the name of the super cyclone that hit the state of Odisha in 1999, mentioned in the passage above?

- (a) Cyclone Gonu
- (b) Cyclone BOB 06
- (c) Cyclone Phailin
- (d) Cyclone Kyarr

(Answer: (b))

8.3 The name '[1]' was suggested by which country?

- (a) Thailand
- (b) Sri Lanka
- (c) Pakistan
- (d) Bangladesh

(Answer: (d))

8.4 S. 144 of the CrPC was imposed in Gaya in Bihar in 2019 as part of a reaction to contain the fallout from which of the following weather-related phenomenon that struck the state?

- (a) heatwave
- (b) cyclone
- (c) earthquake
- (d) drought

(Answer: (a))

8.5 Which of the following is true about the 2019 Indian monsoon season?

- (a) It was the earliest onset of the monsoon in 30 years
- (b) It witnessed the lowest monsoonal rainfall in 25 years
- (c) It witnessed the heaviest monsoonal rainfall in 25 years
- (d) It had no impact on agriculture in the country

(Answer: (c))

## Legal Reasoning

1.

The government on 9 January lifted the bar on tax payers having joint property ownership from filing income tax return in ITR Forms 1 and 4 meant for people with income up to Rs. 50 lakh per annum from salary, business or profession, provided such tax payer's income from salary, business or profession is below Rs. 50 lakh.

An official statement from the Central Board of Direct Taxes (-**CBDT**) said that the eligibility norms for filing tax returns in ITR Forms 1 (called Sahaj) and Form 4 (called Sugam) have been eased. The move comes after tax payers expressed concerns about the conditions regarding use of these forms that were notified on 3 January.

The earlier notification had said that persons who own a property in joint ownership were not eligible to file their tax returns in these two forms. It also meant that certain persons who are required to file returns only because of certain transactions entered into during the year such as bank deposits above Rs. 1 crore, spending more than Rs. 2 lakh on foreign travel or spending more than Rs. 1 lakh on energy consumption, were not able to use these two forms and instead had to go for more detailed forms. The lifting of the restriction allows these assesseees to use ITR Forms 1 and 4. Taxpayers owning multiple house properties, however, will have to file more detailed ITR forms, as the government apparently believes additional house properties as investment and not as basic need.

[Source (edited): Gireesh Chandra Prasad, -CBDT lifts bar on some tax payers to file tax return in forms Sahaj, Sugam, *LiveMint*, <https://www.livemint.com/news/india/cbdt-lifts-bar-on-some-tax-payers-to-file-tax-return-in-forms-sahaj-sugam-11578587548038.html>.]

1.1 Parvez is a doctor, and has a very successful practice that he has been running in a big city for the past twenty years. He earns approximately Rs. 60 lakh per annum from the practice, but also has to spend about Rs. 30 lakh per year on expenses for his practice, such as rent for his chambers. He lives with his wife in a flat that is owned by his wife. Parvez tries to file his income tax returns on January 7, using ITR Forms 1 and 4, but the CBDT says that he is ineligible to file his returns in those forms, and must instead use more detailed forms. Parvez challenges this decision of the CBDT. Will he succeed?

- (a) Yes, because the flat he lives in is owned by his wife, and not by them jointly.
- (b) Yes, because he spends a lot of the money he earns on the practice, and so, his real income is below Rs. 50 lakh per annum.
- (c) No, since living in a property owned by someone else is equivalent to jointly owning that property.
- (d) No, since his annual income is more than Rs. 50 lakh.

(Answer: (d))

### **Rationale:**

The correct answer is (d) - no, since his annual income is more than Rs. 50 lakh. Regardless of what his expenses may be, the fact remains that Parvez's income from his medical practice (as a professional) is above the limit beyond which ITR Forms 1 and 4 cannot be used to file returns. Given this, option (b) cannot be the correct answer. Since Parvez's ineligibility arises due to his income, whether or not he owns a property jointly is irrelevant, and so, (a) cannot be the correct answer. There is nothing in the passage to support option (c), and so, (c) cannot be the correct answer.

1.2 Using the income from his medical practice, Parvez buys the flat adjoining the one that he stays in with his wife. The couple decide to break down the wall separating the two flats, and combine them into one large home for themselves. He also buys the chambers where he conducts his

practice, a smart set of rooms in an office building. These are the first properties Parvez has bought, and he does not own any other properties. The next year however, Parvez's income reduces to Rs. 30 lakh for the entire year. Would he be eligible to file his income tax returns in ITR Forms 1 and 4 for that year?

- (a) Yes, everyone with income below the prescribed limit of Rs. 50 lakh per annum can file returns in ITR Forms 1 and 4.
- (b) No, since he now owns multiple properties.
- (c) Yes, since his income is below the prescribed limit, and he does not own multiple house properties.
- (d) No, since combining his flat with his wife's means that he now jointly owns that property with his wife.

(Answer: (c))

**Rationale:**

The correct answer is (c) - yes, since his income is below the prescribed limit, and he does not own multiple house properties. Since the second property that Parvez bought is not a house property, but a commercial property, he cannot be said to own multiple house properties, which would have made him ineligible to use ITR Forms 1 and 4. While option (a) may be true, it is incomplete, and so, (a) cannot be the correct answer. Since the restriction applies to people who own multiple house properties – rather than any properties – (b) is not the correct answer. There is nothing in the passage to support option (d), and so, (d) cannot be the correct answer.

1.3 Seema runs a large software business, and earns about Rs. 35 lakh a year from the business. Her offices are located in Bangalore, but most of her clients are located in Delhi. Seema has to travel a lot between these cities, and spends almost equal amounts of time in both cities, so she rents a flat in each city, and lives in those flats, rather than staying in hotels. Can Seema file her income tax returns using ITR Forms 1 and 4?

- (a) Yes, since her income is below the prescribed limit.
- (b) Yes, since she spends her time between two different cities.
- (c) No, since she has two flats, and is therefore ineligible.
- (d) No, since she runs a large software business, and the income of the business must be combined with her own income.

(Answer: (a))

**Rationale:**

The correct answer is (a) – yes, since her income is below the prescribed limit. The statement in option (b) is irrelevant to the question and so, (b) cannot be the correct answer. Since Seema rents the flats, and does not own them, (c) cannot be the correct answer. There is nothing in the passage to support option (d), and so, this cannot be the correct answer.

1.4 Rupert studies law, and stays in the hostel provided by his college, since his home is in a different city. His parents send him about Rs. 5,000/- per month for his expenses, which they transfer to his bank account. Rupert inherited a flat in a posh location in the city from his uncle this year, and decided to sell it. He sold the flat for Rs. 2 crore, which amount the purchaser transferred to Rupert's account. Can Rupert file his income tax returns in ITR Forms 1 and 4?

- (a) Yes, since Rupert has not had any income in the past year.
- (b) Yes, since the money deposited in his account is not income from salary, business, or profession.
- (c) No, since inheriting a property from a relative is similar to jointly owning that property with them.
- (d) No, since his income in the year has been much more than the prescribed limit.

(Answer: (b))

**Rationale:**

The correct answer is (b) – yes, since the money deposited in his account is not income from salary, business, or profession. Since income from the sale of a property does not constitute income from either salary, business, or profession, and since Rupert has had bank deposits above Rs. 1 crore in the year, he has to file income tax returns, which he can do in ITR Forms 1 and 4. Given the income he received from the sale of the flat, (a) cannot be the correct answer. There is nothing in the passage to support option (c), and so, (c) cannot be the correct answer. While his income in the year may have been more than the prescribed limit, it is not from ‘salary, business or profession’ and so, (d) cannot be the correct answer.

1.5 Safina and her son live in a house that Safina owns on the outskirts of the city. After her son’s wedding, Safina buys a flat in the middle of the city, and tells her son that he and his wife can live there. Safina earns interest of Rs. 55 lakh per year from a large deposit that her mother had left for her when she passed away, and Safina lives on this interest alone, since her work as a care provider in the local charity hospital does not get her a salary. Can Safina file her income tax returns in ITR Forms 1 and 4?

- (a) Yes, since her income is not from salary, business or profession.
- (b) Yes, since she bought the flat for her son to stay in, and not as an investment.
- (c) No, since she owns multiple house properties.
- (d) No, since her income is above the prescribed limit.

(Answer: (c))

**Rationale:**

The correct answer is (c) – no, since she owns multiple house properties. We are told in the passage that –Taxpayers owning multiple house properties, however, will have to file more detailed ITR forms, as the government apparently believes additional house properties as investment and not as basic need. Since Safina owns two house properties, she cannot file her income tax returns in ITR Forms 1 and 4. Given this, Safina’s income is irrelevant to the question, and so, neither (a) nor (d) can be the correct answer. Since the government, as we are told, considers additional house properties an investment, it does not matter that Safina bought the flat for her son to stay in, and so, option (b) cannot be the correct answer.

2.

In *Govind v. State of Madhya Pradesh*, the constitutionality of the Madhya Pradesh Police Regulations was challenged on the grounds that police visits to a suspect’s home (domiciliary visits), monitoring of a suspect’s movements, and home picketing were a violation of the fundamental right to free movement under Article 19(1)(d) of the Constitution, and the right to life and personal liberty under Article 21. Govind was a convicted criminal who had been marked for surveillance simply because of his criminal record.

The Supreme Court ruled in that case that mere conviction in a criminal case does not warrant any form of surveillance where there is nothing else that gravely imperils public safety. Domiciliary visits and picketing by the police can only take place where there is a clear case of danger to security. These should not be conducted in cases of routine follow-up after conviction or at the whim of a police officer.

[Extracted, with edits and revisions, from *Privacy 3.0: Unlocking our Data-Driven Future*, by Rahul Matthan, HarperCollins Publishers India, 2018.]

Answer the following questions assuming the law laid down in the *Govind* case as set out in the passage above is still good law:

2.1 Mangesh lives in Bangalore, and has been arrested a few times in the past for petty offences like pickpocketing. He claims to have changed his ways, and now runs a small trading business. He was visiting Mumbai recently on work, and while he was in Mumbai, the police followed him around the city, to ensure he did not commit any crimes while in the city. Would Mangesh succeed if he filed a case claiming the Mumbai police violated his fundamental rights?

- (a) Yes, since his actions did not pose a threat to public safety.
- (b) Yes, since the police are being biased against him.
- (c) No, since he had a history of committing criminal offences.
- (d) No, since the police did not visit his home, but only followed him around in public places.

(Answer: (a))

**Rationale:**

The correct answer is (a) - yes, since his actions did not pose a threat to public safety. The Supreme Court, we are told, ruled in *Govind's case* that -mere conviction in a criminal case does not warrant surveillance where there is nothing else that gravely imperils public safety. Since there is nothing to indicate that Mangesh's actions imperilled public safety in any manner, his surveillance by the police violates his fundamental rights. Given this, option (c) cannot be the correct answer. There is nothing in the facts provided to support option (b) and so, (b) cannot be the correct answer. While the police may not have conducted domiciliary visits, they did monitor his movements and conduct surveillance on him, and so, option (d) cannot be the correct answer.

2.2 Rita is a member of a religious organisation that has often been involved in communal riots in the past. Rita herself had been suspected of inciting such riots in the past, but has never been convicted. The day before the Supreme Court was to pronounce its judgment on a very important case involving religious issues, Rita made a public statement to the effect that she and her organisation would -burn the city to the ground if the decision was not rendered in favour of the parties from their religion. The night before the Supreme Court decision, the police station two constables outside her home; these constables are replaced in shifts, and the police remain outside her home for the entire day of the Supreme Court pronouncement. Rita claims the police have violated her fundamental rights. Will she succeed?

- (a) No, since the day of the Supreme Court judgment was fraught with communal tension.
- (b) Yes, since she had never been convicted of inciting communal riots in the past.
- (c) No, since her statements showed there was a possibility of a threat to public safety and security.
- (d) Yes, since her organisation had been involved in criminal riots, and not Rita personally.

(Answer: (c))

**Rationale:**

The correct answer is (c) – no, since her statements showed there was a possibility of a threat to public safety and security. Threatening to burn the city down clearly constitutes a threat to public safety and security, and the police were therefore justified in picketing Rita's house. While option (a) may be true, it does not answer the question completely, and therefore cannot be the correct answer. The statement in option (b) may be true, but it does not address the threat to public safety in the light of Rita's statements, and so, cannot be the correct answer. Since the picketing took place because of this threat posed by Rita's statements, the statement in option (d) is irrelevant, and so, (d) cannot be the correct answer.

2.3 Which of the following, if true, would be a strong argument opposing the decision in the *Govind case*?

- (a) The police often monitor the movements of past convicts when they do not have any other leads.
- (b) Records show that once a person is convicted of an offence, they are highly unlikely to commit another offence.
- (c) Conducting surveillance on a person ensures that they would not commit an offence against public safety.
- (d) The government should not place any restrictions on the fundamental rights of citizens.

(Answer: (c))

**Rationale:**

The correct answer is (c) – conducting surveillance on a person ensures that they would not commit an offence against public safety. This is an argument in favour of surveillance, and if true, the effect would be that surveillance would be a good way of preventing crimes against public safety. None of the other options is an argument opposing the decision in the *Govind case*, and so, none of them can be the correct answer.

