

# Mock Test Paper-01

## (UPSC Civil Services (Pre) Examination)

### General Studies Paper-II (CSAT)

Time: 2 Hours

Maximum Marks: 200

#### GENERAL INSTRUCTIONS

1. This Test Booklet contains 80 items (Questions). Each item comprises four responses (answers). In case you feel that there is more than one correct response, mark the response which you consider the best. In any case, choose ONLY ONE response for each item.
2. You have to mark all your responses ONLY on the separate OMR Sheet provided.
3. All items carry equal marks.
4. Attempt all items.
5. Your total marks will depend only on the number of correct responses marked by you in the OMR sheet.
6. For every incorrect response  $1/3^{\text{rd}}$  of the allotted marks will be deducted.
7. If a question is left blank i.e., no answer is given by the candidate, there will be no penalty for that question.

**Directions for the following 4 (four) items:** Read the following three passages and answer the items (1–4) that follow the passages. Your answer to these items should be based on the passages only.

#### Passage – 1

Farmers still grow thousands of other worldly-looking potato varieties in the Peruvian Andes, where the potato was first domesticated. The tuber was brought to Europe by Spanish ships, where it became a reliable backup to cereal crops, particularly in Ireland. The Irish were soon almost entirely reliant on the potato as a food source. And they were primarily planting one colossal variety, the Lumper potato, whose genetic frailty would be cruelly exposed by *Phytophthora infestans*. In 1845, spores of the deadly fungus began to spread across the country, annihilating nearly all Lumpers in their path. Millions were killed or displaced as a result of the ensuing famine. The humble potato serves as a cautionary tale about the dangers of relying on a homogeneous food source.

1. Which one of the following statements best reflects the critical message of the passage?

- (a) Spain is primarily responsible for the famine in Ireland since it was the country that introduced the Lumper potato to Europe.
- (b) Farmers must stop growing Lumper potato as it is genetically fragile.
- (c) Import of food crops from other countries is dangerous and harms food security.
- (d) Countries must not rely on a single homogenous food source and instead grow multiple varieties.

#### Passage – 2

Human activity has the potential to reduce the number of predators. Venezuelan officials dammed the Caroni River in 1986, creating a massive lake roughly twice the size of Rhode Island. In this lake, hundreds of hilltops have become islands. Many terrestrial predators were unable to find enough food because their habitats had been reduced to tiny islands. As a result, prey species such as howler monkeys, leaf-cutter ants and iguanas thrived. The ants became so numerous that they wiped out the rainforest, killing all of the trees and plants. The food web that surrounded the Caroni River was wiped out.

2. What is the most logical inference that can be drawn from the above passage?

- (a) Human activities induced change in the population of critically important predators can have a disastrous impact on the food web.
- (b) Damming of rivers should be prohibited as it can flood nearby regions.
- (c) Humans alone are responsible for a general decline of biodiversity around the globe.
- (d) Ants must not be introduced in forest areas as they can kill trees and plants.

#### Passage – 3

We must, of course, continue to develop modern technology-based industries and services, but these cannot generate massive amounts of employment. As a result, it is critical that this modern sector limits its negative impacts on labour-intensive, natural resource-based occupations and livelihoods. The modern capital-intensive, technology-based economic sector must coexist with the nature-based, labour-intensive sector. The 73<sup>rd</sup> and 74<sup>th</sup>

constitutional amendments, as well as the Forest Rights Act, provide the framework for such a mutual relationship in our democracy. To move forward on a path toward genuine development, we must take advantage of this constitutional framework that promotes decentralised governance and collaborate with nature and people.

**3. With reference to the above passage, the following assumptions have been made:**

**Assumption 1:** Modern industries without the mutual support of traditional labour-intensive industries will not be able to provide employment to the masses at the required rate.

**Assumption 2:** Our democracy and the constitutional framework have failed to provide a balance between the modern capital-intensive, technology-based economic sector and the nature-based, labour-intensive sectors.

**Which of the above assumptions is/are valid?**

- (a) Assumption 1 only  
 (b) Assumption 2 only  
 (c) Both assumptions 1 and 2  
 (d) Neither assumption 1 nor 2
- 4. Which of the following best implies the crux of the passage?**
- (a) India needs to modernise its industries at a faster pace so as to solve the impending employment problem among the youth.  
 (b) Nature-based and labour-intensive sectors must be given priority over the technologically advanced modern sector.  
 (c) The Indian democracy and its constitutional framework guide us to provide for a balanced and positive relationship between the modern capital-intensive, technology-based economic sector and the nature-based, labour-intensive sector.  
 (d) The 73<sup>rd</sup> and 74<sup>th</sup> constitutional amendments have been done to cater to the employment issues of the country.
- 5. The price of silver varies directly to the square of its weight. Unfortunately, silver breaks into four pieces whose weight ratio is 1:2:3:4 and a loss of 8.4 lakh is occurred. The actual price of silver is:**
- (a) 37.7 lakh (b) 42.3 lakh  
 (c) 33.9 lakh (d) 12 lakh
- 6. The sum of the four numbers is 159. If the ratio between the first and the second is 2:3 and that between the second and the third is 4:5 and between the third and the fourth is 5:6, then the third number is:**
- (a) 89 (b) 107  
 (c) 222 (d) 45
- 7. If the price of rice is increased by 10%, a person can buy 4 kg less rice with ₹ 240. Find the current price of rice.**

- (a) ₹ 7 per kg (b) ₹ 6 per kg  
 (c) ₹ 9 per kg (d) ₹ 10 per kg

**8. An examination has been conducted for class 12<sup>th</sup> students. The maximum marks for physics, chemistry, mathematics and biology are 140, 160, 200 and 200, respectively. A student gets 70%, 85% and 60% in physics, chemistry and biology, respectively. If the student wants to get 50% in four subjects then how many marks he must obtain in maths from maximum marks of 200?**

- (a) 24 (b) 26  
 (c) 28 (d) 30

**9. A student purchased 200 pencils at the rate of ₹ 10 per pencil. He sold 60 pencils at the gain of 10%. The percentage gain at which he must sell remaining pencils so as to gain 20% on the whole outlay is:**

- (a) 24.28% (b) 17.8%  
 (c) 18% (d) 19.5%

**10. The total monthly income of Ashish is 55,000. Ashish observed that 10% of his salary was invested in bank loan, 20% of the rest he spends on his food and lodging and 22% of the total salary he spends on grocery items. What is his savings?**

- (a) ₹ 27,800 (b) ₹ 27,500  
 (c) ₹ 42,300 (d) ₹ 87,000

**Directions for the following 4 (four) items:** Read the following three passages and answer the items (11–14) that follow the passages. Your answer to these items should be based on the passages only.

**Passage – 1**

A changing climate, as well as governments' (however hesitant) efforts to deal with it, could have a significant impact on investor returns. Companies that produce or use a significant amount of fossil fuels will face increased taxes and regulatory burdens. Some energy producers may find it impossible to exploit their known reserves, leaving them with "stranded assets" — oil and coal deposits that must be left in the ground. Economic damage caused by more extreme weather — storms, floods, heatwaves and droughts — could have an impact on other industries.

**11. On the basis of the above passage, the following assumptions have been made:**

**Assumption 1:** Climate change can badly affect the prospect of the growth of many industries through adverse events.

**Assumption 2:** Climate change and efforts taken to deal with it may not have a direct impact on investors.

**Which of the above assumptions is/are valid?**

- (a) Assumption 1 only  
 (b) Assumption 2 only  
 (c) Both assumptions 1 and 2  
 (d) None of these

**Passage – 2**

According to the 17<sup>th</sup> edition of the biennial report, which was released last week, India's forests increased by more than 1500 square kilometres between 2019 and 2021. A large part of the increase is due to more areas being planted, which experts correctly argue are no substitute for natural forests in terms of providing critical ecological services. Plantations are typically made up of trees of the same species that are all of the same age. Such monocultures do have economic value, but their utility as carbon sinks is limited. However, they cannot be compared to natural forests in terms of biodiversity, pollination, or water body sources.

12. Which among the following is the most logical and rational inference that can be made from the passage given above?
- Monocultures should not be promoted as they are harmful to the environment.
  - The effective increase in forest area because of plantations is ecologically less beneficial compared to natural forests.
  - Plantations are helping us revive land area under forests and harbour biodiversity.
  - The 17<sup>th</sup> edition of the forest report is appreciable considering we have been able to increase forest area.

**Passage – 3**

Every research question necessitates the use of an appropriate or suitable research method. A given question can be answered using more than one method, but not all research methods are appropriate for all questions. In other words, for most research questions, one has a limited number of methods to choose from. After carefully specifying the research question, one of the first tasks of the researcher is to choose a suitable method. This selection must take into account not only technical criteria, but also practical considerations. This latter may include the time and resources available to conduct the research.

13. Which one of the following statements best reflects the critical message of the passage?
- Multiple research methods must be selected for answering a research question.
  - Time and resource constraints must be the primary criteria for the selection of a particular research method.
  - A suitable method can be selected by the researcher even before specifying the research question.
  - A researcher must find a suitable method that is appropriate for a particular research question, taking technical and practical considerations into account.
14. With reference to the above passage, the following assumptions have been made:

**Statement 1:** Researchers have a limited number of methods available for a particular research question.

**Statement 2:** Practical considerations like time and resources available should be given due weightage while selecting a research method.

**Statement 3:** The selection of research methods is important but not necessary for research.

Which of the above assumptions is/are valid?

- Statement 1 and 3 only
  - statement 3 only
  - Statement 1, 2 and 3
  - Statement 1 and 2 only
15. A tank is fitted with three taps. Tap A fills a tank completely in 20 hours and Tap C can empty it in 18 hours. Tap B takes 40 hours to fill the tank completely. If each tap is open alternatively for 2 hours, starting with pipe A, pipe B and pipe C respectively then the whole tank will be filled in how many hours?
- $20\frac{7}{6}$  hours
  - $20\frac{7}{4}$  hours
  - $12\frac{9}{6}$  hours
  - None of these
16. Last year, 60 hockey matches were played by Indian hockey team, out of which they managed to win only 30%. This year so far it has played some matches, which has made it mandatory for it to win 70% of the remaining matches to maintain its existing winning percentage. Find the number of matches played by India so far this year?
- 30
  - 25
  - 28
  - Insufficient information
17. In an examination, the percentage of students who passed in history and geography is 70% and 40%, respectively. If 350 students pass in both the subjects and the percentage of students who failed in both subjects is 25%, then what is the total number of students present in the examination?
- 500
  - 1000
  - 350
  - 600
18. P, Q and R are workers who begin the work at the same time. It took 6 h when P and Q are working together. Q and R working together can do it in 3 h. 4 h is taken by R and P when they are working together. The time taken by all of them to finish the work is:
- 4.5 h
  - 4 h
  - 2.67 h
  - 2.25 h
19. If a piece of work is completed by 3 men or 4 women or 5 boys in 60 days, then 1 man, 1 woman and 1 boy will take how many days to complete the same amount of work?
- 47 days
  - 44 days
  - 46 days
  - None of these

20. A driver covers a certain distance with his truck. He takes 3 h less when he moved faster with a speed of 9 km/h and when he moved slower with a speed of 6 km/h, then he would take 4 h more. How much distance did he cover?