2.4 Munir discovers that the police have been tapping his phone, and listening to all his conversations for the past year. He challenges the police's actions, and claims that they have violated his fundamental rights. The police claim that Munir is a known criminal, and that the *Govind case* did not cover phone-tapping, but only picketing and domiciliary visits. Will the police succeed?

- (a) No, since the police was planning to conduct domiciliary visits.
- (b) No, since phone-tapping would constitute surveillance.
- (c) Yes, since Munir is a known criminal, and phone-tapping is not specifically addressed by the *Govind case*.
- (d) Yes, since their actions are intended to prevent a threat to public safety.

(Answer: (b))

**Rationale:**

The correct answer is (b) – no, since phone-tapping would constitute surveillance. Since there is nothing in the facts to indicate that Munir was likely to threaten the public safety or security, surveillance – which may be done through phone-tapping – violates Munir's fundamental rights. There is nothing in the passage to support options (a) or (d), and so, neither (a) nor (d) can be the correct answer. While Munir may have been a criminal, in the absence of a threat to public safety and security, surveillance on Munir through phone-tapping cannot be justified. Since the *Govind case* addresses surveillance generally, the fact that it did not address phone-tapping specifically is of no consequence. Therefore, (c) cannot be the correct answer.

2.5 Pallavi is arrested on the suspicion of causing grievous bodily harm to her husband. Pallavi claims that her husband was abusive, and that she hurt him in self-defence. Her lawyers plead for her to be released on bail awaiting the trial; the judge grants bail, but imposes a condition for the bail, which is that Pallavi must report to the police station nearest to her house every week. Pallavi claims that this condition violates her fundamental rights, and would amount to surveillance by the police. Will she succeed?

- (a) No, since the condition is imposed by the judge, and not the police.
- (b) No, since requiring her to report to the police station once a week does not constitute surveillance.
- (c) Yes, since this would effectively amount to surveillance as the police would know her whereabouts.
- (d) Yes, since she has not even been convicted of the offence she was charged with.

(Answer: (b))

**Rationale:**

The correct answer is (b) – no, since requiring her to report to the police station once a week does not constitute surveillance. After all, Pallavi is free to move about as she wishes, and only has to ensure she reports to the police station once a week – as such, the police would not be monitoring her movements, visiting her home, or picketing outside her house, and so, her fundamental rights are not violated by this condition. Given this, option (c) cannot be the correct answer. Option (a) is irrelevant, since the question relates to the effect of the condition, and not its source, and so, (a) cannot be the correct answer. Option (d) is irrelevant to the question, since the fundamental right is not available only to people convicted of offences; therefore, (d) cannot be the correct answer.

3.

The law on prevention of cruelty to animals makes it an offence if a person does any of the following:

- Beats, kicks, overrides, or tortures an animal or, being the owner, knowingly permits, any animal to be so treated (‘Type 1 Offence’);
- Fails to provide any animal with sufficient food, drink, or shelter being the owner of such animal (‘Type 2 Offence’);
- Without reasonable cause, abandons any animal in circumstances which render it likely to suffer pain, starvation, or thirst (‘Type 3 Offence’);
- Solely with a view to providing entertainment— incites any animal to fight or bait any other animal (‘Type 4 Offence’)

‘Exception for Experiments’ - The law, however, makes an exception to the above offences by stating that it is not unlawful to perform experiments (including experiments involving operations) on animals for the purpose of advancement by new discovery of knowledge which will be useful for saving or for prolonging life or alleviating suffering or for combating any disease, whether of human beings, animals or plants.

Ameena leaves her pup with her friend Nisha and requests Nisha to take good care of the pup until she returns from a 10-day business trip that she cannot avoid. Ameena mentions that she would pay Nisha for the food and any other expense that Nisha incurs in taking care of the pet. Ameena also asks Nisha to promise that she would call her if there was any problem with the pup, and Nisha agrees. Nisha takes the pup to the beach on a walk without letting Ameena know and feeds him a large family-pack of ice-cream. This causes the pup to have a gastrointestinal upset and he starts to growl - attracting the attention of several aggressive stray dogs in the vicinity eager to attack the pup. To punish the pup for his misbehaviour despite feeding him her favourite ice-cream, Nisha abandons the pup at the beach and takes a rickshaw back to her house. Soon after, the bigger stray dogs surround and attack the pup. A passer-by who sees this, urges and exhorts the pup to stand up for himself and fight the bigger dogs. The children playing cricket on the beach find this entertaining and line up to watch the fight. Meanwhile, Aaron, who is meditating at the beach, gets disturbed by the commotion created by the dogs and decides to stuff large stones in the mouths of the dogs to prevent them from barking. Many of the dogs, unable to get the stones out, die of starvation.

3.1 Ameena has committed:

- (a) A Type 1 Offence
- (b) A Type 2 Offence
- (c) A Type 3 Offence
- (d) No offence

(Answer: (d))



**Rationale:**

The correct answer is (d) - no offence. Ameena did not commit any of the offences and in fact took all reasonable precautions to ensure that her pet would be taken care of in her absence. Therefore, (d) is the correct answer.

3.2 Nisha has committed:

- (a) A Type 1 Offence
- (b) A Type 2 Offence
- (c) A Type 3 Offence
- (d) All of the above

(Answer: (c))

**Rationale:**

The correct answer is (c) - a Type 3 Offence. There is no information in the passage implying that Nisha beat, kicked, overrode, or tortured the pup. Since Nisha is not the owner, she cannot be guilty of having permitted such treatment of the animal. Therefore, (a) is not the correct answer. Again, since Nisha is not the owner of the animal, she is not guilty of a Type 2 Offence. However, Nisha abandoned the pup in order to punish his misbehaviour despite feeding him ice-cream - which is not a reasonable ground to abandon him on the beach where bigger stray dogs were waiting to attack the pup. She is thereby, guilty of abandoning the pup in circumstances in which he was likely to suffer pain.

3.3 Aaron is charged with a Type 3 Offence and he defends the charge by saying that his actions are saved by the 'Experiments Exception' under law. Which of the following statements is true in relation to Aaron's actions?

- (a) Aaron is not guilty since he performed an experiment to save himself (a human being) from suffering.
- (b) Aaron is not guilty since he performed an experiment with the intention of prolonging the life of the pup.
- (c) Aaron is guilty since his actions do not constitute an experiment done with the purpose of advancement by new discovery of knowledge for saving or for prolonging life or alleviating suffering or for combating any disease.
- (d) Aaron is guilty since offences cannot be performed in the course of experiments for advancement by discovery of new knowledge.

(Answer: (c))

**Rationale:**

The correct answer is (c) - Aaron is guilty since his actions do not constitute an experiment done with the purpose of advancement by new discovery of knowledge for saving or for prolonging life or alleviating suffering or for combating any disease. Aaron's actions were not undertaken with the purpose of advancement by new discovery of knowledge. Although Aaron may have saved himself from temporary disturbance and distraction, his actions do not in any way amount to discovery of

knowledge that is useful for saving or for prolonging life or alleviating suffering or for combating any disease, whether of human beings, animals or plants generally and therefore aren't covered by the 'Experiments Exception'. Therefore (c) is the correct answer and not (a) or (b). Option (d) is logically inconsistent, and cannot be correct, since the exception applies to offences, and as a result of the exception, any offences committed during the performance of experiments of the nature permitted by the exception will not amount to offences – provided such experiments are for 'advancement by new discovery of knowledge which will be useful for saving or for prolonging life or alleviating suffering or for combating any disease, whether of human beings, animals or plants', which, as we have seen, is not correct in this case.

3.4 Which of the following, if true, is a good defence from Nisha's perspective?

- (a) It had become dark and the stray dogs at the beach were about to attack Nisha.
- (b) Ameena did not tell her that the pup could not be given ice-cream.
- (c) The best way to discipline pups is by dealing with them harshly when they misbehave.
- (d) Nisha left the pup because she had messaged Ameena asking why the pup was growling and had not received a response for over 5 minutes.

(Answer: (a))

**Rationale:**

The correct answer is (a) - it had become dark and the stray dogs at the beach were about to attack Nisha. We have already established under Question 2 that Nisha is guilty of abandoning the pup in circumstances which render it likely to suffer pain, starvation or thirst. However, it's an offence only if Nisha did so 'without reasonable cause'. However, if the stray dogs were about to attack Nisha and Nisha only escaped to avoid being attacked by them, this can amount to a 'reasonable cause' and therefore, a good defence. Options (b), (c), and (d) are not correct since they have no relevance to the offence that Nisha is guilty of and do not in any way change the nature or characterisation of her actions under the law as specified above.

3.5 Is the passer-by guilty of committing a Type 4 Offence?

- (a) No, the passer-by did not exhort the pup to fight for the sake of entertainment.
- (b) No, entertaining children does not fetch money.
- (c) No, inciting an animal to fight for one's personal entertainment cannot be considered an offence.
- (d) None of the above.

(Answer: (a))

**Rationale:**

The correct answer is (a) - no, the passer-by did not exhort the pup to fight for the sake of entertainment. A Type 4 Offence requires that one incite any animal to fight or bait any other animal solely with a view to providing entertainment. There is nothing in the passage to indicate that the passer-by who exhorted the pup to fight back did so for providing entertainment. That a bunch of children found it entertaining is only incidental and cannot be attributed as the purpose of the passer-by's actions. If a person incites an animal to fight solely to provide entertainment, it would be considered an offence regardless of whether it fetches them money; so option (b) is not the correct

answer. Since there is no mention of the passer-by inciting the pup for his own entertainment, option (c) is irrelevant. Since option (a) is the correct answer, option (d) cannot be the answer.

4.

The Tripura high court has said that the mere presence of a government employee at a political rally cannot be termed as participation in political activity in violation of service conduct rules.

A petition had been filed by Lipika Paul, who was suspended five days before her retirement from the state government's fisheries department, in April 2018. The grounds for her suspension were —taking part in a political rally organised by a particular party at Agartalall on December 31, 2017.

The department had claimed that this was in violation of the Tripura Civil Services (Conduct) Rules, 1988 (the **-Conduct Rules**), which apply to employees of the state government, and which prohibit the participation of state government employees in political activities.

Lipika, an upper-division clerk, had pointed out that even if the allegations were true, there could be no violation of the Conduct Rules.

The government lawyer contended that the charges had been framed after the department had found that she had participated in a political rally and then apparently made a Facebook post criticising candidates of another party.

-There is a vital difference between attending a rally and participating in a rally, said the Tripura high court Chief Justice Akil Kureshi.

In the judgment, ruling in favour of Lipika Paul, the high court observed that during election times, political parties and their leaders organised rallies and addressed public gatherings.

-The presence of a person does not either establish his or her political affiliation. A student of politics, an enthusiastic young man, a reporter or just a curious bystander all are likely to be present in any political gathering. Even an opponent or a critic of a political party may also attend the gathering, said Chief Justice Kureshi.

Therefore, the petitioner's -mere presencell without any further actions -would not amount to her participation in such a political gatheringll.

After perusing through the Facebook post, the high court said that there was nothing in the text which -suggest canvassing for or against any political partyll.

-It only expresses certain beliefs of the petitioner in general terms. As a Government servant the petitioner is not devoid of her right of free speech, a fundamental right which can be curtailed only by a valid law. She was entitled to hold her own beliefs and express them in the manner she desired of course subject to not crossing the borders laid down in the Conduct Rules, said the judgment.

[Source (edited): -Presence of Govt Employee at Rally Does Not Entail Participation in Political Activity: Tripura HCll, *The Wire*, [https://thewire.in/law/tripura-high-court-government-employee.](https://thewire.in/law/tripura-high-court-government-employee)]

4.1 Rajan runs a private civil engineering firm, and often provides various services to the government of Tripura. One day, he attends a rally organised by a political party opposed to the party in power in the state. The next day, the state government decides to cancel all the contracts awarded to Rajan's firm, claiming that he had violated the Conduct Rules. Rajan challenges this decision of the state government. Will he succeed?

- (a) No, since the party organising the rally was in the opposition in the state.
- (b) No, since participating in a political rally is a violation of the Conduct Rules.

- (c) Yes, since he is not a government employee.
- (d) Yes, since he only attended the rally and did not participate in it.

(Answer: (c))

**Rationale:**

The correct answer is (c) - yes, since he is not a government employee. The question states that Rajan ran a private firm, and that the government wanted to cancel contracts awarded to the firm; as such, there is nothing to indicate that Rajan was a government employee, and so, he could not have violated the Conduct Rules. Given this, none of the other options is relevant, and so, none of them can be the correct answer.

4.2 Sabita is an officer with the Election Commission of India, which is an agency of the central government. She is posted to Tripura, and she decided to attend a political rally in the state. At the rally, she went up to the stage, and made a speech against the government of the state. When this was reported in the newspapers the next day, the government of Tripura asked that she be dismissed from service for violating the Conduct Rules. Will the government of Tripura succeed?

- (a) Yes, since she should not have made such a speech as she is an officer with the Election Commission.
- (b) No, since Sabita is an employee of the central government and not the state government.
- (c) No, since merely making speeches does not amount to participating in a political activity.
- (d) Yes, since she 'participated' in a political activity by making a speech at the rally.

(Answer: (b))

**Rationale:**

The correct answer is (b) - no, since Sabita is an employee of the central government and not the state government. The passage tells us that the Conduct Rules prohibit –the participation of state government employees in political activities. Since Sabita is an officer of an agency of the central government, this rule would not apply to her. While option (a) may be true, it does not relate to the question about a violation of the Conduct Rules, and so, cannot be the correct answer. Since the fact that Sabita was an employee of the central government means the Conduct Rules do not apply to her, neither option (c) nor option (d) is relevant, and so, neither can be the correct answer.

4.3 Kalpana works with the revenue department of the government of Tripura. While she was on her lunch break one day, she saw a political rally led by the opposition from the window of her office. She was deeply affected by the slogans raised in the rally, and when she went home, she posted some messages on her Twitter account, criticising the policies of the government of Tripura. The government of Tripura now wishes to dismiss her for having violating the Conduct Rules. Will the government succeed?

- (a) Yes, since she had participated in a political activity by watching the rally.
- (b) Yes, since she posted messages criticising the government, which she should not have done.
- (c) No, since she only watched the rally, and did not participate in it.
- (d) No, since she had not participated in the rally, and was merely expressing her opinion through her Twitter posts.

(Answer: (d))

**Rationale:**

The correct answer is (d) – no, since she had not participated in the rally, and was merely expressing her opinion through her Twitter posts. Kalpana had only watched the rally, and, as Chief Justice Kureshi states, –There is a vital difference between attending a rally and participating in a rally. The last quote from the judgment in the passage also tells us that a government employee has the freedom of speech, and Kalpana was free to express her thoughts

unless she violated the Conduct Rules. Option (a) cannot be the correct answer because, as we have seen, Kalpana had not participated in the rally. Option (b) does not address whether Kalpana had violated the Conduct Rules, and so, (b) cannot be the correct answer. While option (c) may be true, it is incomplete, in that it does not address the issue relating to Kalpana's Twitter posts, and so (c) cannot be the correct answer either.

4.4 Pradip is an employee of the government of Tripura, and holds strong political views. He secretly publishes pamphlets from his home, which support the agenda of a particular political party. His superior at work finds out about this, and reports this to some senior officials in the government. The government of Tripura dismisses Pradip for having violated the Conduct Rules. Pradip challenges this decision. Will he succeed?

- (a) Yes, since he was entitled to his political views.
- (b) No, since he had participated in a political activity by publishing pamphlets supporting a particular political party.
- (c) Yes, since he was merely expressing his freedom of speech.
- (d) No, since he had not participated in any political rallies.

(Answer: (b))

**Rationale:**

The correct answer is (b) – no, since he had participated in a political activity by publishing pamphlets supporting a particular political party. Publishing pamphlets that support the agenda of a particular activity would clearly amount to ‘participating in a political activity’, and so, Pradip would be in violation of the Conduct Rules. While options (a) and (c) may be true in that Pradip was entitled to his own views, and to express his freedom of speech, the quote from the judgment in the passage above tells us that this freedom is subject to valid laws, and while a government employee is –entitled to hold her own beliefs and express them, they cannot violate the Conduct Rules. Since Pradip had, as we saw, violated the Conduct Rules, he will not succeed. For this reason, options (a) and (c) cannot be correct. While (d) may be true, it does not address the point about the publication of the pamphlets, and so, (d) cannot be the correct answer.

4.5 Ratan is a bus conductor who works with the state-government-owned Tripura Road Transport Corporation (-TRTC). One day, the bus he was posted in was stuck in a huge traffic jam caused by a major political rally. Ratan noticed that some people participating in the rally were looking unwell, and he thought this was because it was a very hot and sunny day. He got off the bus, and offered some water to those people. While he was doing so, he overheard the speeches being made at the rally, and decided to stay for a little while and hear the speeches. When he got back to the bus, the driver asked him why he had stayed at the rally, and Ratan told the driver that he had found the speeches very interesting. The bus driver reported this to their manager at the TRTC, who issued an order dismissing Ratan from service for having violated the Conduct Rules. Is the order valid?

- (a) Yes, since Ratan's offering water to participants in a political rally amounted to participating in the rally himself.
- (b) No, since the TRTC is a private body, and not a part of the state government.
- (c) No, since Ratan had not participated in a political activity by offering water to the unwell people or by listening to the speeches.
- (d) Yes, since Ratan's staying back to hear the speeches at a political rally while on duty amounted to participating in a political rally.

(Answer: (c))

**Rationale:**

The correct answer is (c) – no, since Ratan had not participated in a political activity by offering water to the unwell people or by listening to the speeches. Based on the quotes from the judgment set out in the passage, merely offering water to someone who looks unwell, or listening to speeches at a political rally would not amount to ‘participating in a political rally’. Moreover,

Ratan only told the driver that he found the speeches 'interesting'; there is nothing in the facts provided to indicate that Ratan tried to canvass for any political rally, or that he had actively done anything else to promote any political cause. Given this, option (a) cannot be the correct answer. Since the TRTC is, as we are told, owned by the state government, option (b) cannot be the correct answer. While Ratan may have violated some other rule by staying back to hear the speeches while on duty, he has not violated the Conduct Rules for the reasons discussed, and so, option (d) cannot be the correct answer.

5.

India's central government said it is 'empowered' to intercept, monitor and decrypt digital information in the public interest as long as its agencies follow the law.

Laws allowed the central government to intercept 'any information generated, transmitted, received or stored in any computer resource,' G. Kishan Reddy, junior minister for India's Ministry of Home Affairs told Parliament in a written reply when asked by an opposition lawmaker whether the government had snooped on WhatsApp, Facebook Messenger, Viber, and Google calls and messages.

Information can only be intercepted by 'authorised agencies as per due process of law, and subject to safeguards as provided in the rules,' the statement said.

The government can monitor digital information if it is 'in the interest of the sovereignty or integrity of India, security of the State, friendly relations with foreign States or public order or for preventing incitement to the commission of, or for investigation of any offence related to the above,' Reddy said in his written statement to the parliament. No government agency has blanket permission for interception, he added – 'an agency must obtain the permission of the cabinet secretary for each case of interception or monitoring, and such permission can only be granted for a maximum of six months'.

[Extracted, with edits and revisions, from 'India Says Law Allows State to Snoop in WhatsApp', Archana Chaudhary, *Bloomberg Quint*, <https://www.bloombergquint.com/law-and-policy/india-says-law-allows-state-to-intercept-data-with-safeguards>.]

Answer the following questions assuming that G. Kishan Reddy's statement to Parliament, as set out in the passage above, is valid law:

5.1 Bina works for a non-governmental organisation ('NGO') that is suspected by the government of misappropriating funds meant for the welfare of women and children. She wrote a letter to her colleague in another city, setting out the details of the NGO's accounts. Since the NGO is under suspicion, the local post office near Bina's office is under orders to send the local police station any letters that may be sent from the NGO's office. Bina's letter is sent to the local police station, where it is opened and read; seeing that there was nothing wrong in the letter, the police sent it on to Bina's colleague. When Bina finds out about this, she is very upset, and claims that the police have violated her rights by intercepting her letter. Have the police violated the law?

- (a) Yes, since Bina's actions did not threaten the security of the state.
- (b) Yes, since the law empowers government agencies to intercept digital information only.
- (c) No, since Bina's NGO was under suspicion.
- (d) No, since it was necessary for them to read the letter to help their investigation of the NGO.

(Answer: (b))

**Rationale:**

The correct answer is (b) - yes, since the law empowers government agencies to intercept digital information only. The first line of the passage tells us that India's government is empowered to do certain things in relation to digital information; since the letter would not count as 'digital information', the police did not have the authority to intercept it. Given this, none of the other options is relevant, and so, none of them can be the correct answer.

5.2 Varun is a poet who often writes poems criticising the policies of the government of Bihar, his home state. Varun is also suspected of having collaborated with some Naxalite organisations in the past, who are known for committing violent crimes against the armed forces of India. The investigative agency of the Bihar government decides to monitor Varun's WhatsApp message using a software called 'Unicorn', made by a private company based in Israel. Varun challenges this, claiming that the Bihar government does not have the authority to intercept his WhatsApp messages. Will Varun succeed?

- (a) No, since the Bihar government's interception of Varun's messages was done in the interest of public order.
- (b) No, since Varun associated with Naxalite organisations, which threatened the security of the State.
- (c) Yes, since his actions did not threaten the security of the state.
- (d) Yes, since the state government of Bihar is not empowered to intercept digital information.

(Answer: (d))

**Rationale:**

The correct answer is (d) – yes, since the state government of Bihar is not empowered to intercept digital information. The passage tells us that the central government has the power to intercept digital information; there is nothing in the passage to suggest that even state governments can do so. Since the interception in this case was done by the investigative agency of the Bihar government, it was without authority, and so, was invalid in law. For this reason, none of the other options is relevant, and so, none of them can be the correct answer.

5.3 The makers of the Unicorn software mentioned in the previous question want to sell their software to various government agencies in India. When they approached the CBI, an investigative agency of the central government, they were told that the CBI would only consider using their software if the company could demonstrate that Unicorn could actually intercept WhatsApp messages. In order to demonstrate this, the company randomly intercepted some WhatsApp messages of people from across the country, and brought the records to the CBI. The CBI now says that the company has violated the law, since it carried out unauthorised interception of digital information in the country. Is the CBI correct?

- (a) Yes, since the Unicorn makers, a private company, did not have the authority to intercept digital information.
- (b) Yes, since the Unicorn makers should have taken the CBI's permission before randomly intercepting WhatsApp message.
- (c) No, since the company was collecting evidence that Unicorn actually worked, at the CBI's direction.
- (d) No, since the company was told by the CBI to intercept people's WhatsApp messages.

(Answer: (a))

**Rationale:**

The correct answer is (a) – yes, since the Unicorn makers, a private company, did not have the authority to intercept digital information. This power, according to the passage, is only available to the central government, and therefore, a private agency would be breaking the law if they intercepted people's WhatsApp messages. Option (b) is irrelevant, since the passage does not tell us if it is fine for a private company to intercept digital information with the government's permission, and so, (b) cannot be the correct answer. While the CBI had told the company that it would only buy Unicorn if the company could demonstrate that it actually worked, there is nothing in the passage to suggest that the CBI told the company to intercept people's digital information, and so, neither (c) nor (d) can be the correct answer.

5.4 Daveena is a police officer who is posted to a town near India's border with Bangladesh. The area is infamous for being a hotbed of illegal immigration – many thousands of illegal immigrants from Bangladesh often slip through the border near the town and enter India. Over time, Daveena has become sympathetic to the cause of these illegal immigrants. Her colleague hears Daveena talking over the phone to someone one day, telling them that she was part of a Facebook group that provided tips and secret information to people across the border who wished to come into India illegally. The colleague tells his superiors, and based on this information, the NIA, an investigative agency of the central government, starts monitoring Daveena's Facebook activities. Does the NIA have the authority to do so?

- (a) No, since Daveena was only a member of the Facebook group and had not posted anything on it.
- (b) Yes, since it was necessary to do so to investigate offences against the sovereignty, integrity, and security of India.
- (c) Yes, since Daveena's actions were not right for a police officer.
- (d) No, since Daveena had not done anything that compromised the sovereignty and integrity of India.

(Answer: (b))

**Rationale:**

The correct answer is (b) – yes, since it was necessary to do so to investigate offences against the sovereignty, integrity, and security of India. Since the central government has the authority to monitor digital information -in the interest of the sovereignty or integrity of India, [and] security of the Statell, the NIA was justified in monitoring Daveena's Facebook posts since she was compromising India's sovereignty, integrity, and safety, by being part of a group where people across the border were being provided secret information that could help them cross the border illegally. Whether or not Daveena had posted anything on the group is irrelevant, since there was secret information being passed on in the group, and Daveena knew about this; option (a) is therefore irrelevant, and so, cannot be the correct answer. While option (c) may be true, it does not address the issue of whether the NIA's actions were correct under law, and so, (c) cannot be the correct answer. For the same reason that (a) is not the correct answer, (d) cannot be the correct answer either.

5.5 The town of Hanumanpur has often witnessed communal riots in the past. The CBI obtained permission from the cabinet secretary in 2013 to monitor and intercept the digital information of Ghaney Singh, a local politician, who is connected with communal activities, and who has often been seen inciting people to commit violent crimes in the name of religion. In May 2020, the CBI, fearing a resurgence of communal activity in Hanumanpur, decide to start monitoring Ghaney Singh's online activities once again without the knowledge of anyone outside the CBI. Can the CBI do so?

- (a) Yes, since Ghaney Singh is often seen inciting people to commit violent crimes in the name of religion.
- (b) No, since there is nothing to show that Ghaney Singh was involved in the communal activities in 2020.
- (c) No, since they did not take the cabinet secretary's permission for the interception in 2020.
- (d) Yes, since they had already taken the cabinet secretary's permission to do so.