- (a) 210 km (b) 230 km  
(c) 440 km (d) 470 km

**Directions for the following 4 (four) items:** Read the following four passages and answer the items (21–24) that follow the passages. Your answer to these items should be based on the passages only.

**Passage – 1**

Our leaders recognised the importance of politics in any democracy. Politics was not viewed as a problem; rather, it was viewed as a means of resolving problems. Every society must make a decision about how it will govern and regulate itself. There are always different policy options to consider. There are various groups with disparate and conflicting goals. How do we reconcile these disparities? This question is addressed by democratic politics. While competition and power are the two most visible aspects of politics, the goal of political activity is and should be to decide and pursue public interest. This is the path our leaders have chosen.

21. With reference to the above passage, which of the following implication/implications is/are correct?

**Statement 1:** The conflicting aspirations between different groups can be resolved through democratic politics.

**Statement 2:** Our leaders took pursuing public interest as the purpose of political activity.

**Select the correct answer using the code given below.**

- (a) Statement 1 only  
(b) Statement 2 only  
(c) Both Statements 1 and 2  
(d) None of the above

**Passage – 2**

The environment is one such issue that is now considered to be an essential component in measuring human development. The concept of the planetary boundary emphasises how human-caused environmental change can irreversibly destabilise the long-term dynamics of the earth system, disrupting the planet's life-supporting system. The planetary pressure adjusted HDI, or PHDI, is intended to communicate to the larger society, the risk involved in maintaining current practises in our resource use and environmental management, as well as the retarding effect that environmental stress can have on development.

22. Which of the following best reflects the central idea of the passage given above?

- (a) Society, no matter how informed, remains indifferent to keeping environmental considerations in day-to-day activities.

- (b) Developing countries may first focus on creating wealth and later on the betterment of the environment.  
(c) Environment and development are inversely related as when a country focuses more on preserving the environment, it misses out on development.  
(d) Anthropogenic activities inconsiderate of the environment can have adverse repercussions on the overall development.

**Passage – 3**

Leadership is put to the test in difficult situations. Abnegation of duty to protest injustice and a reluctance to make principled decisions in difficult situations invalidates leadership and deprives the democratic state of the willing allegiance of free people. Leaders must assert moral authority, quell passions, re-establish sanity and maintain social harmony. Leadership is about doing the right thing.

23. Consider the following:

**Statement 1:** Keeping quiet in injustice

**Statement 2:** A peacekeeper

**Statement 3:** A strongman

**Statement 4:** Eloquent

**Which of the above qualities can be found in a good leader, as implied by the passage?**

- (a) Statements 3 and 4 only  
(b) Statement 2 only  
(c) Statements 2 and 3 only  
(d) Statements 1 and 4 only

**Passage – 4**

Our lives revolve around the fulcrum of trust. We trust our parents as we stumble towards them while learning to walk, a family trusts each other and neighbours trust each other when they turn off their lights. Trust is like glue in society; a nation relies on institutions and leaders it can rely on. Political and social scientists have investigated how the quality of a democracy is related to whether its society and institutions inspire high or low trust. Things start to fall apart when trust begins to erode.

24. Which one of the following statements best reflects the most logical, rational and practical suggestion implied by the passage given above?

- (a) In a society, we must be true to each other.  
(b) Society must be built on credence.  
(c) Social capital of any society must be based on honesty.  
(d) Society will collapse without people with character.

25. In how many seconds, does a 110 m train cross a girl standing on the platform when the train is moving at a speed of 25 km/h?

- (a) 12 s (b) 13.6 s  
(c) 14.85 s (d) 15.85 s

26. A boat comes back to its starting point when it goes 75 km in 15 h. The time taken by boat to row 5 km upstream is equal to the time taken by boat to row 3 km downstream. Find the speed of the boat in still water and the rate of current.

- (a) 3.4 km/h, 2.4 km/h (b) 7 km/h, 8.5 km/h  
(c) 6.6 km/h, 1.33 km/h (d) None of these

27. If the received S.I. is  $\frac{1}{2}$  of amount, a certain amount becomes ₹ 6000 in 10 years. Find the amount.

- (a) ₹ 4000 (b) ₹ 5000  
(c) ₹ 6000 (d) ₹ 7000

28. A sum of money becomes 4 times in 16 years. In how many years will it become 10 times at the same rate of simple interest (S.I.)?

- (a) 38 years (b) 46 years  
(c) 36 years (d) 48 years

29. A vessel is full of distilled water.  $\frac{1}{8}$  of distilled water is taken out and the vessel is filled with salt water. If the process is repeated 6 times and 20 L of distilled water is finally left in the vessel, what is the capacity of the vessel?

- (a)  $\frac{39}{4}$  L (b) 44.56 L  
(c) 723 L (d) None of these

30. If there is a gain of 20% by selling a mixture of sugar at ₹ 6.60 per kg, then how many kg of sugar worth ₹ 7.20 per kg should be mixed with 6 kg of sugar worth ₹ 2.10 kg?

- (a) 22 kg (b) 19 kg  
(c) 12 kg (d) 45 kg

**Directions for the following 4 (four) items:** Read the following four passages and answer the items (31–34) that follow the passages. Your answer to these items should be based on the passages only.

#### Passage – 1

Despite the fact that shelter is a basic human need, migrant workers live in extremely precarious circumstances. The majority of migrants work in construction, small industries, hotels, casual labour, domestic labour and other informal activities. In the case of migrants working in small units, hotels, or homes, their workplace also serves as their place of residence. Such places are frequently unsanitary and poorly ventilated. The majority of construction workers live in improvised housing. Casual workers sleep under bridges and on pavements, often in large groups in filthy conditions.

31. Which one of the following statements best sums up the passage given above?

- (a) The living arrangements for migrant workers are in highly perilous conditions.  
(b) Only migrant workers are living in unhygienic surroundings.

- (c) The makeshift living arrangements for construction workers are in a very poor state.  
(d) Migrant workers in informal sectors are struggling to find shelter.

#### Passage – 2

People are people, some more left-leaning than others, some more right-leaning than others. Few people have the skills and stamina to make it in the not-so-popular or easily understood centre. To overcome the deeply troubling majoritarianism that is engulfing the world, those on one end must recognise that those on the other are our neighbours, our fellow humans with ticking hearts and thinking brains.

32. With reference to the above passage, the following assumptions have been made:

**Statement 1:** Not many people have a leaning toward the centre.

**Statement 2:** Globally, all countries are witnessing intense majoritarianism.

**Statement 3:** The people on the left and the right are at odds with each other.

Which of the above assumptions is/are valid?

- (a) Statement 2 only  
(b) Statements 1 and 2 only  
(c) All statements 1, 2 and 3  
(d) Statement 3 only

#### Passage – 3

Culture is a mental activity that is open to beauty and humane feelings. It has nothing to do with snippets of information. An only well-informed man is the most useless bore on God's green earth. What we should strive for is to produce men who are well-versed in both culture and specialised knowledge. Their expert knowledge will provide a foundation for them to build on and their culture will lead them as deep as philosophy and as high as art.

33. Which one of the following statements best implies the suggestion given by the author of the passage?

- (a) Culture gives people ground to start from and their expert knowledge leads them as deep as philosophy and as high as art.  
(b) We should strive to provide people with specialised education clubbed with cultural endowment.  
(c) Investment in education is completely useless unless it is in a specialised direction.  
(d) A person with culture but without expert knowledge is the most useless bore on God's earth.

#### Passage – 4

Infusing the democratic institution with the ideology of higher growth without regard for the fate of the majority results in a dangerous mutualism between private corporations and the government. The inclusive democracy of "one adult, one vote"

is reconciled with corporate economic power by pricing the poor out of any possibility of direct representation. The institution of democracy and an ideology that equates higher growth with development limit choice.

34. Which of the following best sums up the passage given above?

- (a) It is dangerous for a democracy to misunderstand growth with development, without giving due consideration to its poor.
- (b) Inclusive democracy is one that has a proper provision of 'one adult and one vote'.
- (c) Democratic governments should be independent of private corporations and must not cooperate with them.
- (d) Higher growth is the prerequisite for the development of a nation.

35. The average weight of the whole office is 25.50 kg. If the average weight of male members in a office is 40 kg and the average weight of female members in the same office is 10 kg, then the possible strength of male and female members, respectively, in the office is:

- (a) 123 and 131
- (b) 145 and 151
- (c) 155 and 141
- (d) 132 and 141

36. Two containers which are of equal capacity are full of mixture of milk and water. In the first container, the ratio of water to milk is 5:8 and in the second container, the ratio is 8:12. Now, both mixtures are mixed in a big container. What is the resulting ratio of milk to water?

- (a) 54:37
- (b) 71:34
- (c) 89:34
- (d) 51:79

37. In an alloy of magnalium, there is 80% magnesium and 20% aluminium. In the second alloy, magnesium is 90% and 10% aluminium. The ratio in which these two alloys should be mixed together such that the new alloy containing 11% of aluminium is?

- (a) 9:1
- (b) 8:1
- (c) 3:2
- (d) 1:9

38. The survey indicates that there are two or more persons in 40% houses. Out of the houses with one person, there was one man only in 15% houses. Out of all the houses, find the % of those houses in which there is no man but only one woman is living?

- (a) 51%
- (b) 72%
- (c) 65%
- (d) 22%

39. The HCF of two numbers is 3 and their sum is 21. How many possible pairs will be formed?

- (a) 4
- (b) 3
- (c) 2
- (d) 7

40. If ₹ 24,000 is divided into two parts such that the S.I. on the second part for 5 years with rate of 12% per annum is equal to S.I. on first part for 4 years at 20% per annum, then the greater part of divided money is:

- (a) Approx ₹ 12,000
- (b) Approx ₹ 15,000
- (c) Approx ₹ 10,285
- (d) Approx ₹ 5,000

**Directions for the following 4 (four) items:** Read the following three passages and answer the items (41–44) that follow the passages. Your answer to these items should be based on the passages only.

#### Passage – 1

Biodiversity can be thought of as the bedrock of human health. Biodiversity supports the functioning of the ecosystems on which we rely for food and fresh water; it aids in the regulation of climate, floods and diseases; it provides recreational benefits; and it provides aesthetic and spiritual enrichment. Biodiversity also benefits local livelihoods, traditional and modern medicines and economic development. All human health is ultimately dependent on ecosystem services enabled by biodiversity, as well as the products and services derived from them.

41. Which of the following is/are the most rational and logical inference/inferences that can be made from the passage?

**Statement 1:** It is probably not possible to maintain human health without thriving biodiversity.

**Statement 2:** It is important for human beings to equitably share the benefits arising out of the biodiversity of an area.

Select the correct answer using the code given below.