(Answer: (c))

**Rationale:**

The correct answer is (c) – no, since they did not take the cabinet secretary's permission for the interception in 2020. The CBI had taken the cabinet secretary's permission to monitor and intercept Ghaney Singh's digital information in 2013; G. Kishan Reddy's statement in the passage above provides that the cabinet secretary's permission for monitoring and intercepting digital information can only be given for a period of six months. Since this period had long expired, the CBI should have taken the cabinet secretary's permission once again before monitoring Ghaney Singh's online activities in 2020. While option (a) may be true, it does not address the fact that the



CBI's permission to monitor Ghaney Singh's digital information had expired in 2020, and so, (a) cannot be the correct answer. Option (b) may or may not be true – we are told that Ghaney Singh was -often seen inciting people to commit violent crimes in the name of religion, but once again, it does not address the issue of the expired permission, and so, (b) cannot be the correct answer. Since the permission had, as we have seen, expired in 2020, (d) cannot be the correct answer.

6.

The first clause in Article 20 of the Constitution prohibits retroactive criminal legislation; a person cannot be convicted for an offence which was not an offence at the time at which it was committed. The second protection in Article 20 is against double jeopardy and provides that no person shall be prosecuted and punished for the same offence more than once'. The third guarantee in Article 20 is against self-incrimination, or compelling a person to be a witness against herself. In *Kathi Kalu Oghad* (1961), the Supreme Court held that the prohibition against compelling a person to be a witness against herself related to the production of information based on personal knowledge (also called -testimonial evidencell), but did not extend to protection of physical evidence like a writing sample or a thumb impression (also called -physical evidencell).

But can all situations neatly fit this distinction? A recent case, *Selvi* (2010), provides a fascinating opportunity to revisit this distinction in light of new technologies. The case saw a challenge to the involuntary administration of narco-analysis, the polygraph test, and the Brain Electrical Activation Profile (BEAP) test. Narco-analysis involves the consumption of sodium pentathol, which lowers inhibitions and takes the subject into a trance, inducing her to converse casually. The other two tests detect physiological responses and brain activity, respectively, and estimate the subject's familiarity with information involving a crime, through which conclusions are drawn.

[Extracted, with edits and revisions, from *The Indian Constitution*, by Madhav Khosla, Oxford University Press, 2012.]

Answer the following questions assuming that the decision in *Kathi Kalu Oghad*, as set out in the passage above, is valid law:

6.1 Mahmood Kaskar resided in the city of Mumbai, and was long suspected of having committed several offences, including smuggling. Kaskar came across a police check-post on the road on 15 December 2019, and, afraid that the police would find the contraband that he had hidden in the trunk of his car, he drove through the check-post instead of stopping. In doing so, he smashed his car through the barricades at the check-post, and a piece from the barricades flew a few feet away and injured a policeman manning the check-post. Kaskar was later caught by the police, and charged with the offence of obstructing justice, which the police claimed he did by crashing through the check-post. Kaskar was acquitted of this charge, since the police were not able to produce adequate evidence before the court. Some months later, the police, bent on teaching Kaskar a lesson, filed charges of injuring a police officer on duty against Kaskar. When Kaskar was convicted, he filed an appeal claiming that the decision violated the protection against double jeopardy in Article 20. Will Kaskar succeed?

- (a) No, since the second charge filed against Kaskar was in relation to a different offence than the first one.
- (b) Yes, since he had already been prosecuted for crashing through the barricades and could not be prosecuted for the same actions again.
- (c) Yes, since he had already been acquitted the first time charges were filed against him.
- (d) No, since he was long suspected of having committed several offences.

(Answer: (a))

**Rationale:**

The correct answer is (a) - no, since the second charge filed against Kaskar was in relation to a different offence than the first one. The passage tells us that the protection against double jeopardy is against a person being 'prosecuted and punished for the same offence more than once'. Since Kaskar was being prosecuted for a different offence the second time (that of injuring a police officer on duty) than the first time (that of obstructing justice), the protection against double jeopardy would not apply in this case. Since the second prosecution involved a different offence, options (b) and (c) cannot be the correct answer. Option (d) is irrelevant to the question, and so, cannot be the correct answer.

6.2 Sometime after the two prosecutions mentioned in the previous question, the police manage to recover CCTV footage from the area near the place where the police check-post was, and filed fresh charges of obstructing justice against Kaskar for crashing through the check-post. They claim that the CCTV footage would help them win the case this time. Kaskar claims that this fresh, third trial, violates his protection against double jeopardy in Article 20 of the Constitution. Will he succeed?

- (a) Yes, since Kaskar is a citizen of India and is protected under Article 20 of the Constitution.
- (b) No, since the police were able to bring fresh evidence before the court in this new trial.
- (c) Yes, since he had already been prosecuted for the offence of obstructing justice and was acquitted.
- (d) No, since he was prosecuted but not punished for the same offence in the first trial.

(Answer: (d))

**Rationale:**

The correct answer is (d) - no, since he was prosecuted but not punished for the same offence in the first trial. The protection under Article 20 is against a person being 'prosecuted and punished for the same offence more than once'. Since Kaskar had been prosecuted, but not punished in the first trial, he would not have the advantage of this protection under Article 20. For the same reason, (c) cannot be the correct answer. While options (a) and (b) may be true, they do not address the issue of whether the protection under Article 20 applies in this third trial, and so, neither (a) nor (b) can be the correct answer.

6.3 Concerned at the increasing number of instances of rash driving in Mumbai, the legislature passes a law on 12 January 2020, making rash driving a criminal offence punishable with three months' imprisonment. The police, who are hell-bent on punishing Kaskar by now, file fresh charges and initiate a fourth case against Kaskar, claiming that his act of driving through the police check-post constituted rash driving. Kaskar now claims that this fourth trial violates the first clause of Article 20. Will the police succeed in this fourth trial?

- (a) Yes, since Kaskar had injured a policeman when he drove through the check-post.
- (b) No, since driving through a check-post does not constitute rash driving.
- (c) No, since rash driving was not an offence at the time Kaskar drove through the police check-post.
- (d) Yes, since Kaskar had been prosecuted for different offences in the previous three trials.

(Answer: (c))

**Rationale:**

The correct answer is (c) – no, since rash driving was not an offence at the time Kaskar drove through the police check-post. The first clause of Article 20 provides that –a person cannot be convicted for an offence which was not an offence at the time at which it was committed. Since rash driving was not an offence on 15 December 2019 when Kaskar drove through the check-post, he cannot be punished for having committed that offence. While options (a) and (b) may or may not be true, they do not address the question of whether Kaskar's rights under the first clause of Article 20 had been violated, and so, neither (a) nor (b) can be the correct answer. Option (d) is irrelevant to the question – it addresses the issue of double jeopardy rather than the protection under the first clause of Article 20, and so, (d) cannot be the correct answer.

6.4 While he was in custody, the police decided to investigate whether Kaskar was involved in the instances of smuggling that he was suspected of having committed. They asked him to produce a DNA sample that they could use to compare against the evidence they obtained from a boat suspected to have been used in such smuggling activities. Kaskar refused, claiming that forcing him to provide a DNA sample would violate his protection against self-incrimination under Article 20. Can the police force Kaskar to provide the DNA sample?

- (a) Yes, since DNA samples amount to physical evidence, and not testimonial evidence.
- (b) Yes, since smuggling is a serious offence, and Kaskar was already suspected of being involved in it.
- (c) No, since producing DNA samples would amount to compelling Kaskar to be a witness against himself.
- (d) No, since Kaskar had not been charged with smuggling at the time he was asked to produce the sample.

(Answer: (a))

**Rationale:**

The correct answer is (a) – yes, since DNA samples amount to physical evidence, and not testimonial evidence. The decision in *Kathu Kalu Oghad* clarifies that the protection against self-incrimination under Article 20 extends to -the production of information based on personal knowledge (testimonial evidence) but not 'physical evidence' like -a writing sample or a thumb impression. For this reason, (c) cannot be the correct answer. Options (b) and (d) may be true, but they do not address the question, and so, neither can be the correct answer.

6.5 Assuming that the Supreme Court was bound to follow the decision in *Kathu Kalu Oghad* while deciding *Selvi*, what decision should the Supreme Court have taken in *Selvi* as regards the forcible administration of narco-analysis on a person?

- (a) It would be constitutional, since it is a new technology, and is different from other techniques of extracting evidence like fingerprints or thumb impressions.
- (b) It would be unconstitutional, since it would amount to forcibly extracting testimonial evidence.
- (c) It would be constitutional, since it only has a physical effect, and so, would amount to extracting physical evidence.
- (d) It would be unconstitutional, since it puts a person in an abnormal state of mind where they cannot remember their rights under Article 20.

(Answer: (b))

**Rationale:**

The correct answer is (b) – it would be unconstitutional, since it would amount to forcibly extracting testimonial evidence. As the passage tells us, the administration of sodium pentathol would lower a person's inhibitions, and take them into a trance, inducing them to converse casually – as a result of which, they may provide information based on personal knowledge (testimonial evidence). While it may be a new technology, and different from thumb impressions or handwriting samples, the forcible use of narco-analysis may result in the extraction of testimonial evidence, and so, (a) cannot be the correct answer. While it may have a physical effect, the end result of forcible administration of narco-analysis would be the extraction of testimonial evidence, and so, (c) cannot be the correct answer. While (d) may be true, it does not address the issue of whether the forcible administration of narco-analysis violates the protection against self-incrimination under Article 20, and so, (d) cannot be the correct answer.

7.

As protesters against the Citizenship Amendment Act hit the streets in large numbers in several states on Thursday (December 19), state governments sought to tamp down on the demonstrations

by issuing prohibitory orders under Section 144 of the Code of Criminal Procedure (CrPC), 1973. On Wednesday, Section 144 was imposed in Bengaluru for three days, while the entire state of Uttar Pradesh remains under this provision.

Section 144 of the CrPC, a law retained from the colonial era, empowers a district magistrate, a sub-divisional magistrate or any other executive magistrate to issue orders to prevent and address urgent cases of apprehended danger or nuisance.

The magistrate has to pass a written order which may be directed against a particular individual, or to persons residing in a particular place or area, or to the public generally when frequenting or visiting a particular place or area. In emergency cases, the magistrate can pass these orders without prior notice to the individual against whom the order is directed.

The magistrate can direct any person to not do a certain act or to take a certain action with respect to certain property in his possession or under his management. This usually includes restrictions on movement, carrying arms and from assembling unlawfully. Generally, an assembly of three or more people is prohibited by orders issued under Section 144.

However, it can be used to restrict even a single individual. Such an order is passed when the magistrate considers that it is likely to prevent, or tends to prevent, obstruction, annoyance or injury to any person lawfully employed, or danger to human life, health or safety, or a disturbance of the public tranquillity, or a riot.

However, no order passed under Section 144 can remain in force for more than two months from the date of the order, unless the state government considers it necessary. Even then, the total period cannot extend to more than six months.

[Extracted, with edits and revisions, from -Explained: How Section 144 CrPC works, by Apurva Vishwanath and Shruti Dhapola, *The Indian Express*, <https://indianexpress.com/article/explained/what-is-section-144-crpc-prohibitory-orders-india-CAA-citizenship-act-6175056/>.]

7.1 The Motilal Nehru University (-MNU), situated in New Delhi, often witnesses students' movements, including strikes and large protest assemblies, for various political causes. The Vice Chancellor of MNU, Jagdeep Singh, is apprehensive that there may be violence and rioting at a protest gathering called by MNU's citizens to oppose the Citizenship Amendment Act, and decides to issue an order under Section 144 of the CrPC, prohibiting any group of two or more people from gathering together on the MNU campus. Ayesha, the leader of the MNU students' union (-MNUSU), opposes this order of the Vice Chancellor in court. Will she succeed?

- (a) Yes, since the students of MNU have a right to assemble and protest.
- (b) Yes, since such an order can only be issued by a magistrate, and not by the Vice Chancellor.
- (c) No, since the order was issued to prevent the apprehended violence on the MNU campus.
- (d) No, since such an order can only be passed against a group of three or more people assembling.

(Answer: (b))

**Rationale:**

The correct answer is (b) - yes, since such an order can only be issued by a magistrate, and not by the Vice Chancellor. The passage tells us that the power under Section 144 of the CrPC is provided to a -district magistrate, a sub-divisional magistrate or any other executive magistrate, and since Jagdeep Singh is not any of those, he could not have passed such an order. While options (a) and (c) may be true, they do not address this point, and so, neither can be the correct answer. The passage tells us that while orders under Section 144 'generally' prohibit an assembly of three or more people, there is nothing to suggest that such orders can only prohibit groups of three or more people assembling, and so, option (d) cannot be the correct answer.

7.2 Jagdeep Singh learns that Krishna, a former leader of the MNUSU, is planning to visit the MNU campus to attend the protests against the Citizenship Amendment Act. Since Krishna has a history of inciting riots and participating in violent crimes, Jagdeep Singh is worried that he may cause riots on campus. He approaches the district magistrate, and convinces the magistrate to issue an order under Section 144 of the CrPC, preventing Krishna from entering the MNU campus. Is this order valid?

- (a) No, since Krishna is only a former leader of the MNUSU, and is not its present leader.
- (b) Yes, since Jagdeep Singh was convinced that there may be violent riots on the MNU campus.
- (c) No, since an order under Section 144 of the CrPC cannot be passed against a single individual.
- (d) Yes, since there was an apprehension of Krishna creating a dangerous situation on the MNU campus.

(Answer: (d))

**Rationale:**

The correct answer is (d) - yes, since there was an apprehension of Krishna creating a dangerous situation on the MNU campus. Since Krishna —has a history of inciting riots and participating in violent crimes, and the magistrate is convinced that he may cause riots on campus, the magistrate's order was valid. Option (a) is irrelevant to the question, and so, cannot be the correct answer. While option (b) may be true, it is not relevant whether Jagdeep Singh was convinced that there may be riots on campus – what matters more is that the magistrate was convinced of this, and so, (b) cannot be the correct answer. The passage tells us that an order under Section 144 of the CrPC -can be used to restrict even a single individual, and so, option (c) cannot be the correct answer.

7.3 Shazia Rashid is the Vice President of the MNUSU, and has been planning a large protest on the MNU campus to oppose the University's proposed hike in hostel fees. When Jagdeep Singh finds out about this, he is worried that such a protest may turn violent, as it has in the past. He asks Shazia to come to his office. When Shazia reaches Jagdeep's office, she sees that the district magistrate is also present there. The district magistrate talks to Shazia in the Vice Chancellor's office, saying: –I am ordering you under Section 144 of the CrPC not to organise any assembly of students to oppose the hostel fee hike on campus. Shazia records the district magistrate saying this on her camera phone, and challenges this order of the district magistrate in court. Will she succeed?

- (a) Yes, since it was wrong for the district magistrate to come to the Vice Chancellor's office and pass the order there.
- (b) Yes, since the district magistrate cannot pass a verbal order under Section 144 of the CrPC.
- (c) No, since the district magistrate thought it was necessary to pass the order to prevent a dangerous situation.
- (d) No, since the district magistrate had the power to pass such an order against a single individual as well.

(Answer: (b))

**Rationale:**

The correct answer is (b) – yes, since the district magistrate cannot pass a verbal order under Section 144 of the CrPC. The passage tells us that the magistrate -has to pass a written order. Since the district magistrate had not passed the order in writing, it is not valid. Option (a) is irrelevant to the question, and so, cannot be the correct answer. While options (c) and (d) may be true, they do not address the point that the order had to be in writing, and so, neither (c) nor (d) can be the correct answer.

7.4 Upset at the series of protests being planned and conducted at the MNUSU campus, the district magistrate passes an order under Section 144 of the CrPC on 19 July 2019, prohibiting any group of three or more people from gathering anywhere on the MNUSU campus after 5 p.m. and before

10 a.m. On 27 December, 2019, a group of five MNUSU students went to the college canteen together to have dinner at 10:30 p.m. Seeing this, the police constable stationed on duty at the campus stopped them, and told them he was taking them to the police station since they had violated the order issued by the District Magistrate. The students challenge this act of the police constable. Will they succeed?

- (a) No, since the order applied to the entire campus, including the college canteen.
- (b) No, since there were five of them, and the order prevented groups of three or more people from gathering on the campus.
- (c) Yes, since the district magistrate's order had expired by that date.
- (d) Yes, since it was very likely that the college canteen would have more than three students anyway, and so, the order was unfair.

(Answer: (c))

**Rationale:**

The correct answer is (c) – yes, since the district magistrate's order had expired by that date. The passage provides that an order under Section 144 of the CrPC is only valid for two months from its date, and even if it is extended, it cannot last more than six months in total. Since the event described in the question happened more than six months after the order was issued, the order had expired by then. While options (a) and (b) may be true, they do not address the point about the order having expired, and so, neither can be the correct answer. While option (d) may or may not be true, it is not relevant to the question, and so, cannot be the correct answer.

7.5 Prakash is the president of the MNU hockey club. He organises regular practice events for the University's hockey team on the campus sports field, and is in charge of the team's equipment, including hockey sticks and balls. Since there are massive, violent protests being carried out on the MNU campus, the district magistrate issues an order under Section 144 of the CrPC, prohibiting Prakash from removing the hockey equipment from the locked cupboard in the University Sports Office. The order states that this is because the equipment may be used as weapons by some of the protestors. Prakash claims that the hockey practices are not related to the protests, that he is very careful to ensure the equipment is only used for hockey practice, and that the order is invalid. Is he right?

- (a) Yes, since there was nothing to show that the hockey practices were related to the protests.
- (b) Yes, since the equipment was only used for hockey practice, and not for the protests.
- (c) No, since Prakash was involved in the violent protests himself, and could use the hockey sticks to commit acts of violence.
- (d) No, since the order was issued to prevent the hockey equipment from being used in the violent protests on the MNU campus.

(Answer: (d))

**Rationale:**

The correct answer is (d) – no, since the order was issued to prevent the hockey equipment from being used in the violent protests on the MNU campus. Since massive, violent protests were being carried out on the MNU campus, the district magistrate's order was valid, as it is possible that hockey sticks could be used for violent means. Bear in mind that the passage tells us -The magistrate can direct any person to not do a certain act or to take a certain action with respect to certain property in his possession or under his management; since the hockey equipment was under Prakash's management, the district magistrate could issue such an order to him. While options (a) and (b) may be true, they do not address this issue, and so, neither (a) nor (b) can be the correct answer. There is nothing in the passage to suggest that Prakash was involved in the riots himself, and so, option (c) cannot be the correct answer.

8.

The IT Minister said in Parliament that, just as when there is provocative writing in newspapers, the newspaper cannot say that it is not responsible, if there is -fake news on social media, then social media platforms are also responsible.

The Minister said that social media platforms must ensure that they have a physical office in India, in order for them to be regulated as 'online intermediaries' under Indian law.

The Minister said that -All social media platforms must base their grievance officer in India who could act as the point of contact for all grievances about fake news. The duty of such grievance officer should cover not only to receive grievances about fake news on a real-time basis, but also to inform law enforcement agencies.

It's important here to note how the Minister defined 'fake news'. He said:

-Fake news is a type of propaganda that consists of deliberate misinformation or hoaxes spread via traditional print and broadcast news media or online social media. It can include text, visual, audio, data report, etc. Fake news is written and published with the intent to mislead in order to damage an agency, entity, or person, or gain financially or politically, create disturbance and unrest, often using sensational, dishonest, or outright fabricated headlines to increase readership, online sharing, and Internet click revenue.

[Extracted, with edits and revisions, from -Govt of India says law of abetment applies to social media platforms if they do not act on large scale misuse, by Nikhil Pahwa, *MediaNama*, <https://www.medianama.com/2018/07/223-govt-law-abetment-social-media-fake-news/>.]

Answer the following questions assuming that the IT Minister's statements to Parliament, as set out in the passage above, are valid law:

8.1 Suhail is a computer programmer who created and launched his own app, a social networking platform called 'Critter'. Since Critter is very new, he wishes to attract users to it, and in order to do so, starts posting messages on a rival social media platform called 'PikPok', saying the PikPok is anti-national, and that its users should tear down PikPok's offices and switch to Critter. PikPok's CEO, Rajesh, sees Suhail's posts, but does not take them seriously, and does not delete them. The authorities claim that PikPok is guilty of permitting 'fake news' on PikPok. Are they correct?

- (a) No, since it was Suhail who posted the messages, and not Rajesh.
- (b) No, since the messages were directed against PikPok, and so, PikPok was the victim in this case.
- (c) Yes, since Suhail's posts on PikPok contained deliberate misinformation and were intended to damage PikPok.
- (d) Yes, since Rajesh did not take Critter as a serious threat.

(Answer: (c))

**Rationale:**

The correct answer is (c) - yes, since Suhail's posts on PikPok contained deliberate misinformation and were intended to damage PikPok. Suhail's messages were intended to cause damage to PikPok, to try and create a gain for Critter, and they encouraged people to indulge in violent activities against PikPok, and so, were fake news. Since Rajesh saw these messages and decided not to delete them, he has permitted fake news to be posted on PikPok. While options (a) and (b) may be true, they do not address the point that fake news was posted on PikPok, and that PikPok chose not to do anything about it, and so, PikPok was responsible. While option (d) may be true, it does not relate to whether the messages were fake news, and so, (d) cannot be the correct answer.

8.2 Upset at the incident with Suhail and Critter, Rajesh decides to appoint an employee of PikPok, Roger, as PikPok's grievance officer. Roger is based in PikPok's office in Bengaluru, and handles all grievances that PikPok receives. While he was on a week-long holiday to Sri Lanka, he checked his email continuously, and noticed that Suhail had sent him an email with a grievance in which he claimed that some messages criticising Critter had been posted on PikPok, and that these messages were 'fake news'. Roger answered the email, and when he got back to office, removed the messages. When Suhail discovered that Roger had answered his email from Sri Lanka, he complained to the authorities that PikPok's grievance officer was not based in India. Is he right?

- (a) No, since Roger was located in PikPok's Bengaluru office, and had only gone out of the country on a week-long holiday.
- (b) Yes, since Roger was not in India when he responded to Suhail's grievance.
- (c) No, since Roger had handled Suhail's grievance on a 'real-time' basis.
- (d) Yes, since Roger had only deleted the messages after coming back to India.

(Answer: (a))

**Rationale:**

The correct answer is (a) – no, since Roger was located in PikPok's Bengaluru office, and had only gone out of the country on a week-long holiday. The facts tell us that Roger was based in PikPok's office in Bengaluru, and that he had only gone out of India on a week-long holiday. Merely leaving the country for a short holiday would not mean that Roger was not based in India, and so, Suhail is not correct. While option (b) may be true, the Minister's statements in the passage above require that the grievance officer should be based in India, not that the grievance officer could never leave the country or respond to grievances while away from the country, and so, (b) cannot be the correct answer. Similarly, while options (c) and (d) may or may not be true, they do not address the point about where Roger was 'based', and so, neither (c) nor (d) can be the correct answer.

8.3 Suhail makes a second complaint to the authorities against PikPok, claiming that Roger had failed in his duties, since he had only deleted the messages that Suhail had complained about after coming back to India, and so, had not responded to Suhail's grievance on a real-time basis. Is Suhail right?

- (a) Yes, since Roger had allowed the fake news to continue to be available on PikPok.
- (b) No, since Roger had received his grievance on a real-time basis.
- (c) No, since Roger had eventually deleted the messages that Suhail had complained about.
- (d) Yes, since there was a delay between Suhail's grievance and Roger deleting the messages.

(Answer: (b))

**Rationale:**

The correct answer is (b) – no, since Roger had received his grievance on a real-time basis. The Minister's statements in the passage tell us that the grievance officer's duties include -to receive grievances on a real-time basis, and not to resolve such grievances on a real-time basis. Therefore, Suhail's complaint is not valid. Given this, neither option (a) nor option (d) can be the correct answer. Option (c) also does not address whether Roger had violated his duties, and so, (c) cannot be the correct answer.

8.4 Prakash is a PikPok user, and often uses the platform to post messages about people he does not like. He posts a message about Reena, who stays in his apartment complex, saying the she was very unfriendly. Upset at this, Reena complains that Prakash has posted 'fake news'. Does Prakash's message about Reena constitute fake news?

- (a) Yes, since the message was misleading, sensational, and intended to create a disturbance.
- (b) Yes, since the message was intended to cause harm to Reena.
- (c) No, since Prakash's message did not contain any intentional misinformation.



(d) No, since Reena did complain, showing that she was in fact unfriendly.

(Answer: (c))

**Rationale:**

The correct answer is (c) – no, since Prakash’s message did not contain any intentional misinformation. Prakash’s message was a matter of opinion – there is nothing in the facts to indicate that he intended to cause harm to anyone, or that his message would lead to any disturbances or violent incidents, or that it otherwise fell within the definition of ‘fake news’ provided in the passage. Given this, option (b) cannot be the correct answer. While Prakash used PikPok to post messages about people he did not like, there is nothing in the facts to indicate that he intended to cause any harm to them, and so, option (a) cannot be the correct answer. Option (d) is irrelevant to the question, and so, (d) cannot be the correct answer either.

8.5 Reena is an investigative journalist, and often writes articles exposing corruption in government agencies. Upset at the way the authorities treated her complaint against Prakash, she decides to investigate the IT department of the state government, and then writes an article in a newspaper on the basis of some facts that she discovered in the course of her investigation, describing how various officials in the IT department would take bribes to resolve complaints about fake news. Is Reena’s article fake news?

- (a) Yes, since Reena’s article was intended to cause harm to the IT department.
- (b) No, since Reena’s article was published in a newspaper, and not on a social media platform.
- (c) Yes, since she wrote the article as she was upset about the manner in which her complaint had been handled.
- (d) No, since it was based on facts, and did not contain deliberate misinformation.