- (a) Statement 1 only
- (b) Statement 2 only
- (c) Both statements 1 and 2
- (d) Neither statement 1 nor 2

#### Passage – 2

Wheat is higher in protein and other micronutrients than other cereals and serves as a major source of vegetable protein in human food. Furthermore, when compared to other major cereal crops, wheat is more adaptable to a wide range of growth conditions. This quality of wheat has enabled its cultivation in various parts of the world and made it available globally. Consumers are influenced by taste, price, availability and nutritive quality. Because wheat meets almost all of these criteria, it has become one of the world's staple cereals. Concerns about food and health also contributed to increased wheat consumption in a growing economy. Furthermore, the use of wheat corresponds to the region's socioeconomic status and geography. Wheat is consumed more in developed countries than in developing countries. In the Middle East per capita, consumption of wheat exceeds 150 kg per year whereas, in south Asian countries like India it is 66–70 kg/annum.

42. Based on the passage given above, the following assumptions have been made:

**Statement 1:** Drawbacks in other cereals like taste, price, availability, etc. have encouraged wheat consumption globally.

**Statement 2:** Many things about society could be understood merely by analysing its wheat consumption.

**Statement 3:** All kinds of global climates support the growth of wheat cultivation.

**Which of the above assumptions is/are invalid?**

- (a) Statement 1 only
- (b) Statement 2 only
- (c) Statement 3 only
- (d) Statements 1 and 2 both

**Passage - 3**

The main instruments for increasing a country's overall development are integrated strategies aimed at reducing corruption and increasing income, human development and government effectiveness. However, in order for these strategies to be effective, they must be coupled with the necessary democratic transformations. If the political system is regarded as unfree, a high overall level of development cannot be achieved or maintained, owing to the inability to effectively reduce corruption despite high-income levels. The examples of Brunei, Kuwait and the United Arab Emirates support this conclusion, with the remarkable exception of Singapore, which, despite being a high-income and partially free country, is one of the least corrupt in the world. This result may be attributed to cultural factors.

**43. Which of the following is/are the most rational and logical inference/inferences that can be made from the passage?**

**Statement 1:** Polity of any nation, directly or indirectly, affects the economy of the nation.

**Statement 2:** It is difficult to control corruption in countries where there is no democracy.

**Select the correct answer using the code given below.**

- (a) Statement 1 only
- (b) Statement 2 only
- (c) Both statements 1 and 2
- (d) Neither statement 1 nor 2

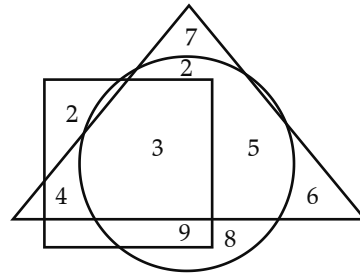
**44. Which one of the following statements best implies the suggestion given by the author of the passage?**

- (a) Human development can be encouraged by resorting to democratic methods of governance.
- (b) Corruption can be addressed by reforming the culture of any society.
- (c) Increasing the per capita income of the country can help remove corruption and contribute to human development.
- (d) GDP of any country could be increased if it addresses the menace of corruption.

**45. Sanya walked 30 m towards south, she took a left turn and walked 40 m. then She took a left turn and walked 30 m. At how much distance and in which direction is she from the starting point?**

- (a) 40 m north
- (b) 30 m north
- (c) 40 m east
- (d) 40 m west

**46. The number in the rectangle, circle and triangle is**



- (a) 4
- (b) 6
- (c) 10
- (d) 3

**47. How many meaningful words can be formed from the word 'AMIALE' without changing the order of the letters and one letter can be used once?**

- (a) 5
- (b) 1
- (c) more than 2
- (d) 7

**48. From the word 'MAINTENANCE' how many meaningful words can be formed using FIRST, SIXTH and SEVENTH letter of the word by using each letter only one time in each word?**

- (a) Two
- (b) Three
- (c) One
- (d) Four

**49. After changing, - and +, 4 and 5, 6 and 7 which of the following is correct?**

- (a)  $6 + 7 \times 4 - 3 = 42$
- (b)  $7 + 3 \times 6 - 4 + 2 = 78$
- (c)  $6 \times 3 + 4 - 7 \times 2 - 3 = 31$
- (d)  $6 + 4 \times 7 - 5 + 4 \times 2 = 89$

**50. Priya's father is 7 years older than her mother and Priya is 2 times the age of her brother. If her mother is 37 years old and 25 years older than her only son, find the age of Priya :**

- (a) 24 years
- (b) 25 years
- (c) 30 years
- (d) 14 years

**Directions for the following 4 (four) items:** Read the following three passages and answer the items (51-54) that follow the passages. Your answer to these items should be based on the passages only.

**Passage - 1**

The concept of oceanic dispersal is central to evolutionary theory. Darwin observed only a few tortoises, iguanas, snakes and one small mammal and the rice rat while studying the Galapagos Islands. Further out at sea, on islands such as Tahiti, there were only small lizards. These patterns, Darwin reasoned, were difficult to explain in terms of Creationism - in which case, similar species should exist everywhere - but they made sense if species crossed water to colonise islands, with fewer species surviving to colonise more distant islands. He was correct. Tortoises can survive weeks afloat without food or water, according to research and they most likely bobbed along until they reached the Galapagos. In 1995, iguanas washed up 300 km away, still alive, after being swept offshore by hurricanes.

51. With reference to the above passage, the following assumptions have been made:

**Statement 1:** Creationism finds it tough to explain the different patterns of species in different landmasses.

**Statement 2:** Darwin's reasoning for the presence of lesser species in distant islands is proven wrong with the 1995 event where iguanas swept offshore by hurricanes washed up 300 km away, very much alive, after riding on debris.

Which of the above assumptions is/are valid?

- (a) Statement 1 only  
 (b) Statement 2 only  
 (c) Both statements 1 and 2  
 (d) Neither statement 1 nor 2

**Passage – 2**

One of the most important discoveries in life science research in the last decade has been the realisation that the trillions of bacteria that live in our gut and other parts of our bodies are mutually dependent on us. Nutrition and immunity have been linked to the gut microbiome in particular. Disruptions in this friendly force have been linked to an increased susceptibility to a variety of health problems. Human physiology can no longer be considered distinct from the microbiome, which exists as a collective colony within us. While the microbiome's specific composition varies from person to person and changes over time, associations of different microbiome profiles are now being linked to health or disease across populations.

52. Which of the following is the most logical corollary to the above passage?

- (a) Gut bacteria can cause major health issues in the human body including in children.  
 (b) Irresponsible use of antibiotics has caused a major healthcare crisis in the form of superbugs.  
 (c) Presence of gut bacteria is not only good for our immunity and nutrition, but disturbances in their presence can become the cause of several health disorders too.  
 (d) Individuals residing in a specific region possess a similar microbiome profile and also corresponding health conditions.

**Passage – 3**

The impact of macroeconomic, sectoral and labour policies on employment is an important aspect that would require careful examination, particularly in the context of economic reform. Certain policies, such as credit and labour policies, have been criticised for not always being employment-friendly. Concessional credit policies in several sectors tend to distort factor price relativities against labour use. On the other hand, the unorganised sector, which employs the vast majority of workers, is not only insecure, but also devoid of any social security provisions.

To the extent that this labour market dichotomy, characterised by a high level of protection for a small proportion of the workforce and a complete lack of protection for the majority of workers, is impeding a larger and more effective use of labour, solutions must be devised to close the gap. Similarly, other policies – credit, fiscal and sectoral – would need to be reconsidered in order to be more employment-friendly.

53. On the basis of the above passage following assumptions have been made:

**Statement 1:** The unorganised sector does not have adequate social security provisions.

**Statement 2:** Ineffective use of labour is a result of a dichotomy in the social security provisions of organised and unorganised sectors.

Which of the above assumptions is/are valid?

- (a) Statement 1 only  
 (b) Statement 2 only  
 (c) Both statements 1 and 2  
 (d) Neither statement 1 nor 2

54. On the basis of the above passage following assumptions have been made:

**Statement 1:** Employment is sensitive to macro-economic policies.

**Statement 2:** Credit and labour policies are always employment friendly.

Which of the above assumptions is/are valid?

- (a) Statement 1 only  
 (b) Statement 2 only  
 (c) Both statements 1 and 2  
 (d) Neither statement 1 nor 2

55. When Harsh was born, his mother was 22 years older than his sister and his father was 42 years older than his brother. If Harsh's sister is 4 years older than him and his father is 4 years older than his mother, how old was Harsh's brother when he was born?

- (a) 39 years                      (b) 22 years  
 (c) 40 years                      (d) 37 years

56. Find the missing character.

I →	4	16	25	64
II →	9	196	529	?

- (a) 336                              (b) 123  
 (c) 431                              (d) 441

57. Asha asked her father about her 1<sup>st</sup> birthday :

- I. Her father told her that she was not born on a day which is immediate to Thursday.  
 II. He told that she was not born before and after Sunday. She was not born two days before Sunday. On which day was Asha born?  
 (a) Tuesday                      (b) Thursday  
 (c) Friday                          (d) Monday



58. For the given question, two statements are given followed by four conclusions.

Statements:

- I. All roses have flowers
- II. All roses have buds

Conclusions:

- I. All rose has either bud or flowers.
- II. Some roses have neither flowers nor buds.
- III. Some roses have flowers as well as buds.
- IV. No rose has flowers as well as buds.

- (a) Only I follows
- (b) Only II and III follows
- (c) Either III or IV follows
- (d) Only II follows

59. If 'sun' is called 'moon', 'moon' is called 'earth', 'earth' is called 'satellite', 'satellite' is called 'sky', 'sky' is called 'star'. Where is star twinkling?

- (a) Star
- (b) Earth
- (c) Satellite
- (d) Moon

60. If SUNLIGHT = 1719121075618 and POWERFUL = 14132131641910. What is the code for DEFINITE?

- (a) 2347127183
- (b) 224435678
- (c) 23456673674
- (d) 235462728

61. There were 4 toys of different height P, Q, R and S. S is neither as short as R nor as tall as P. Q is shorter than S but taller than R. If Shweta wants to purchase a taller doll, which one should she purchase ?

- (a) Only Q
- (b) Only P
- (c) None of the above
- (d) Either S or R

62. Find the missing number 'P'.

1331	289	2197	289	4913	P
25	8	49	27	121	125

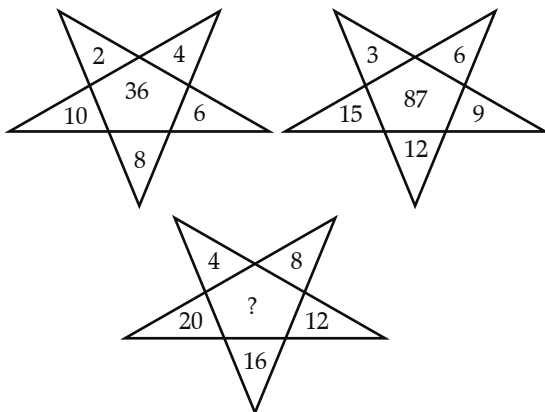
- (a) 529
- (b) 429
- (c) 768
- (d) 213

63. Find the missing number P in the following number series.

- 4, 76, 428, P, 2716

- (a) 622
- (b) 782
- (c) 865
- (d) 1012

64. Find the missing character.



- (a) 60
- (b) 80
- (c) 160
- (d) 220

65. Which day is on 26 January 1949?

- (a) Wednesday
- (b) Friday
- (c) Thursday
- (d) Saturday

66. The year whose calendar is exactly same as 2017?

- (a) 2023
- (b) 2024
- (c) 2025
- (d) 2020

67. What will be 7000<sup>th</sup> day if today is Sunday?

- (a) Monday
- (b) Sunday
- (c) Saturday
- (d) Friday

68. Find the missing number 3, 15, 222, ?

- (a) 48,672
- (b) 45,633
- (c) 5,63,738
- (d) 49,281

69. Harsh is a grandson of Harendra who is the father-in-law of Prisha. Prisha has no child. Prisha is the sister-in-law of Ramesh who is the father of Harsh and brother of Prateek. If Geeta has only one son, how is Harsh related to Prateek?