(Answer: (d))

**Rationale:**

The correct answer is (d) – no, since it was based on facts, and did not contain deliberate misinformation. The facts tell us that Reena’s article was written –on the basis of some facts that she discovered in the course of her investigation. As such, it does not fall within the definition of fake news provided in the passage. While option (a) may or may not be true, the point remains that Reena’s article was not fake news for the reason that option (d) is the correct answer, and so, (a) cannot be the correct answer. Option (b) is incorrect because the definition of fake news in the passage would include information published in traditional print media like a newspaper, and so, (b) cannot be the correct answer. While option (c) may be true, it does not address the point that the article was based on facts, and so, was not fake news; therefore, (c) cannot be the correct answer.

## Logical Reasoning

1.

In South Asia the ruling classes ignore the quotidian at their own peril. Just ask them about onions. This autumn the humble bulb has challenged titans.

The trouble began when unseasonably heavy rains followed drought across the onion-growing belt of north and central India. That not only all but destroyed the crop; the wet caused more than a third of onions in storage to rot. The result is a severe shortage of onions across India, as a result of which prices more than tripled.

This hardly threatens famine – something the green revolution abolished decades ago by boosting wheat and rice yields. Yet remove the onion and you struggle to imagine Indian cuisine. It forms the base for curries and biryanis. When a poor Indian has nothing else to eat, at least she has an onion with a chapati or two.

In late September the Indian government slapped a ban on exports of onions. That briefly brought down prices, helping consumers. But it has angered farmers and exporters in Gujarat, Maharashtra and Karnataka, for whom onions are an essential cash crop.

In South Asia, a region riven by geopolitical fault lines, there are international implications. Upon hearing of India's export ban, Bangladesh's strongwoman, Sheikh Hasina Wajed, admonished the Indian government for giving no warning. Her country counts on Indian onions, whose price at one point had risen fivefold in the markets of Dhaka, Bangladesh's capital.

[Extracted, with edits and revisions, from -Banyan: Tight bulb momentll, *The Economist*, Vol. 433, No. 9172, December 7, 2019.]

1.1 Which of the following forms the premise for the author's argument that a shortage of onions would not cause a famine in India today?

- (a) India can ban exports of onions, thereby ensuring adequate supply.
- (b) India can always import onions from its neighbouring countries.
- (c) Onions are only used for flavour in Indian cuisine, and are not the main staple.
- (d) There is enough wheat and rice for people to eat in India today because of the green revolution.

(Answer: (d))

### **Rationale:**

The correct answer is (d) – there is enough wheat and rice for people to eat in India today because of the green revolution. The author states this towards the beginning of the third paragraph. While each of the other options may be true, the author does not base the conclusion that a shortage of onions would not cause a famine in India today, on any of the statements set out in the other options. Therefore, none of (a), (b), or (c) can be the correct answer.

1.2 Which of the following is most likely to be true had heavy rains not followed drought across the onion-growing regions of India?

- (a) Bangladesh would not have needed to import onions from India.
- (b) There would not have been a shortage of onions in India.
- (c) The onion harvest in storage would not have rotted.
- (d) The onion crop would not have been destroyed.

(Answer: (c))

**Rationale:**

The correct answer is (c) – the onion harvest in storage would not have rotted. We can infer this from the author's statement that -the wet caused more than a third of onions in storage to rotll. There is nothing in the passage to indicate that Bangladesh would not have needed to import onions from India had the rains not followed the drought, and so, (a) cannot be the correct answer. It was a combination of the heavy rains and the preceding drought that caused a shortage of onions (and not either of these reasons alone), and so, (b) cannot be the correct answer. The onion crop was destroyed by the drought, not the rains, and so, (d) cannot be the correct answer either.

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

- (a) Farmers in Gujarat, Maharashtra and Karnataka do not mind receiving lower prices from the sale of onions to ensure adequate supply of onions in India.
- (b) Farmers in states other than Gujarat, Maharashtra and Karnataka do not cultivate onions.
- (c) Farmers in Gujarat, Maharashtra and Karnataka have been forced to cultivate onions because of the policies of the Indian government.
- (d) Farmers in Gujarat, Maharashtra and Karnataka care more about earning money through selling onions than ensuring adequate supply of onions in India.

(Answer: (d))

**Rationale:**

The correct answer is (d) – farmers in Gujarat, Maharashtra and Karnataka care more about earning money through exporting onions than ensuring adequate supply of onions in India. We can infer this because of the author's statement about how the ban on export of onions brought down prices, but angered farmers in these states, who view onions as an important cash crop. Since option (a) directly contradicts this statement, (a) cannot be the correct answer. There is nothing in the passage to support either (b) or (c), and so, neither of these can be the correct answer.

1.4 Which of the following solutions, if employed by the Bangladesh government, would counter the effect of the ban on onion exports by India on the prices of onions in Dhaka's markets?

- (a) Prohibit onion cultivation in Bangladesh.
- (b) Increase imports of onions from other countries.
- (c) Close the market on alternate days.
- (d) None of the above.

(Answer: (b))

**Rationale:**

The correct answer is (b) – increase imports of onions from other countries. The price of onions would reduce with an increase in their supply. Option (a) would have the opposite effect, that is, it would result in a reduction of supply, and so, (a) cannot be the correct answer. Option (c) would not affect the supply of, or demand for, onions either, and so, this cannot be the correct answer. Since (b) is likely to counter the effect of the ban, for the reasons discussed, (d) cannot be the correct answer.

1.5 Which of the following most accurately expresses the main point of the passage?

- (a) Onions are not an important crop for either India or Bangladesh.
- (b) The Bangladeshi government habitually opposes India's export policies, and the ban on onion exports is the most recent example of such opposition.
- (c) Adverse weather has affected the availability of onions in India, leading to cascading effects, including in neighbouring countries.

(d) Onions form a very important part of an India's diet, and in the absence of anything else, an Indian can always eat onions with chapatis.

(Answer: (c))

**Rationale:**

The correct answer is (c) - adverse weather has affected the availability of onions in India, leading to cascading effects, including in neighbouring countries. The author discusses the reason for the shortage of onions in India, how the government's ban on exports affected farmers and exporters in India, as well as the impact upon prices of onions in Bangladesh, and the reaction of the government of Bangladesh to the ban. Since option (c) is the only option that addresses all these points, it is the correct answer. Option (a) contradicts the author's description of how important onions are to an Indian's diet, and so, cannot be the correct answer. There is nothing to indicate that the Bangladeshi government habitually opposes India's export policies – the only instance we have is of their opposition to the ban on export of onions, and so, (b) cannot be the correct answer. While (d) may be true, it only touches upon one of the points the author discusses in the passage, rather than expressing the author's main point, and so, (d) cannot be the correct answer.

2.

Former Pakistan batsman and head coach of the Pakistan U-19 squad Ijaz Ahmed feels that his side has it in them to defeat arch-rivals India in the upcoming ICC Youth World Cup beginning in South Africa on 17 January.

-India has a very good cricket system and it is organised but I know that we have more passion than them when we play against each other and that is how we also beat them in the semi-finals of the recent Asian Emerging Nations Cup, Ijaz said.

Ijaz, a veteran of 60 Tests and 250 ODIs, was also in charge of the Pakistan Emerging side which defeated India before going on to win the title in Bangladesh last year.

-Even in the past, we beat India because of our greater passion and this time also I know the passion of our players will prevail over them although they have a very strong outfit, he added.

Notably, Pakistan have already won the U-19 World Cup twice in the past.

Ijaz, however stated that eventually it would depend on how his team performs on that particular day.

-It is the same in the World Cup - it does not matter which team is number one or defending champions; what will matter is how a team plays on a given day. I personally feel our team is well balanced, he said.

Ijaz also denied the Indian side being at an advantage despite the Indian U-19 team already having prior experience of South Africa, New Zealand and Zimbabwe in South Africa before the commencement of the World Cup.

-Our players have also trained hard in Lahore and we have played around 11 matches. We will also reach South Africa nine days before the World Cup and we have some practice games and I think our preparations are also very good for the tournament, he said.

[Extracted, with edits and revisions, from -I know the passion of our players will prevail over the Indian side in U-19 World Cup: Pak head coach, *The Statesman*, <https://www.thestatesman.com/sports/know-passion-players-will-prevail-indian-side-u-19-world-cup-pak-head-coach-1502843321.html>.]

2.1 Based on his statements in the passage above, which of the following is Ijaz Ahmed most likely to agree with?

- (a) The Pakistan U-19 team will win the ICC Youth World Cup because it has better bowlers.
- (b) Strong emotional motivation is more important in sport than a strong team.
- (c) Familiarity with the local conditions is not important in cricket.
- (d) Preparation is not important when planning for cricket tournaments.

(Answer: (b))

**Rationale:**

The correct answer is (b) – strong emotional motivation is more important in sport than a strong team. This is supported by Ijaz Ahmed's various statements in the passage to the effect that the Pakistan U-19 team would beat the Indian team because it has 'greater passion' when playing against India. There is nothing in the passage to support option (a), and so, this cannot be the correct answer. He does not discount the importance of familiarity with local conditions, and talks about the 11 matches his team has played in training, and how they would arrive in South Africa nine days before the tournament for practice games, and so, (c) cannot be the correct answer. He also mentions that their preparations are 'very good', and this, combined with his other statements about the Pakistani team's preparations, means that (d) cannot be the correct answer.

2.2 Which of the following, if true, would most weaken Ijaz Ahmed's arguments in the passage above?

- (a) Practice games in local conditions are critical to a team's success in cricket tournaments.
- (b) A winning cricket team needs a good balance of players of different kinds.
- (c) The only way to win a cricket match is to be completely unemotional and focused.
- (d) Motivation and a desire to win are the most important things in winning cricket matches.

(Answer: (c))

**Rationale:**

The correct answer is (c) – the only way to win a cricket match is to be completely unemotional and focused. If this were true, it would contradict Ijaz Ahmed's argument that the Pakistani team would win over India because it has 'greater passion'. He talks about how he feels his team is well-balanced, that they would have practice matches ahead of the tournament, and how their preparations are 'very good', all of which support options (a) and (b), and so, neither of these can be the correct answer. Option (d) does not contradict Ijaz Ahmed's statements about why his team would beat India, but supports them, and so, (d) cannot be the correct answer.

2.3 What role does Ijaz Ahmed's description of the Pakistan U-19 team's victory over India in the Asian Emerging Nations Cup play in relation to his conclusion?

- (a) It supports the conclusion by providing an example.
- (b) It weakens the conclusion through a contradictory example.
- (c) It is an exception that proves the rule set out in his main conclusion.
- (d) It is completely unrelated to his conclusion.

(Answer: (a))

**Rationale:**

The correct answer is (a) - it supports the conclusion by providing an example. Ijaz Ahmed uses the Pakistan U-19 team's victory over India in the Asian Emerging Nations Cup as an example of how they won because of their greater passion, in the second paragraph. Since it supports, rather than weakens, his conclusion, (b) cannot be the correct answer. The example is in consonance with his conclusion rather than contradictory to it, and so, (c) cannot be the correct answer. Since, as discussed, the example supports his conclusion, it is related to it, and so, (d) cannot be the correct answer.

2.4 If Ijaz Ahmed's arguments in the passage above are correct, which of the following is most likely to be true?

- (a) The Pakistani team will win the U-19 World Cup.
- (b) The Pakistani team will beat the Indian team in the U-19 World Cup.
- (c) Neither of the above.
- (d) Both, (a) and (b).

(Answer: (b))

**Rationale:**

The correct answer is (b) – the Pakistani team will beat the Indian team in the U-19 World Cup. Ijaz Ahmed talks about how his team is more passionate when playing against India, and does not talk about their performance or attitude when facing other teams. Given this, none of the other options can be the correct answer.

2.5 Which of the following can be conclusively inferred from Ijaz Ahmed's statements in the passage above?

- (a) He is more focused on defeating India than winning the U-19 World Cup.
- (b) He feels that it is no use reaching South Africa early for the U-19 World Cup.
- (c) He feels that their training in Lahore is adequate for the team to be ready for the U-19 World Cup.
- (d) None of the above.

(Answer: (d))

**Rationale:**

The correct answer is (d) – none of the above. While Ijaz Ahmed makes several statements about why he thinks his team can beat India in the U-19 World Cup, the passage does not tell us explicitly that he cares more about defeating the Indian team than winning the U-19 World Cup; neither does it have any information regarding how he feels about winning the U-19 World Cup. Option (b) cannot be the correct answer, since Ijaz Ahmed mentions reaching South Africa nine days early as part of their preparations for the U-19 World Cup. Since he mentions this, as well as the practice matches, as part of their preparations for the U-19 World Cup, we cannot conclusively infer that he feels their training in Lahore is all that the team needs to be ready for the U-19 World Cup. Therefore, (c) cannot be the correct answer.

3.

In most of the world, it is accepted that if animals are to be killed for food, they should be killed without suffering. Regulations for slaughter generally require that animals be rendered instantly unconscious before they are killed, or death should be brought about instantaneously, or, in the case of ritual slaughter, as close to instantaneously as the religious doctrine allows.