- (a) Grandson
- (b) Son
- (c) Brother
- (d) Data inadequate

70. A's grand father is B, who is the father of C and C is the son-in-law of D. How is A related to B?

- (a) Wife
- (b) Brother
- (c) Grand son
- (d) Data insufficient

71. Between two books, your 6 favourite comic books are placed. If you try to arrange six books in every possible combination and moved just one book every minute, how much time will you take?

- (a) 12 h
- (b) 3 h
- (c) 5 h
- (d) 6 h

72. Six bells begin to toll together and toll at an intervals of 4, 5, 10, 12, 15 and 20 s respectively. How many times they will toll together in 20 min?

- (a) 8 times
- (b) 11 times
- (c) 2 times
- (d) 3.4 times

73. A woman purchases 2 dozen mangoes at ₹ 16 per dozen. After selling 18 mangoes at the rate of ₹ 12 per dozen, the shopkeeper reduced the rate to ₹ 4 per dozen. Find the loss percentage.

- (a) ₹ 26.5%
- (b) ₹ 37.5%
- (c) ₹ 47.5%
- (d) ₹ 35.7%

74. Find the wrong number in the given series.

7,  $\frac{7}{2}$ , 14, 7, 35

- (a) 7
- (b) 7/2
- (c) 14
- (d) 35

75. In cricket matches, a batsman makes a mean score of 60 runs in 10 innings. If his mean score has to be raised to 62, then how many runs he must score in the 11<sup>th</sup> inning?

- (a) 66
- (b) 54
- (c) 76
- (d) 82

76. The average of 4 consecutive odd numbers starting with p is q. What is the average of 7 consecutive odd numbers?

- (a)  $7p + \frac{32}{7}$
- (b)  $p + 6$
- (c)  $p + \frac{2}{3}$
- (d)  $2p + 9$

**Directions for the following 4 (four) items:** Read the following three passages and answer the items (77–80) that follow the passages. Your answer to these items should be based on the passages only.

**Passage – 1**

The issue of mineral exploration and the opening of new mines in declared forest areas has been extensively debated at the Central and State levels, as well as at the industry level and at various seminars and symposia. The Forest and Revenue Departments of the State Governments can take action in this regard by updating revenue and forest land records of mineral-bearing areas. And IBM is hastening the process of creating the remaining 270-odd maps with forest overlays, etc. This is a significant project that is overseen by the Ministry of Environment and Forests.

One of the plan's objectives is for the State Government to update revenue and forest land records, which will be monitored by the Ministry of Environment and Forests. IBM should also investigate the impact of exploration and mining on flora and fauna, as well as other damages, such as human settlements in forests with mineral resources, on a deposit-by-deposit basis. The next logical step would be to suggest ways to reduce the impact, which could include afforestation, caring for the flora and fauna, rehabilitation measures such as time-bound and satisfactory re-location of human settlement and so on.

**77. On the basis of the above passage following assumptions have been made:**

**Statement 1:** The impact of exploration and mining on flora and fauna is a matter of concern.

**Statement 2:** Speeding up the generation of the remaining 270-odd maps with forest overlays can allay the concern regarding mineral exploration.

**Which of the above assumptions is/are valid?**

- (a) Statement 1 only
- (b) Statement 2 only
- (c) Both statements 1 and 2
- (d) Neither statement 1 nor 2

**Passage – 2**

Food, clean water, clean air, flood control, soil stabilisation, pollination, climate regulation, spiritual fulfilment and aesthetic enjoyment are just a few of the goods and services provided by ecosystems. Most of these benefits are either irreplaceable or prohibitively expensive to replace; for example, potable freshwater can be provided at a high cost by desalinating seawater. The rapidly expanding human population has significantly altered the Earth's ecosystems in order to meet their increased demands for certain goods and services, particularly food, freshwater, timber fibre and fuel.

These changes have made a significant contribution to human well-being and economic development. The benefits have not been distributed evenly.

These changes have actually harmed some people. Furthermore, short-term increases in some ecosystem goods and services have come at the expense of long-term degradation of others; for example, efforts to increase food and fibre production have reduced some ecosystems' ability to provide clean water, regulate flooding and support biodiversity.

**78. On the basis of the above the following inferences have been made:**

**Statement 1:** The rapid expansion of the population has adversely affected some people.

**Statement 2:** Adequate efforts have not been made to increase the production of food and fiber.

**Which of the above statements is/ are correct?**

- (a) Statement 1 only
- (b) Statement 2 only
- (c) Both statements 1 and 2
- (d) Neither statement 1 nor 2

**79. With reference to the above passage, the following assumptions have been made:**

**Statement 1:** The benefits of ecosystem services are inherently distributed equitably among all stakeholders.

**Statement 2:** Ecosystems maintain a delicate balance among their components. Tinkering with one of their components may have unexpected side-effects.

**Which of the above assumptions is/are valid?**

- (a) Statement 1 only
- (b) Statement 2 only
- (c) Both statements 1 and 2
- (d) Neither statement 1 nor 2

**Passage – 3**

Child marriage violates the human rights of girls. It renders them almost invisible to policymakers. It shortens their education, harms their health and limits their ability to fulfil themselves as productive members of society. Teenage wives' low domestic status typically condemns them to long hours of domestic labour, poor nutrition and anaemia, social isolation, domestic violence, early childbearing and few decision-making powers within the home. Inadequate education and malnutrition in early pregnancy also result in low birth-weight babies, perpetuating the intergenerational cycle of malnutrition. The costs of child marriage include adolescent pregnancy, population growth, child stunting, poor learning outcomes for children and a loss of women's labor-force participation.

**80. Which one of the following statements best reflects the crux of the passage given above?**

- (a) Child marriages are counterproductive for the progress of girls and society.
- (b) Child marriages are detrimental to the holistic development of girls.
- (c) Child marriages are hurtful to the psychophysical growth of girls.
- (d) Child marriages are harmful to the economic welfare of girls.

## ANSWERS WITH EXPLANATION

### 1. Option (d) is correct.

**Explanation: Option (a) is incorrect.** The author does not seem to blame any specific country for the famine. It just mentions that Spanish ships brought the potatoes, as the passage states, "Spanish ships brought the tuber to Europe, where it became a reliable backup to cereal crops, particularly in the Ireland." Instead, it blames the particular agricultural practice, i.e., homogenous cropping pattern. Thus, option (a) is not the critical message of the passage.

**Option (b) is incorrect.** The author discusses the generic fragility of the Lumper potato which caused the famine, as mentioned in the passage, "And they were planting primarily one prodigious variety, the Lumper potato, whose genetic frailty would be cruelly exposed by *Phytophthora infestans*." There is no mention of the removal of that variety of potato. The emphasis is on the dangers of relying on a homogenous food source. Thus, the author discusses reforms in the agricultural pattern and the dangers of relying on one particular variety.

**Option (c) is incorrect.** The production of imported potatoes caused famine because of relying primarily on one variety of crops and not solely because of importing food — "And they were planting primarily one prodigious variety, the Lumper potato, whose genetic frailty would be cruelly exposed by *Phytophthora infestans*. In 1845 spores of the deadly fungus began spreading across the country, destroying nearly all the Lumpers in its path ... One cautionary tale about the perils of relying on a homogenous food." Moreover, it would be incorrect to generalise that the import of food crops from other countries is dangerous and harms food security. Thus, option (c) is also incorrect.

**Option (d) is correct.** The first line of the passage mentions how the home country of potatoes continues to successfully grow multiple varieties. Then, throughout the passage, the author shows how a single variety of crops can be dangerous. Finally, in the concluding line, the author mentions, "One cautionary tale about the perils of relying on a homogenous food source revolves around the humble potato." This emphasises the need for a shift to multiple varieties of food sources.

That is the critical message the author has conveyed through the passage.

### 2. Option (a) is correct.

**Explanation: Option (a) is correct.** The first line in the passage blames humans for predator population decline, "Human activity can reduce the number of predators." Then, throughout the passage the author shows how the decline in predator population

adversely affects the food web. Then, in conclusion, the author highlights the impact of the decline in predator numbers, – "The food web surrounding the Caroni River was destroyed." So, option (a) is the most appropriate answer.

**Option (b) is incorrect.** Refer to the lines, "In 1986, officials in Venezuela dammed the Caroni River, creating an enormous lake about twice the size of Rhode Island. Hundreds of hilltops turned into islands in this lake." The author has illustrated through this example the bad effects of damming rivers; there is no call for a prohibition on damming rivers as such. Maybe this specific dam was constructed without an adequate environmental impact assessment. Thus, option (b) is not correct.

**Option (c) is incorrect.** The line "Human activity can reduce the number of predators" highlights the adverse impact of human activities on biodiversity. However, the statement in option (c) appears to be extreme and blames only humans for the decline, which is not indicated in the passage. Thus, option (c) is incorrect.

**Option (d) is incorrect.** The passage does not talk about the introduction or non-introduction of any species (including ants) in the forests. The example in the passage where ants seemed to destroy biodiversity was a result of a vast increase in their numbers due to the decline in the number of predators. This change in the food web was due to anthropogenic activity (dam construction), not due to the introduction of any species into the forest. Thus, option (d) is an extreme statement and incorrect.

### 3. Option (a) is correct.

**Explanation: Assumption 1 is correct.** The passage mentions that the modern industry will not be able to provide massive scale employment. Thus, the author states that modern industries should rein in their adverse impact on labour-intensive industries, evident in the lines, "but these cannot generate employment on the massive scale required. It is therefore imperative that this modern sector must rein in its adverse impacts on labour-intensive, natural resource-based occupations and livelihoods." He further states, "The modern capital-intensive, technology-based economic sector must nurture a symbiotic relationship with the nature-based, labour-intensive sector." Thus, assumption 1 is correct.

**Assumption 2 is incorrect.** Contrary to statement 2, the author in the concluding lines gives an optimistic idea about our democracy and constitutional framework, as mentioned, "Our democracy provides for fashioning such a mutual relationship through

the 73<sup>rd</sup> and 74<sup>th</sup> constitutional amendments and the Forest Rights Act. We must take advantage of this constitutional framework that promotes decentralised governance and work with nature and people to move forward on a path towards genuine development." So, there is no talk or indication of failure in the passage. Also, the author seems optimistic about utilising the advantage we have for the same.

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

**Explanation: Option (a) is incorrect.** The passage suggests for continued development of modern industries, "We must, of course, continue to develop modern technology-based industries and services..." However, at the same time the author clarifies that they cannot help in solving the employment problem as stated in the passage, "... but these cannot generate employment on the massive scale required."

**Option (b) is incorrect.** As per the passage, there should be a balance and mutually symbiotic relationship between the modern capital-intensive, technology-based economic sector and the nature-based, labour-intensive sector — It states that "The modern capital-intensive, technology-based economic sector must nurture a symbiotic relationship with the nature-based, labour-intensive sector." It does not talk about giving precedence to one over the other.

**Option (c) is correct.** The concluding lines of the passage, "Our democracy provides for fashioning such a mutual relationship through the 73<sup>rd</sup> and 74<sup>th</sup> constitutional amendments and the Forest Rights Act. We must take advantage of this constitutional framework that promotes decentralised governance and work with nature and people to move forward on a path towards genuine development." This highlights how our democracy and constitutional framework have provided for the balance between the two industries and achieved fairer development.

**Option (d) is incorrect.** The passage does mention the 73<sup>rd</sup> and 74<sup>th</sup> constitutional amendments, but only in the context of maintaining a mutual relationship between the modern capital-intensive, technology-based economic sector and the nature-based, labour-intensive sectors, as stated in the lines, "Our democracy provides for fashioning such a mutual relationship through the 73<sup>rd</sup> and 74<sup>th</sup> constitutional amendments and the Forest Rights Act."

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

**Explanation:** Price of silver is directly proportional to square of the weight.

$$\text{Total weight} = 1 + 2 + 3 + 4$$

$$\text{Therefore its value} = (10)^2 = 100$$

After broken,

$$\text{The value is } (1)^2 + (2)^2 + (3)^2 + (4)^2$$

$$= 1 + 4 + 9 + 16 = 30$$

$$\text{Loss} = 100 - 30 = 70$$

$$70 \text{ units} = 8.4 \text{ lakhs}$$

$$1 \text{ unit} = \frac{8.4}{70}$$

$$100 \text{ unit} = \frac{8.4}{70} \times 100 = 12 \text{ lakhs}$$

Therefore the actual price of silver is 12 lakhs.

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

**Explanation:** Ist + IInd + IIIrd + IVth = 159

$$\text{I:II} = 2:3 = 2 \times 4:3 \times 4 = 8:12$$

$$\text{II:III} = 4:5 = 4 \times 3:5 \times 3 = 12:15$$

$$\text{III:IV} = 5:6 = 5 \times 3:6 \times 3 = 15:18$$

$$\text{Sum} = \text{I} + \text{II} + \text{III} + \text{IV}$$

$$= 8 + 12 + 15 + 18 = 53 \text{ units}$$

$$53 \text{ units} = 159$$

$$1 \text{ unit} = 159 \div 53 = 3 \text{ units}$$

$$\text{Third number} = 15 \times 3 = 45.$$

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

**Explanation:**

	Original	Present
Price :	10	11
Quantity:	11	10

There is a decrease of 1 unit in quantity.

$$1 \text{ unit} = 4 \text{ kg}$$

Price of rice is increased by 10%

$$\text{Fractional value of } 10\% = \frac{1}{10}$$

$$\text{Original} = 10$$

$$\text{Present} = 10 + 1 = 11$$

$$\text{Original quantity} = 11 \text{ units} = 11 \times 4 = 44 \text{ kg}$$

$$\text{Present quantity} = 10 \text{ units} = 10 \times 4 = 40 \text{ kg}$$

$$\text{Present price} = \frac{240}{40} = ₹ 6 \text{ per kg.}$$

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

**Explanation:** Total max. marks in four subjects

$$= 140 + 160 + 200 + 200 = 700$$

$$50\% \text{ of total max. marks} = 700 \times \frac{50}{100} = 350$$

Marks obtained in three subjects

$$140 \times \frac{7}{10} + 160 \times \frac{17}{20} + 200 \times \frac{3}{5}$$

$$= 98 + 136 + 120 = 324$$

Marks to be obtained in Maths to acquire 50% marks

$$= 350 - 324 = 26.$$

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

**Explanation:** Total price =  $200 \times 10 = ₹ 2000$

60 pencils is sold at 10% gain

$$10 \times \frac{110}{100} = 11$$

We get  $60 \times 11 = 660$  by selling these 60 pencils.

Total gain on whole outlay = 120%

$$\frac{2000}{100} \times 20 = 400$$

Gain = 400 - 60 = 340

Remaining (2000 - 600) = 1400

$$\frac{340}{1400} \times 100 = 24.28\%$$

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

**Explanation:** Ashish's total salary = 55,000

$$\text{Salary invested on bank loan} = \frac{1}{10} \times 55,000$$

= ₹ 5,500

Remaining salary = 55,000 - 5,500

= 49,500

$$\text{Salary spends on food} = \frac{1}{5} \times 49,500 = ₹ 9,900$$

Salary spends on grocery items

$$= \frac{22}{100} \times 55,000 = 12,100$$

Remaining salary = 55,000 - (5,500 + 9,900 + 12,100)

= 27,500

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

**Explanation: Assumption 1 is correct.** The passage clearly talks about the adverse events like storms, floods, droughts, etc., which can affect the industries as stated in the passage, "Other industries could be affected by the economic damage caused by more extreme weather — storms, floods, heatwaves and droughts." Thus, assumption 1 stands correct.

**Assumption 2 is incorrect.** The introductory lines of the passage invalidate the claim made in statement 2. The passage mentions, "A changing climate and the eventual efforts of governments (however reluctant) to deal with it, could have a big impact on investors' returns."

Thus, the passage argues that climate change can impact investors' returns.

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

**Explanation: Option (a) is incorrect.** The passage does not mention any explicit harm by monocultures. It only talks about its limited ecological benefits in the line — such monocultures do have economic value and limited utility as carbon sinks. Hence, it would be incorrect to infer that monoculture should not be promoted.

**Option (b) is correct.** The passage does mention the overall increase in forest cover due to plantation activities. Further, it has touched upon the low ecological productivity of the plantations in the line, "A large part of the increase is due to more areas coming under plantations, which experts rightly argue are no substitute for natural forests when it comes to providing critical ecological services." Later, the passage has talked about its lesser role in

promoting the ecology and environment in the line, "Such monocultures do have economic value and limited utility as carbon sinks." Hence, option (b) effectively captures all the above points.

**Option (c) is incorrect.** Refer to the line, "...India's forests have increased by more than 1500 sq. km between 2019 and 2021. A large part of the increase is due to more areas coming under plantations." It highlights the role of plantations in increasing the forest area. Therefore, the first part of the statement is correct. However, the passage does not appreciate plantation exercise for its low biodiversity (—...they cannot be compared to natural forests in harbouring biodiversity...—). Hence, the second part of the statement is incorrect. This makes option (c) incorrect.

**Option (d) is incorrect.** The passage has mentioned the increase in reported forest area in lines, "The 17<sup>th</sup> edition of the biennial report released last week showed that India's forests have increased by more than 1,500 sq. km between 2019 and 2021." However, it draws a pessimistic inference from such an increase as it mentions that such an increase through plantations cannot be compared with natural forests. The fact stated in this answer option is correct, however, the tone is not quite aligned with that of the passage.

Thus, option (d) stands incorrect.

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

**Explanation: Option (a) is incorrect.** The author does not see a selection of multiple research methods necessary to answer research questions, as stated in the passage, "A given question may be answered with more than one method, but a given research method is not necessarily appropriate for all questions." The author is asking for finding an appropriate research method and not multiple methods, as the passage states, "One of the first tasks of the researcher — after carefully specifying the research question — is to select a suitable method." Thus, option (a) is not the critical message of the passage. So, option (a) is incorrect.

**Option (b) is incorrect.** The author specifies to consider both technical and practical criteria for selecting a research method, as mentioned in the passage, "This selection must be done not only according to technical criteria, but also practical considerations." The author mentions time and resource constraints as an example of practical criteria, "This latter might include the amount of time and resources available to do the research". However, these two are not mentioned as primary criteria for selection. Thus, option (b) is incorrect.

**Option (c) is incorrect.** The author has discussed selecting a research method well after specifying the research question, as stated in the passage,

“One of the first tasks of the researcher – after carefully specifying the research question – is to select a suitable method”. However, the author does not mention the possibility of selecting a research method even before the research question. Thus, option (c) is incorrect.

**Option (d) is correct.** Throughout the passage, the author shows why and how an appropriate method should be selected for a research question. Finally, in the concluding lines, the author mentions, “This selection must be done not only according to technical criteria but also practical considerations”, emphasising the need for both technical and practical considerations. Thus, option (d) is correct.

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

**Explanation: Statement 1 is correct.** The passage articulates the restrictions on the choice of research methods, “In other words, for most research questions one has a choice of possible methods but this choice is usually limited.” Thus, there can be multiple choices for selecting research methods, but the choice is not unlimited. Thus, the passage supports the argument in statement 1. Thus, statement 1 is correct.

**Statement 2 is correct.** The lines at the end of the passage validate the claim made in statement 2. The passage mentions that “This selection must be done not only according to technical criteria, but also practical considerations. These latter might include the amount of time and resources available to do the research.” Thus, the passage argues that proper weightage to practical considerations (like the amount of time and resources) is necessary for selecting a research method. Thus, statement 2 is correct.

**Statement 3 is incorrect.** In each line of the passage, the author speaks about the research methods. This indicates that it is necessary for conducting research. For example, the first line of the passage states, “Every research question needs an appropriate or suitable research method.” Also, the passage does not discuss the possibility of not selecting a research method at all.

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

**Explanation:** A → 20

B → 40

C → -18

LCM = 360

Total capacity of tank = 360

Water filled by all three pipes (A + B + C) in 6 h

=  $2 \times (18 + 9 - 20) = 14$  units

Water filled by all three pipes in  $(6 \times 24 = 144)$  h

=  $14 \times 24 = 336$

Remaining capacity =  $360 - 336 = 24$

Time taken by pipe A to filled 24 units =  $\frac{24}{18} = \frac{4}{3} = 1\frac{1}{3}$

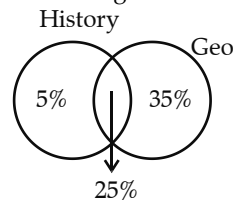
Total time =  $145\frac{1}{3}$  hour

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

**Explanation:** The data is insufficient as the matches played by India this year are not given.

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

**Explanation:** Venn diagram of failed students



Total failed students =  $5 + 35 + 25 = 65\%$

Total passed students =  $100 - 65 = 35\%$

According to question,

$35\% = 350$

$1\% = 10$

$100\% = 1000$

Therefore, the total number of students are 1000.