Not for fish. There is no humane slaughter requirement for wild fish caught and killed at sea, nor, in most places, for farmed fish. Fish caught in nets by trawlers are dumped on board the ship and allowed to suffocate. In the commercial fishing technique known as longline fishing, fish taking the bait are likely to remain fully conscious while they are dragged around for many hours by hooks through their mouths.

The most startling thing is the staggering number of fish on which humans inflict these deaths – estimated at one trillion, though it could be as high as 2.7 trillion.

Let's assume that all this fishing is sustainable, though of course it is not. It would then be reassuring to believe that killing on such a vast scale does not matter, because fish do not feel pain. But the nervous systems of fish are sufficiently similar to those of birds and mammals to suggest that they do.

Why are fish the forgotten victims on our plate? It is because they are cold-blooded and covered in scales? Is it because they cannot give voice to their pain? Whatever the explanation, the evidence is now accumulating that commercial fishing inflicts an unimaginable amount of pain and suffering. We need to learn how to capture and kill wild fish humanely – or, if that is not possible, to find less cruel and more sustainable alternatives to eating them.

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

3.1 Which of the following, if true, would most weaken the author's arguments in the passage above?

- (a) Fish are a limited resource and some species can go extinct because of over-fishing.
- (b) Fish are not sentient creatures, and do not feel any pain.
- (c) Fish do feel pain, but can reproduce in inexhaustible numbers.
- (d) Fish can sense some pain, but not much.

(Answer: (b))

**Rationale:**

The correct answer is (b) – fish are not sentient creatures, and do not feel any pain. The author bases his arguments on the premise that fish do feel pain, and we should not permit the huge amounts of suffering that commercial fishing inflicts on them. Option (a) supports the author's arguments, and so, cannot be the correct answer. Both, options (c) and (d) weaken the author's arguments, but not to the extent that option (b) does – option (c) effectively removes the concern about the sustainability of commercial fishing, but does not address the author's main point that fish do feel pain, and so, (c) cannot be the correct answer; (d) addresses the author's main point about fish feeling pain, but only to a limited extent, and so, does not weaken the author's argument as much as option (b) and therefore, cannot be the correct answer.

3.2 Which of the following is a premise for the author's arguments in the passage above?

- (a) That it is not correct for people to inflict pain on other species.
- (b) That fish do not feel pain.
- (c) That commercial fishing is sustainable.
- (d) That people are not fond of eating too much fish.

(Answer: (a))

**Rationale:**

The correct answer is (a) – that it is not correct for people to inflict pain on other species. The author argues that fish do feel pain, and that we should therefore find alternatives to present-day practices of commercial fishing – this is premised on the assumption that people should not inflict pain on other species. Option (b) contradicts the author's argument, and so, cannot be the correct answer. The author's statement that -Let's assume that all this fishing is sustainable, though of course it is not effectively means that the author does not rely on the statement in option (c) to form their argument, and so, (c) cannot be the correct answer. Option (d) is irrelevant to the author's argument – regardless of whether people like eating fish, the main argument is that they should not inflict pain on other species, and so, (d) cannot be the correct answer.

3.3 Which of the following is most similar to the author's arguments in the passage above?

- (a) People should be encouraged to spend more time with animals so that they get to understand them better.
- (b) People who keep pets often given them funny names, which they should not.
- (c) Farm animals do not get to eat the food they help produce, and so, should not be made to work to produce such food.

- (d) Animals do suffer mental trauma when made to perform tricks in front of crowds, and so, we should not make them perform tricks for our entertainment.

(Answer: (d))

**Rationale:**

The correct answer is (d) – animals do suffer mental trauma when made to perform tricks in front of crowds, and so, we should not make them perform tricks for our entertainment. The author's main argument can be summarised as: we should not inflict suffering on fish because they feel pain. Similarly, this option provides an example of something that causes animals harm, and which we should therefore avoid. None of the other options follows this line of reasoning, that is, they do not provide an example of something that causes animals harm – for example, the food produced through the use of farm animal labour may be unhealthy for them, and so we do not know whether it is a good idea for them to eat such food – and therefore cannot be the correct answer.

- 3.4 According to the author, which of the following distinguishes our treatment of fish from our treatment of other animals?

- (a) That people across the world eat them, unlike other animals, which are only eaten where they are found.
- (b) That they are covered in scales, and look unlike other animals.
- (c) That we do not require they be slaughtered in a humane fashion, unlike other animals.
- (d) That they are cold-blooded and cannot voice their pain.

(Answer: (c))

**Rationale:**

The correct answer is (c) – that we do not require they be slaughtered in a humane fashion, unlike other animals. The author talks about this point in the first two paragraphs of the passage, and shows how our treatment of fish is different from our treatment of other animals by elaborating upon the cruelty of commercial fishing. The author does not discuss the point in option (a) at all, and so, (a) cannot be the correct answer. While each of options (b) and (d) may form a *reason* for the way we treat fish, neither is the *difference* in our treatment of fish from other animals, and so, cannot be the correct answer.

- 3.5 Which of the following is the author most likely to agree with as an alternative to present-day commercial fishing practices?

- (a) Reducing the amount of fishing permitted in the oceans to ensure all fish species are not wiped out.
- (b) Laboratory-grown fish meat that can be produced using non-animal, renewable resources.
- (c) A method of commercial fishing that ensures fish do not feel pain, and dramatically increases the number of fish caught.
- (d) Better fishing nets that permit endangered species of sea creatures such as dolphin to escape.

(Answer: (b))

**Rationale:**

The correct answer is (b) - laboratory-grown fish meat that can be produced using non-animal, renewable resources. The author argues that we need to find -less cruel and more sustainable alternatives to eating fish; option (b) satisfies both parts of this argument, that is, it ensures no fish feel pain (since the fish meat would be laboratory-grown from non-animal sources), and it provides a sustainable method of providing fish meat (since it relies upon renewable resources for production). While option (a) addresses one part of the author's argument, it does not address the point about fish feeling pain, and so, cannot be the correct answer. Option (c) addresses the other part of the argument, but does not address the point about sustainability, and so, cannot be the



correct answer. The author's argument extends to all fish, since they feel pain, and not just endangered species, and so, option (d) cannot be the correct answer.

4.

Two days after masked goons attacked students and teachers at Jawaharlal Nehru University (JNU) in Delhi, actor Deepika Padukone visited the campus to join a protest against the violence. While she did not address the gathering, her presence sent out a powerful message. The image of Bollywood's leading female star standing behind Kanhaiya Kumar, the former JNU Students' Union (JNUSU) leader who is charged with sedition, and Aishe Ghosh, the current JNUSU president, who was brutally attacked and charged with a previous case of vandalism, even as they chanted slogans against the government, was hugely symbolic.

While many, particularly supporters of the government, saw in Ms. Padukone's visit a publicity stunt ahead of a movie release, this is unconvincing. In fact, by associating with JNU — which is the subject of polarised opinions — she risked alienating a set of her admirers. She has also risked antagonising the current regime. She has also put her career at risk, risked projects, for producers and distributors are careful not to be on the wrong side of those exercising power. And she has risked vicious trolling, as can be seen in the social media attack against her.

But this is not about Ms Padukone alone. She is one among the increasing number of people from the Mumbai film industry, generally known for its silence and lack of engagement with contemporary political concerns, who have taken a stand on recent issues. Irrespective of one's political affiliations, the fact that these citizens, who command enormous following, have stood up against violence, and for equality and justice, must be applauded. Their interventions have enriched democracy.

[Extracted, with edits and revisions, from -Bollywood is finding a voice. This is good news, Editorial, *The Hindustan Times*, <https://www.hindustantimes.com/editorials/bollywood-is-finding-a-voice-this-is-good-news/story-4txygOm4eOoS6AJ144XRmM.html>.]

4.1 Based on the passage above, which of the following is the author most likely to disagree with?

- (a) Symbolic gestures are helpful in democratic nations.
- (b) Student leaders should not voice statements against the government.
- (c) Artists and actors should participate in democratic movements.
- (d) Film producers do not wish to upset people in power.

(Answer: (b))

**Rationale:**

The correct answer is (b) – student leaders should not voice statements against the government. There is nothing in the passage to suggest that the author would support this statement. The author presents arguments in support of each of the other options, and so, none of them can be the correct answer.

4.2 Which of the following, if true, would most weaken the author's defence of Ms Padukone in the passage above?

- (a) Ms Padukone is not bothered by social media trolls.
- (b) Many JNU film students like watching films in cinemas.
- (c) Statistics show that ticket sales of films starring actors who have been involved in recent controversies increase dramatically.
- (d) Statistics show that ticket sales of films starring actors who have been involved in recent controversies reduce dramatically.

(Answer: (c))

**Rationale:**

The correct answer is (c) – statistics show that ticket sales of films starring actors who have been involved in recent controversies increase dramatically. If this were true, then the author's defence of Ms Padukone against the charge that her visit to JNU was -a publicity stunt ahead of a movie release, would be ineffective. While option (a) addresses only one part of the author's defence, it does not address each of the other points the author makes in Ms Padukone's defence, and so, cannot be the correct answer. Option (b) is irrelevant, in that it does not address the author's defence at all – it does not tell us whether the JNU students who like watching films in cinemas would watch Ms Padukone's films, and so cannot be the correct answer. Option (d), if correct, would support the author's arguments to the effect that Ms Padukone's action were not a cheap publicity stunt ahead of a film release, and so, (d) cannot be the correct answer.

4.3 Which of the following most accurately represents the author's main point in the passage above?

- (a) People from the film industry have traditionally been silent about contemporary political concerns.
- (b) People from the film industry should help enrich democracy rather than focus on their careers.
- (c) People from the film industry should raise their voice against the current regime as this enriches democracy
- (d) People from the film industry should raise their voice against violence and injustice as this enriches democracy.

(Answer: (d))

**Rationale:**

The correct answer is (d) - people from the film industry should raise their voice against violence and injustice as this enriches democracy. The author presents this as a concluding statement at the end of the passage above. While options (a) and (b) may be true, they do not address the author's main point, that people from the film industry should raise their voice against injustice and violence to help enrich democracy; as such, they are incomplete, and therefore, neither can be the correct answer. The author praises the actions of those from the film industry who protest against violence and injustice, and not necessarily against the current regime, and so, option (c) cannot be the correct answer.

4.4 Which of the following can be inferred from the author's arguments in the passage above?

- (a) Film actors generally do not participate in protests because they do not understand contemporary political issues.
- (b) Film actors generally do not participate in protests because they do not want to put their own future at risk.
- (c) Film actors generally do not participate in protests because they have no time for such activities.
- (d) Film actors are not influential, and their participation in political protests is inconsequential.

(Answer: (b))

**Rationale:**

The correct answer is (b) – film actors generally do not participate in protests because they do not want to put their own future at risk. We can infer this from the arguments that the author offers in Ms Padukone's defence. There is nothing in the passage to support either option (a) or option (c), and so, neither of these can be the correct answer. Option (d) contradicts the author's statements in the last paragraph of the passage, and so, cannot be the correct answer.

4.5 The author's conclusion in the passage above logically follows if which of the following is assumed?

- (a) People pay no attention to what a person from the film industry does outside their films.

- (b) People who have many followers can influence their followers by their actions.
- (c) People from the film industry do not like to be involved in political controversies.
- (d) Kanhaiya Kumar is planning a career in the film industry.

(Answer: (b))

**Rationale:**

The correct answer is (b) – people who have many followers can influence their followers by their actions. The author's arguments are centred around people with a huge following making strong symbolic gestures that enrich democracy; as such, their ability to influence their followers would support this conclusion. Option (a) would weaken the author's argument, and so, cannot be the correct answer. Options (c) and (d) would have no effect on the author's conclusion, and so, neither can be the correct answer.

5.

B and C are daughters of A. G and H are the sons of C and D. J, K, G and H are all cousins. E is the mother of J.

5.1 What of these may be the relationship that A has with H?

- (a) A is H's Uncle
- (b) A is H's Mother
- (c) A is H's Grandfather
- (d) A is H's Great-Grandmother

(Answer: (c))

**Rationale:**

As G and H are the sons of C, and C is the daughter of A, (c) is the correct option. As A's gender is not mentioned, they could be either male or female.

5.2 Which of the following statements is not necessarily true?

- (a) B is E's cousin
- (b) D is A's son-in-law
- (c) B is G's uncle
- (d) D is J's uncle

(Answer: (a))

**Rationale:**

According to the information in the question, J, K, G and H are cousins, which means that their respective parents, D and E are siblings. From the facts provided, D and B are in-laws and therefore B and E are not related to each other as cousins. Options (b), (c) and (d) are true.

6.

In the following series, which of the options comes next?

6.1 13, 17, 16, 20, 19, ....

- (a) 24
- (b) 27
- (c) 16
- (d) 23

(Answer: (d))

**Rationale:**

The numbers follow the sequence of +4 and then -1. By this logic, (d) is the correct answer.

6.2 MJL, KLJ, INH, GPF, ...

- (a) ERD
- (b) INH
- (c) DQC
- (d) DRE

(Answer: (a))

**Rationale:**

The letter string follows the pattern of (letter - 2 letters)(letter + 2 letters)(letter - 2 letters) and following this logic, the correct answer is (a).