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

**Explanation:**  $P + Q \rightarrow \frac{1}{6}$  units/h

$Q + R \rightarrow \frac{1}{3}$  units/h

$R + P \rightarrow \frac{1}{4}$  units/h

Total work = 12 units

Efficiency of

$P + Q = 2$

$Q + R = 4$

$P + R = 3$

$2(P + Q + R) = 9$

Time required to finish the work

=  $12 \times \frac{2}{9} = \frac{8}{3}$  h = 2.67 h

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

**Explanation:** 3 men = 4 women = 5 boys

1 man =  $\frac{4}{3}$  women and 1 boy =  $\frac{4}{5}$  women

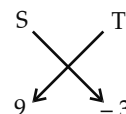
$(4 \times 60)$  women =  $\left[ \frac{4}{3} \text{ women} + 1 \text{ women} + \frac{4}{5} \text{ women} \right]$   
× days

$60 \times 60 = (20 + 15 + 12) \times \text{days}$

Number of days =  $\frac{3600}{47} = 76.59$

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

**Explanation:** When speed = 9 km/h faster and time = 3 h less then



$-3S + 9T = 27$

Speed = 6 km/h slower

Time = 4 h more

(i)

$$\begin{array}{r} S \quad T \\ \swarrow \quad \searrow \\ -6 \quad +4 \end{array}$$

$$4S - 6T = 24 \tag{ii}$$

$$\begin{array}{l} \text{On solving (i) and (ii),} \\ -3S + 9T = 27 \} \times 4 \\ 4S - 6T = 24 \} \times 3 \end{array}$$

We get :

$$\begin{array}{r} -12S + 36T = 108 \\ 12S - 18T = 72 \\ \hline 18T = 180 \end{array}$$

$$T = 10 \text{ h}$$

On putting value

We get :

$$\Rightarrow -12S + 360 = 108$$

$$\Rightarrow -12S = 108 - 360$$

$$\Rightarrow S = 21 \text{ km/h}$$

$$\text{Distance} = S \times T = 21 \times 10 = 210 \text{ km.}$$

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

**Explanation: Statement 1 is correct.** The statement underlines the importance of democratic politics in resolving conflicting aspirations. The passage first mentions conflicts in the line, "There are different groups with different and conflicting aspirations. How do we resolve these differences?". The next line later mentions the solution as democratic politics, "Democratic politics is an answer to this question." Thus, statement 1 stands correct.

**Statement 2 is correct.** The passage first mentions features of politics and political activity, "While competition and power are the two most visible things about politics..." Later, the passage makes it clear that pursuing the public interest route was the path taken by our leaders, "...the purpose of political activity is and should be deciding and pursuing the public interest. This is the route our leaders decided to take".

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

**Explanation: Option (a) is incorrect.** The passage does not focus on the stubborn and indifferent attitude of society. Instead, it has shown the purpose of PHDI in the line, "to communicate to the larger society the risk involved in continuing with existing practices in our resource use and environmental management. Hence, the author is under the assumption that the current issue occurs as people are not that informed yet. So, option (a) is incorrect.

**Option (b) is incorrect.** The author does not differentiate between the developing and developed countries regarding response to the environment. Rather, the author has talked about environmental concerns in a general manner as mentioned in the line, "The environment is one such issue now considered to be an essential component to be

factored in to measure human development". Thus, option (b) is incorrect.

**Option (c) is incorrect.** The line, "...and the retarding effect that environmental stress can perpetuate on development" indicates the direct relationship between environment and development. When the environment is harmed, development also suffers. Thus, option (c), which states that environment and development are inversely related, stands in direct contrast with what is mentioned in the passage. Hence, option (c) is not correct.

**Option (d) is correct.** Throughout the passage, the author has focused on the repercussions of harming the environment through human activities. The central part of the passage strongly supports option (d). It clearly mentions, "...human-induced environmental change can irrevocably destabilise the long-term dynamics".

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

**Explanation: Statement 1 is incorrect.** The passage mentions, — Leadership is tested in trying circumstances. Abnegation of duty to protest injustice and reluctance to take principled decisions in testing situations annuls leadership. This implies the leader must not remain silent in case of injustice. So, this quality is incorrect.

**Statement 2 is correct.** The passage mentions, — Leaders must assert moral authority, calm passions, restore sanity and ensure social harmony. Ensuring social harmony here implies maintaining peace in society. So, this quality is correct.

**Statement 3 is incorrect.** A strongman is a type of authoritarian political leader. The passage nowhere indicates that a leader should be an authoritarian. So, this quality is incorrect.

**Statement 4 is incorrect.** Eloquent means being able to use language and express one's opinions well, especially when one speak in public. The passage nowhere mentions of orating skill or way of expressing. So, this quality is incorrect.

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

**Explanation: Option (a) is incorrect.** Being honest does not mean we trust each other. The passage mentions the role of trust in society. So, this option is incorrect.

**Option (b) is correct.** The passage mentions, "A society needs trust like glue; a nation depends on institutions and leaders it can trust." This implies that society should be such, where people can trust each other. So, this option is the best suggestion implied by the passage.

**Option (c) is incorrect.** Honesty means to be truthful to someone. So, this is not the suggestion implied by the passage, which highlights the role of trust. So, this option is incorrect.

**Option (d) is incorrect.** The passage does not venture into a discussion about the character of people in a society. So, this is an incorrect option.

**25. Option (d) is correct.**

**Explanation:** Required time =  $\frac{\text{Distance covered}}{\text{Speed}}$

$$\begin{aligned}\text{Time} &= \frac{110\text{m}}{25\text{kmph}} \\ &= \frac{110\text{m}}{6.94\text{ms}^{-1}}\end{aligned}$$

$$\left[ \because 25\text{ kmph} = 25 \times \frac{5}{18} \text{ m/s} = 6.94 \text{ m/s} \right]$$

$$= 15.85 \text{ seconds.}$$

**26. Option (c) is correct.**

**Explanation:** Speed of current =  $y$  km/hr

Speed of boat in still water =  $x$  km/hr

Downstream speed =  $(x + y)$  km/hr

Upstream speed =  $(x - y)$  km/hr

**First case:**

$$\frac{75}{x+y} + \frac{75}{x-y} = 15 \quad (i)$$

**Second case:**

$$\frac{3}{x+y} = \frac{5}{x-y}$$

$$\Rightarrow \frac{x+y}{x-y} = \frac{3}{5}$$

$$x + y = 3k \text{ and } x - y = 5k$$

$$\text{Therefore, } \frac{75}{3k} + \frac{75}{5k} = 15$$

$$\text{After solving } k = \frac{8}{3}$$

$$x + y = 3 \times \frac{8}{3} = 8$$

$$x - y = 2 \times \frac{8}{3} = \frac{16}{3}$$

Then, speed of boat in still water

$$\frac{1}{2} \left( 8 + \frac{16}{3} \right) = \frac{20}{3} = 6.6 \text{ km/h}$$

$$\begin{aligned}\text{Speed of current} &= \frac{1}{2} \left( 8 - \frac{16}{3} \right) = \frac{4}{3} \text{ km/h} \\ &= 1.33 \text{ km/h}\end{aligned}$$

**27. Option (a) is correct.**

**Explanation:** Let the amount =  $x$

$$x + \frac{x}{2} = 6000 \Rightarrow \frac{3x}{2} = 6000$$

$$\Rightarrow x = 4000.$$

**28. Option (d) is correct.**

**Explanation:** Let the principal be  $P$ .

$$\text{S.I.} = 4P - P = 3P$$

We know that

$$\text{S.I.} = \frac{P \times R \times T}{100}$$

$$3P = \frac{P \times R \times 16}{100}$$

$$\Rightarrow R = \frac{75}{4} \%$$

Now,

$$9P = P \times 75 \times \frac{T}{4} \times \frac{1}{100}$$

$$\Rightarrow T = 9 \times \frac{400}{75}$$

$$\Rightarrow T = 48 \text{ years.}$$

**29. Option (b) is correct.**

**Explanation:** Final = Initial  $\left(1 - \frac{1}{m}\right)^n$

Let initial quantity =  $x$  times

$$20 = x \left(1 - \frac{1}{8}\right)^6$$

$$\Rightarrow 20 = x \left(\frac{7}{8}\right)^6$$

$$\Rightarrow 20 \times 8^6 = x \times 7^6$$

$$\Rightarrow x = 20 \times 2.22 \Rightarrow x = 44.56 \text{ litres.}$$

**30. Option (c) is correct.**

**Explanation:** If  $x$  kg sugar worth ₹ 7.20 / kg is mixed with 6 kg of sugar worth ₹ 2.20 per kg

$$x \times 7.20 + 6 \times 2.10 = 6.6 \times \frac{100}{120}$$

On solving, we get

$$x = \frac{20.4}{1.7} \Rightarrow x = 12 \text{ kg.}$$

**31. Option (a) is correct.**

**Explanation: Option (a) is correct.** The passage mentions, — Though shelter is a basic human need, migrant workers live in extremely precarious conditions. Later the passage has mentioned different types of living conditions of different types of migrant workers. So, this option best sums up the passage.

**Option (b) is incorrect.** The passage mentions, — In the case of migrants working in small units, hotels and homes, their workplace is their place of lodging too. Often such places are unhygienic and poorly ventilated. And — Casual workers sleep under bridges and on pavements, often living as a group in unhygienic surroundings. These things mention the unhygienic living conditions. However, it would be incorrect to infer that only migrant workers (not local workers) live in unhygienic conditions.

**Option (c) is incorrect.** The passage mentions, — Most construction workers stay in makeshift arrangements. But the makeshift arrangement has been mentioned only for construction workers. The living conditions of other migrant workers



like a shelter in the workplace, under bridges and pavements, are not mentioned in the option. So, this option does not best sum up the passage.

**Option (d) is incorrect.** The struggle of migrant workers in finding shelter may be true, but it is not the core theme of the passage. The passage mentions, — Though shelter is a basic human need, migrant workers live in extremely precarious conditions This implies the living conditions are precarious, but this does not imply that they are not getting shelter.

**32. Option (c) is correct.**

**Explanation: Statement 1 is correct.** The passage mentions, — Few have the chops and stamina to survive in the not-so popular-or-easily-understood centre. This implies that few or not many people choose to be at the centre.

**Statement 2 is correct.** The passage mentions, — To rid ourselves of the deeply vexing majoritarianism that is enveloping the world everywhere. This implies that everywhere in the world, majoritarianism is enfolding. So, in the context of this passage, this is a correct statement.

**Statement 3 is correct.** The passage mentions, “— ...those on one end must recognise that those on the other are our neighbours, our fellow humans, with ticking hearts and thinking brains.” These suggestions imply that the people on the left and right are at odds with each other.

**33. Option (b) is correct.**

**Explanation: Option (a) is incorrect.** The concluding lines of the passage mention, “Their expert knowledge will give them a ground to start from and their culture will lead them as deep as philosophy and as high as art”. Expert knowledge (not culture as mentioned in this answer option) gives a ground to start from. The statement in option (a) has been twisted and words are jumbled up to give the statement a different meaning than what is mentioned in the passage.

**Option (b) is correct.** According to the author, “What we should aim at producing is men who possess both culture and expert knowledge in some special direction...”. Thus, both culture and knowledge are essential for people. It has been further clarified by the author in the concluding lines as, “Their expert knowledge will give them a ground to start from and their culture will lead them as deep as philosophy and as high as art.

**Option (c) is incorrect.** The author does consider education in a specialised direction as important along with the culture. However, the author is not of the opinion that investment in education is completely useless unless it is in a specialised direction.