7. Read the following sets of statements together and select the appropriate conclusion from the options that follow.

7.1

Statements -

- (a) All cats are animals
- (b) Some animals are plants
- (c) Some birds are plants

Conclusions -

- I. Some birds are animals
- II. Some cats are birds

Answer options -

- (a) Only I follows
- (b) Only II follows

- (c) Both I and II follow
- (d) Neither follow

(Answer: (d))

7.2

Statements -

- (a) All bats are gear
- (b) All swords are gear
- (c) All gear are buckets

Conclusions -

- I. All bats are buckets
- II. All swords are buckets
- III. Some buckets are gear

Answer options -

- (a) Only I follows
- (b) Only III follows
- (c) Only I and II follow
- (d) I, II and III follow

(Answer: (c))

Statements -

- (a) Some needles are pins
- (b) Some pins are pencils
- (c) All pencils are hammers

Conclusions -

- I. Some hammers are pins
- II. Some hammers are needles

Answer options -

- (a) Only I follows
- (b) Only II follows
- (c) Both II and III follow
- (d) Neither follow

(Answer: (a))

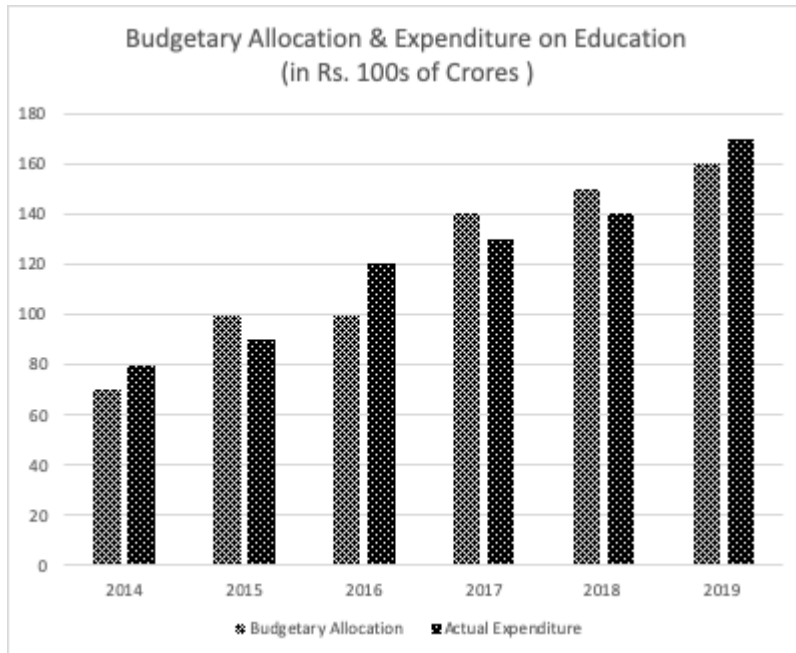
**Rationale:**

For all of these questions, use sets to visually represent the available information and the answer will follow.

## Quantitative Techniques

1.

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)

1.1 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))

1.2 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))

1.3 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))

2.

Sang-Saath Bank's employees' picnic on a river island turned into a disaster as the newly constructed road bridge connecting the island to the riverbank collapsed. Evacuation operations had to be carried out by ferrying the employees from the island across the river and on to the riverbank. One-sixth of the employees were evacuated by villagers in a country boat. Of the remaining, one-fifth were evacuated by fishermen in a trawler. The remaining evacuees were joined by villagers who were helping with the evacuation. Finally, 8 motor boats with 8 people each left the island.

2.1 If half of the motor boats had one villager each and the other half had 2 each, what was the ratio of villagers to employees in the motor boats?

(a) 1:8

(b) 3:13

(c) 3:16

(d) 2:13

(Answer: (b))

**Rationale:**

The correct answer is (b).

Number of people that left on the 8 motor boats =  $8 * 8 = 64$  (i)

Half of 8 boats had 1 villager each =  $\frac{1}{2} * 8 * 1 = 4$  ... (ii) Half of 8

boats had 2 villagers each =  $\frac{1}{2} * 8 * 2 = 8$  ... (iii) Therefore, total

number of villagers =  $y = (ii) + (iii) = 4 + 8 = 12$  (iv)

Therefore, total number of employees in the 8 motor boats =  $(i) + (iv) = 64 - 12 = 52$  (v)

Therefore, ratio of villagers to employees in the 8 motor boats =  $(iv) : (v) = 12:52 = 3:13$

2.2 How many employees were evacuated in the trawler?

(a) 13

(b) 15

(c) 12

(d) 10

(Answer (a))

**Rationale:**

Number of employees evacuated by the country boat =  $x/6$  (vi)

Remaining employees after country boat evacuation =  $x - x/6 = 5x/6$  (vii)

Number of employees evacuated by the trawler =  $1/5 * 5x/6 = x/6$  (viii)

[Note: See Rationale for 1.1 for calculated data]

From (v) in Rationale for 1.1, we know that the number of employees evacuated by the 8 motor boats = 52.

Therefore,  $52 = \text{Remaining employees after country boat evacuation} - \text{Number of employees evacuated by the trawler}$ , i.e.  $(vii) - (viii) = 5x/6 - x/6 = 4x/6 = 2x/3$

Therefore,  $x = 52 * 3/2 = 78 = \text{Total number of employees}$

Therefore, the number of employees evacuated by the trawler =  $78/6 = 13$

2.3 If there were 4 villagers in the country boat, and 6 fishermen in the trawler, and if an equal number of people travelled in each trip; i.e. country boat, trawler, and motor boats, how many people travelled in each trip?

(a) 10

(b) 6

(c) 9

(d) 8

(Answer (a))

**Rationale:**

Total number of employees = 78 [Note: See Rationale for 1.2]

Villagers and fishermen in the country boat and trawler =  $4 + 6 = 10$

Number of villagers in the 8 motor boats = 12 [Note: See (iv) of Rationale for 1.1]

Total number of people that travelled =  $78 + 12 + 10 = 100$

Number of trips = 1 (country boat) + 1 (trawler) + 8 boats = 10

Average number of people travelled by the country boat, trawler and the last 8 boats =  $100/10 = 10$

2.4 After they reached the shore,  $1/3$  of the employees took a taxi, half of them took a bus and the remainder took the train. The cost of hiring a 4-seater taxi was Rs.500, the cost of hiring a bus was Rs.5000 and each train ticket was priced at Rs.75. The taxis took a maximum of four passengers each.

If the total expenditure on the different modes of transport was Rs.9,475, how many taxis were hired?

(a) 5

(b) 6

(c) 7

(d) 8

(Answer (c))

**Rationale:**

Total number of employees = 78 [Note: See Rationale for 1.2]

Number of employees that took a taxi =  $1/3 * 78 = 26$

Since each taxi is only a 4-seater, the number of taxis needed =  $26/4 = 6 \frac{1}{2}$

Therefore, number of taxis hired = 7



2.5 The total number of employees in Sang-Saath Bank is 4.5 times the number that went on the picnic. The Securities department of the bank consists of  $\frac{4}{9}$  of the total number of employees. The percentage of Sang-Saath Bank's employees in the Securities department is:

- (a) Between 45% - 50% of the total number of employees in the bank
- (b) Between 40% - 45% of the total number of employees in the bank
- (c) More than 50% of the total number of employees in the bank
- (d) Less than 40% of the total number of employees in the bank

(Answer (b))

**Rationale:**

Total number of employees evacuated = 78 [Note: See Rationale for 1.2]

Total number of employees in the bank =  $4.5 * 78 = 351$

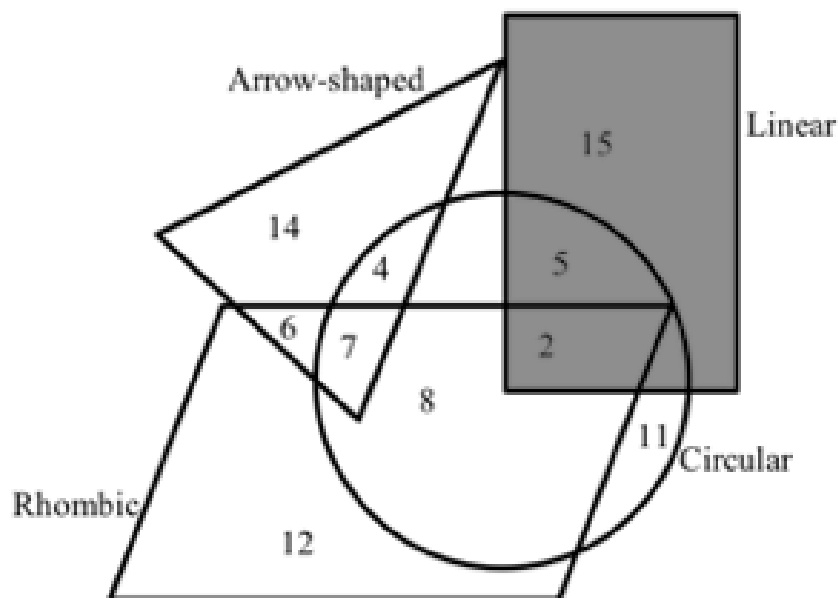
Number of employees in securities =  $\frac{4}{9} * 351 = 156$

Percentage of people in Securities =  $\frac{156}{351} * 100 = 44.44\%$

3.

Children of a nature club were asked to collect leaves of different shapes for an outdoor nature study. The diagram below represents the different shapes of leaves that the children collected, and the numbers represent the number of children who collected leaves in each category.

Study the diagram to answer the questions below.



3.1 Which of these is a null set?

- (a) Linear  $\cap$  Rhombic
- (b) Linear  $\cap$  Rhombic  $\cap$  Circular only
- (c) Linear  $\cap$  Rhombic only
- (d) Circular  $\cap$  Rhombic  $\cap$  Arrow-shaped

(Answer: (c))

**Rationale:**

The correct answer is (c).

There is no region that represents Linear and Rhombic only as the intersection of Linear and Rhombic lies entirely within the Circular shape.

3.2 How many children collected at least three shapes of leaves?

- (a) 9
- (b) 10
- (c) 12
- (d) 7

(Answer (a))

**Rationale:**

The correct answer is (a).

At least 3 types means 3 types and more.

In the above diagram:

Linear  $\cap$  Circular  $\cap$  Rhombic  $\cap$  Arrow-shaped is null

Linear  $\cap$  Circular  $\cap$  Arrow-shaped is null

Linear  $\cap$  Rhombic  $\cap$  Arrow-shaped is null

Linear  $\cap$  Rhombic  $\cap$  Circular = 2

Circular  $\cap$  Rhombic  $\cap$  Arrow-shaped = 7

Therefore, the number of children who collected at least three shapes of leaves = 2 + 7 = 9

3.3 How many children collected only one shape of leaves?

- (a) 64
- (b) 82
- (c) 52
- (d) 77

(Answer (c))

**Rationale:**

The correct answer is (c).

Linear only = 15

Arrow-shaped only = 14

Circular only = 11

Rhombic = 12

Therefore, the number of children collected that only one shape of leaves =  $15 + 14 + 11 + 12 = 52$

3.4 How many children collected leaves with zero edges?

(a) 11

(b) 37

(c) 22

(d) 41

(Answer (b))

**Rationale:**

Leaves with 'zero edges' means Circular-shaped leaves. All children that collected Circular leaves:

Circular only = 11

Linear  $\cap$  Circular only = 5

Circular  $\cap$  Rhombic only = 8

Circular  $\cap$  Arrow-shaped only = 4

Circular  $\cap$  Arrow-shaped  $\cap$  Rhombic only = 7

Linear  $\cap$  Circular  $\cap$  Rhombic only = 2

Therefore, number children that collected leaves with zero edges =  $11 + 5 + 8 + 4 + 7 + 2 = 37$

3.5 Use the additional data below to answer the question: What is the number of arrow-shaped leaves collected?

Children that collected Arrow-shaped leaves only collected 3 leaves each

Children that collected Arrow-shaped  $\cap$  Rhombic  $\cap$  Circular only collected 9 leaves each

Total number of leaves collected by children that collected Arrow-shaped  $\cap$  Rhombic and Arrow-shaped  $\cap$  Circular leaves = 115

Total number of leaves collected by children that collected Arrow-shaped  $\cap$  Rhombic leaves = 99

(a) 157

(b) 130

(c) 143

(d) 121

(Answer (a))

**Rationale:**

Number of children that collected Arrow-shaped leaves only = 14; Therefore, number of leaves =  $14 * 3 = 42$

Number of children that collected Arrow-shaped  $\cap$  Rhombic  $\cap$  Circular leaves only = 7; Therefore, number of leaves =  $7 * 9 = 63$

Total number of leaves collected by children that collected Arrow-shaped  $\cap$  Rhombic only =  $99 - 63 = 36$

Total number of leaves collected by children that collected Arrow-shaped  $\cap$  Circular only =  $115 - 99 = 16$

Therefore, the total number of arrow-shaped leaves collected =  $42 + 63 + 36 + 16 = 157$