**Option (d) is incorrect.** Refer to the lines, “Culture is an activity of thought and receptiveness to beauty and humane feelings. Scraps of information have nothing to do with it. A merely well-informed man is the most useless bore on God’s earth.” The author highlights how a person with only information or knowledge is boring. On the contrary, this answer option says that a person with only culture and not expert knowledge is boring, which is incorrect.

**34. Option (a) is correct.**

**Explanation: Option (a) is correct.** The passage explains the problems of democracy equating higher growth with development, as stated in the passage, “Choice is closed through the institution of democracy and an ideology which equates higher growth with development.” Further, the author considers it as problematic that private corporations be given more importance over the poor population, as the passage states, “The inclusive democracy of “one adult, one vote” is reconciled with the economic power of corporations by price rationing out the poor from any possibility of direct representation.”

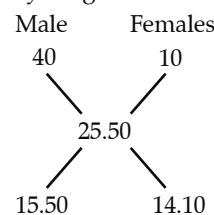
**Option (b) is incorrect.** The passage does not give a general definition of inclusive definition, rather it just mentions one character of it, “The inclusive democracy of “one adult, one vote” is reconciled...”. Further, the passage is centred on the question of problems in democracy because of dangerous mutualism with private corporations and not on defining an inclusive government.

**Option (c) is incorrect.** The passage does mention the problems arising out of cooperation between democratic governments and private corporations while ignoring the poor masses. But it does not say that the government must not cooperate with private corporations at all. Hence, option (c) is more of an extreme generalisation.

**Option (d) is incorrect.** The lines in the passage “... Choice is closed through the institution of democracy and an ideology which equates higher growth with development” mention the problem of equating growth with development. Thus, the author does not mention growth as a prerequisite for development.

**35. Option (c) is correct.**

**Explanation:** By allegation method



Ratio = 155:141

Possible number of male and female are multiple of 155 and 141, respectively.

36. Option (d) is correct.

**Explanation:** Water:Milk = 5:8

I.  $5:8 \rightarrow (5 + 8) \times 20 \rightarrow 13 \times 20$

II.  $8:12 \rightarrow (8 + 12) \times 13 \rightarrow 20 \times 13$

Water:Milk

100:160

104:156

204:316

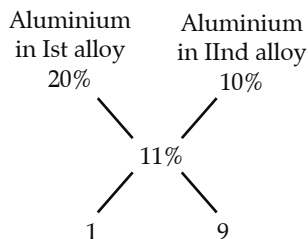
51:79

37. Option (d) is correct.

**Explanation:** Aluminum in I<sup>st</sup> alloy : Aluminum in II<sup>nd</sup> alloy  
20% : 10%

Aluminium in newly formed alloy = 11%

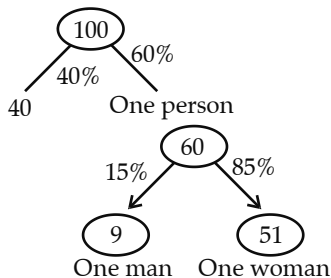
**By alligation method:**



Ratio = 1:9

38. Option (a) is correct.

**Explanation:** Let total houses = 100



% of houses having only one woman

$= 100 \times \frac{51}{100} = 51\%$ .

39. Option (b) is correct.

**Explanation:** HCF = 3

Let the ratio of two numbers be  $x:y$ .

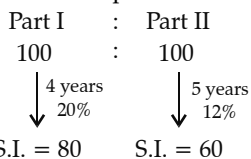
$3x + 3y = 21$

$x + y = 7$

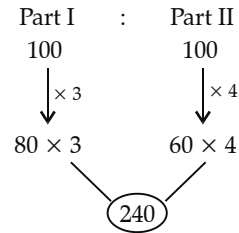
Three pairs are (1, 6), (5, 2) and (4, 3).

40. Option (c) is correct.

**Explanation:** Let each part sum = ₹ 200



Given that S.I. of both parts are equal.



Part I:  $100 \times 3 = 300$

Part II:  $100 \times 4 = 400$

Ratio = 3:4

Part I =  $\frac{3}{7} \times 24,000 = 10,285$  (approx)

41. Option (a) is correct.

**Explanation: Inference 1 is correct.** According to the passage, — All human health ultimately depends on ecosystem services that are made possible by biodiversity and the products and services derived from them.” It can be inferred that human health is linked to the thriving biodiversity of an area. Hence, this statement is a logical inference.

**Inference 2 is incorrect.** The passage only talks about the importance of biodiversity for human health and the various ecosystem services derived from it. It does not touch upon the topic of sharing of the benefits of biodiversity.

So, this statement is not a logical inference.

42. Option (d) is correct.

**Explanation: Assumption 1 is correct.** Refer to the lines, — “As for taste, price, availability and nutritive quality influence consumers, meeting almost all these qualities wheat become one of the staple cereals worldwide”. These lines show that because wheat surpasses other cereals in these qualities, that is why it is consumed globally. Hence, this assumption is valid.

**Assumption 2 is correct.** Refer to the lines, — Concerns about food and health also contributed to increased wheat consumption in a growing economy. Furthermore, the use of wheat corresponds to the region’s socioeconomic status and geography. Wheat is consumed more in developed countries than in developing countries. Hence, wheat consumption could help understand the socio-economic conditions, geography, developmental status of the society, etc. Hence, the assumption in the statement is valid.

**Assumption 3 is incorrect.** Refer to the lines, “In addition, wheat is more adaptable to a wide range of growth conditions compared to other major cereal crops. This property of wheat has made its cultivation possible in different parts of the world and made it available “globally”. These lines show that the adaptability of wheat is what makes its cultivation possible on a wide level. But it does not mean that “all” climates support its growth. So, this assumption is not valid.

43. Option (c) is correct.

**Explanation: Inference 1 is correct.** The lines in the passage that mean — If the political system is considered as not free, a high overall level of development cannot be achieved and maintained, mainly because corruption cannot be effectively reduced despite the prevailing high-income levels. The different kinds of polity impact the economy and any nation's development. So, this inference is correct.

**Inference 2 is correct.** According to the lines in the passage that mean — However, to be effective, these strategies should be associated with the necessary democratic transformations. If the political system is considered as not free, a high overall level of development cannot be achieved and maintained, mainly because corruption cannot be effectively reduced despite the prevailing high-income levels. The examples of Brunei, Kuwait and the United Arab Emirates confirm this conclusion. These lines show corruption and the free political system are interrelated and it is difficult to control corruption in a less free political setup. So, this inference is logically correct.

44. Option (a) is correct.

**Explanation: Option (a) is correct.** The passage mentions — The main instrument to increase the level of overall development of countries is to follow integrated strategies aiming at reducing corruption and increasing income, human development and government effectiveness levels. However, to be effective, these strategies should be associated with the necessary democratic transformations. This shows human development can be improved with necessary democratic transformations. So, this implied suggestion is the correct answer.

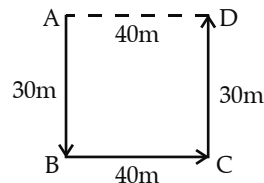
**Option (b) is incorrect.** The lines — ... however exemption of Singapore that, although it is considered as a high income and partly free country, it is one of the least corrupt countries in the world. This outcome could be attributed to cultural factors". This suggestion in the option is beyond the scope of the passage because it cannot be ascertained that corruption can be controlled through reforming culture based on the example of Singapore only. So, this option is not the best-implied suggestion.

**Option (c) is incorrect.** According to the passage — "If the political system is considered as not free, a high overall level of development cannot be achieved and maintained, mainly because corruption cannot be effectively reduced despite the prevailing high-income levels". This shows that even with high-income levels there is no significant impact on corruption, but the option suggests exactly the opposite of what is given in the passage. Therefore, this statement is not the best-implied suggestion.

**Option (d) is incorrect.** This is an option that is beyond the scope of the passage as there is no discussion on the relationship of corruption with the increase in GDP. However, it could be a fair assumption based on the information shared in the passage. So, this statement is not the best-implied suggestion.

45. Option (c) is correct.

**Explanation:** Movement of Sanya



She is in east direction, 40 m far from her house.  
40 m east.

46. Option (d) is correct.

**Explanation:** The number in rectangle, triangle and circle is 3.

47. Option (b) is correct.

**Explanation:** AMIABLE  
ABLE is the only meaningful word.

48. Option (c) is correct.

**Explanation:** MAINTENANCE  
The only word formed by using first, sixth and seventh letter only once is MEN.

49. Option (c) is correct.

**Explanation:**  $6 \times 3 + 4 - 7 \times 2 - 3$   
 $= 7 \times 3 - 5 + 6 \times 2 + 3$   
 $= 16 + 15 = 31$

50. Option (a) is correct.

**Explanation:** Priya's mother age = 37 years old  
Priya's father age = 44 years  
Priya's brother age =  $37 - 25 = 12$  years  
Priya's age =  $12 \times 2 = 24$  years

51. Option (a) is correct.

**Explanation: Statement 1 is valid.** The passage mentions the presence of lesser species in the islands as one moves further into the sea. This is hard to explain through the creationism approach, as the passage states, "Darwin reasoned that these patterns were hard to explain in terms of Creationism – in which case, similar species should exist everywhere – but they made sense if species crossed the water to colonise islands, with fewer species surviving to colonise more distant islands." Thus, the author assumes that Creationism cannot properly explain species patterns. Hence, statement 1 is a valid assumption.

**Statement 2 is invalid.** Contrary to the statement, the author assumes that recent events including the 1995 event where iguanas swept offshore by hurricanes washed up 300 km away, very much alive, after riding

on debris, further strengthens Darwin's reasoning as the passage states, "He was right. Studies have found tortoises can survive weeks afloat without food or water – they probably bobbed along until hitting the Galapagos. And in 1995, iguanas swept offshore by hurricanes washed up 300 km away, very much alive, after riding on debris."

Thus, statement 2 is invalid. Hence, option (a) is the correct answer.

**52. Option (c) is correct.**

**Explanation: Option (a) is incorrect.** The statement in option (a) stands in contrast with the health benefits of gut bacteria described in the passage. According to the passage, "The gut microbiome, in particular, has been linked to nutrition and immunity." They share a mutually dependent bond with human beings. Also, the passage does not discuss any health issues because of the presence of gut bacteria.

**Option (b) is incorrect.** The passage does not talk about the use of antibiotics at all. Thus, option (b) is beyond the scope of passage.

**Option (c) is correct.** The lines "...The gut microbiome, in particular, has been linked to nutrition and immunity. Disturbances in this friendly force have been related to an increased susceptibility for several health disorders..." highlights the extreme necessity of gut bacteria for our good health and immunity.

**Option (d) is incorrect.** The author mentions in the concluding lines, "While the specific composition of the microbiome varies from person to person and changes over life, associations of different microbiome profiles are now being associated with health or disease across populations." highlighting the differences in microbiome composition in different people. Thus, statement (d) stands in direct contrast with what has been described in the passage.

**53. Option (c) is correct.**

**Explanation: Statement 1 is correct.** Refer to the sentence "On the other hand, the unorganised sector, which absorbs and an overwhelmingly large majority of workers' employment is not only completely insecure but is also devoid of any social security provisions". It is clear that the unorganised sector does not have adequate social security provisions.

**Statement 2 is correct.** Refer to the line: — "...this dichotomy in the labour market, characterised by a high degree of protection for a minuscule proposition of the workforce and complete lack of protection for the majority of workers, is coming in the way of a larger and more effective use of labour..." The author clearly talks about the dichotomy between the organised and the unorganised labour market. Hence, statement 2 is also correct.

**54. Option (a) is correct.**

**Explanation: Statement 1 is correct.** Refer to the first line of the passage: "An important aspect that would need careful scrutiny, particularly in the context of economic reform, is the impact of macro-economic, sectoral and labour policies on employment." It clearly talks about the impact of macroeconomic policies on employment. Hence, it is correct to say that employment is sensitive to macroeconomic policies.

**Statement 2 is incorrect.** Refer to the last line of the passage: — Similarly, other policies-credit, fiscal and sectoral, would need to be reviewed with a view to making them more employment-friendly. — This means there is a room to make the policies more conducive to employment generation. It would be an extreme assumption to say that credit and labour policies are ALWAYS employment friendly. Hence, this answer option is incorrect.

**55. Option (c) is correct.**

**Explanation:** When Harsh was born,  
Sister's age = 4 years  
Mother's age = 4 + 32 = 36 years  
Father's age = 36 + 4 = 40 years

**56. Option (d) is correct.**

**Explanation:**

I →	4	9	16	25
II →	9	49	169	?

$$I^{\text{st}} \rightarrow 2^2 = 4, 3^2 = 9, 4^2 = 16, 5^2 = 25$$

$$II^{\text{nd}} \rightarrow 4 - 1 = 3 \rightarrow (3)^2 = 9$$

$$9 - 2 = 7 \rightarrow (7)^2 = 49$$

$$16 - 3 = (13) \rightarrow (13)^2 = 169$$

$$25 - 4 = 21 \rightarrow (21)^2 = 441$$

**57. Option (a) is correct.**

**Explanation:** Asha was born on Tuesday.

**58. Option (a) is correct.**

**Explanation:** Only I follows as all flowers have buds.

**59. Option (a) is correct.**

**Explanation:** Star is twinkling in the sky.

But sky is called star. So as asked in the question, star is twinkling in star.

**60. Option (a) is correct.**

**Explanation:** In this arrangement the code/place of each number is two less than the number denoting in English alphabet,

$$S \rightarrow 19^{\text{th}} \text{ U} \rightarrow 21^{\text{st}} \text{ N} \rightarrow 14^{\text{th}} \text{ L} \rightarrow 12^{\text{th}}$$

$$I \rightarrow 9^{\text{th}} \text{ G} \rightarrow 7^{\text{th}} \text{ H} \rightarrow 8^{\text{th}} \text{ T} \rightarrow 20^{\text{th}}$$

Codes are 17, 19, 12, 10, 7, 5, 6, 18, respectively.

DEFINITE = 2347127183.

**61. Option (b) is correct.**

**Explanation:** S is not as short as R or as tall as P.

S is shorter than P.

$$S < P$$

S is taller than R.  
 $S > R$   
 Q is shorter than S but taller than R.  
 $R < Q < S$   
 P is the doll to be purchased.

**62.** Option (a) is correct.

**Explanation:**

III	IV
1331	289
25	8

II      I  
 $I \rightarrow 2^3 = 8$   
 $\downarrow$

prime no.  
 leave (3)  
 then 5 is  $(5)^2 = 25$   
 Prime no.  
 $(11)^3 = 1331$   
 $(17)^2 = 289$   
 Pattern is (1)  $\rightarrow$  Cube  
 (2)  $\rightarrow$  Square (3)  $\rightarrow$  Cube (4)  $\rightarrow$  Square  
 Similarly,  
 $(5)^3 = 125$   
 leave 7  
 $(11)^2 = 121$   
 $(17)^3 = 4913$   
 $(23)^2 = 529$

**63.** Option (a) is correct.

**Explanation:**  $2^3 - 4^2 = 8 - 16 = -8, -\frac{8}{2} = -4$   
 $6^3 - 8^2 = 216 - 64 = 152, 152 \div 2 = 76$   
 $10^3 - 12^2 = 1000 - 144 = 856, \frac{856}{2} = 428$   
 $14^3 - 16^2 = 2744 - 256 = 1244/2 = 622$

**64.** Option (c) is correct.

**Explanation:**  $2 \times 10 = 20$   
 $4 \times 6 = 24$   
 $20 + 24 = 44$   
 $44 - 8 = 36$   
 Similarly,  
 $20 \times 4 = 80$   
 $12 \times 8 = 96$   
 $80 + 96 = 176$   
 $176 - 16 = 160.$

**65.** Option (a) is correct.

**Explanation:**  $1948 = 1600 + 348$  years  
 0 odd days + 300 years + 48 years  
 $1 \text{ Jan } 1949 - 26 \text{ Jan } 1949 = 26$  days  
 5 odd days  
 Total odd days =  $0 + 1 + 23 + 37 + 5 = 66$  days  
 $= 9$  weeks 3 days  
 3 is code for Wednesday

**66.** Option (a) is correct.

**Explanation:** 2017 is not divisible by 4 so it is not leap year.  
 $2017 = 2016 + 1$   
 Leap year + 6  
 $2017 + 6 = 2023$

**67.** Option (b) is correct.

**Explanation:** The 7000<sup>th</sup> day is Sunday itself

**68.** Option (d) is correct.

**Explanation:** 3, 15, 222, ?  
 $3^2 = 9 \times 2 = 18 - 3 = 15$   
 $15^2 = 225 - 3 = 222$   
 $222^2 = 49,284 - 3 = 49,281$

**69.** Option (d) is correct.

**Explanation:** Data is inadequate as the gender of prateek is not clarified in question.

**70.** Option (c) is correct.

**Explanation:** A's grandfather = B  
 C's father = B  
 A is son of C. So, A is grandson of B.

**71.** Option (a) is correct.

**Explanation:** No. of ways of arrangement of books  
 $6! = 6 \times 5 \times 4 \times 3 \times 2 \times 1 = 720$   
 Total time =  $\frac{720}{60}$  h = 12 h

**72.** Option (b) is correct.

**Explanation:** LCM of 4, 5, 10, 12, 15, 20 = 120  
 Bells will toll together after every 120 sec i.e., 2 minutes.  
 Required number of times in 20 min.  
 $= \frac{20}{2} + 1 = 11$   
 Thus, in 20 minutes, bells will ring 11 times together.

**73.** Option (b) is correct.

**Explanation:** C.P. = ₹  $(16 \times 2) = 32$   
 S.P. =  $(12 \times 1.5 + 4 \times 0.5) = 18 + 2 = ₹ 20$   
 $\therefore \text{Loss \%} = \frac{12}{32} \times 100 = 37.5\%$

**74.** Option (d) is correct.

**Explanation:** Type equation here.

$$7 \times \frac{1}{2} = \frac{7}{2}$$

$$\frac{7}{2} \div \frac{1}{4} = 14$$

$$14 \times \frac{1}{2} = 7$$

$$7 \div \frac{1}{4} = 28$$

**75.** Option (d) is correct.

**Explanation:** Let the score in the 11<sup>th</sup> inning be x.  
 As per the information,

$$\frac{60 \times 10 + x}{11} = 62$$

$$\Rightarrow 600 + x = 682 \Rightarrow x = 82$$

**76.** Option (b) is correct.

**Explanation:** The four consecutive odd number starting from  $p$  is  $p, p + 2, p + 4, p + 6$

$$p + p + 2 + p + 4 + p + 6 = q$$

$$\text{Average} = \frac{4p + 12}{4} = q$$

$$4p + 12 = 4q$$

$$\Rightarrow p + 3 = q$$

Average of 7 consecutive odd numbers

$$= \frac{p + p + 2 + p + 4 + p + 6 + p + 8 + p + 10 + p + 12}{7}$$

$$= \frac{7p + 42}{7} = p + 6$$

**77.** Option (a) is correct.

**Explanation: Statement 1 is correct.** The passage mentions, "...the impact of exploration and mining on flora and fauna and other damages..." and also talks about "...the next logical step..." to minimise the impact. Thus, we can safely assume that the impact being talked about in this statement is a matter of concern.

**Statement 2 is incorrect.** IBM speeding up the process of generating the remaining 270-odd maps with forest overlays is one of the actionable areas mentioned in the passage. It does not mean that it would allay the concern about mineral exploration. Hence, it is not a valid assumption.

**78.** Option (d) is correct.

**Explanation: Statement 1 is incorrect.** Refer to the line, — "...the rapidly expanding human population has greatly modified the Earth's ecosystems to meet their increased requirements of some of the goods and services, particularly food, freshwater, timber, fibre and fuel. These modifications have contributed substantially to human well-being and economic development. The benefits have not been equally distributed. Some people have actually been harmed by these changes." — It indicates that people have been harmed by "unequal distribution" of economic development and not by rapid expansion of population per se. Hence, this inference is incorrect.

**Statement 2 is also incorrect.** The passage simply uses examples of an increase in the production of food and fibre to explain how short-term benefits lead to long term degradation of ecological goods and services. Nowhere in the passage is it said that sufficient efforts have not been made to an increase

the production of food and fibre. Hence, this is also an incorrect inference.

**79.** Option (b) is correct.

**Explanation: Assumption 1 is invalid.** Refer to the lines: "— The rapidly expanding human population has greatly modified the Earth's ecosystems..." These modifications have contributed substantially to human well-being and economic development. The benefits have not been equally distributed. The author talks about the benefits of modification of Earth's ecosystem. This answer option, on the contrary, talks about the benefits of the ecosystem and its inherent nature, which are not touched upon in this passage. Moreover, even the benefits talked about in the passage are not distributed equitably. Hence, this is an invalid assumption.

**Assumption 2 is valid.** Refer to the last line of the passage: "short term increases in some ecosystem goods and services have come at the cost of the long-term degradation of others." The author, in this line, indicates the delicate balance which is disturbed due to anthropogenic activities. Examples that lend support to the argument are also quoted in the last line, e.g., "efforts to increase the production of food and fibre have decreased the ability of some ecosystems to provide clean water, regulate flooding and support biodiversity". Hence, it is a valid assumption.

**80.** Option (a) is correct.

**Explanation: Option (a) is correct.** The option talks about the adverse effects of child marriage on both girls and society. It is clearly mentioned that child marriage limits their ability to fulfil themselves as productive individuals participating fully in society. So, this statement best captures the crux of the passage.

**Option (b) is incorrect.** The passage mentions, "— It cuts short their education, harms their health and limits their ability to fulfil themselves as productive individuals participating fully in society." — So, the option is correct, but it does not include the effect of child marriage on society. Hence, this option does not comprehensively capture the crux of the passage.

**Option (c) is incorrect.** The option is correct but again it does not include the effect of child marriage on society and thus not reflect the best crux in comparison to option (a).

**Option (d) is incorrect.** The option is correct but does not include the effect of child marriage on society and thus does not reflect the best crux in comparison to option (a).