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Your Personal Exams Guide

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- UPTET
- IBPS RRB
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- RRB NTPC
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UPSC CSE 2018 (Prelims Paper-2: CSAT) Previous Year Paper (03-Jun-2018)

Total Time: 2 Hour **Total Marks:** 200

Instructions

Sl No.	Section Name	No. of Question	Maximum Marks
1	Part B	80	200

1.) A total of 120 minutes is allotted for the examination.

2.) The server will set your clock for you. In the top right corner of your screen, a countdown timer will display the remaining time for you to complete the exam. Once the timer reaches zero, the examination will end automatically. The paper need not be submitted when your timer reaches zero.

3.) There will, however, be sectional timing for this exam. You will have to complete each section within the specified time limit. Before moving on to the next section, you must complete the current one within the time limits.

Part B

1. Consider the following three-dimensional figure: **(+2.5, -0.83)**

How many triangles does the above figure have?

a. 18

b. 20

c. 22

d. 24

---

2. Consider the following sum: **(+2.5, -0.83)**

$\bullet + 1 \bullet + 2 \bullet + \bullet 3 + \bullet 1 = 21 \bullet$

In the above sum, $\bullet$ stands for

a. 4

b. 5

c. 6

d. 8

---

3. Consider the following pattern of numbers: **(+2.5, -0.83)**

8	10	15	13
6	5	7	4
4	6	8	8
6	11	16	?

What is the number at ? in the above pattern?

a. 17

b. 19

c. 21

d. 23

---

4. How many diagonals can be drawn by joining the vertices of an octagon? **(+2.5, -0.83)**

a. 20

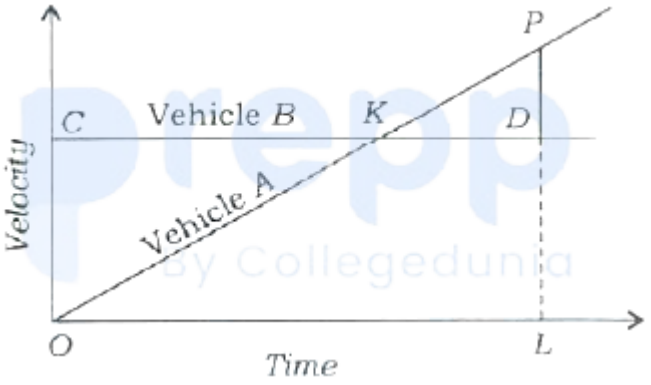
b. 24

c. 28

d. 64

---

5. The figure drawn below gives the velocity graphs of two vehicles A and B. The straight line OKP represents the velocity of vehicle A at any instant, whereas the horizontal straight line CKD represents the velocity of vehicle B at any instant. In the figure, D is the point where perpendicular from P meets the horizontal line CKD such that $PD = \frac{1}{2}LD$: **(+2.5, -0.83)**



What is the ratio between the distances covered by vehicles A and B in the time interval OL?

a. 1 : 2

b. 2 : 3

c. 3 : 4

d. 1 : 1

---

6. A train 200 metres long is moving at the rate of 40 kmph. In how many seconds will it cross a man standing near the railway line? **(+2.5, -0.83)**

a. 12

b. 15

c. 16

d. 18

---

7. Read the following passage and answer the item that follows. Your answer to this item should be based on the passage only. **(+2.5, -0.83)**

Global population was around 1.6 billion in 1990-today it is around 7.2 billion and growing. Recent estimates on population growth predict a global population of 9.6 billion in 2050 and 10.9 billion in 2100. Unlike Europe and North America, where only three to four per cent of population is engaged in agriculture, around 47 per cent of India's population is dependent upon agriculture. Even if India continues to do well in the service sector and the manufacturing sector picks up, it is expected that around 2030 when India overtakes China as the world's most populous country, nearly 42 per cent of India's population will still be predominantly dependent on agriculture.

Which of the following is the most logical and rational inference that can be made from the above passage?

a. Prosperity of agriculture sector is of critical importance to India.

b. Indian economy greatly depends on its agriculture.

c. India should take strict measures to control its rapid population growth.

d. India's farming communities should switch over to other occupations to improve their economic conditions.

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8. Read the following passage and answer the item that follows. Your answer to this item should be based on the passage only. **(+2.5, -0.83)**

Many pathogens that cause foodborne illnesses are unknown. Food contamination can occur at any stage from farm to plate. Since most cases of food poisoning go unreported, the true extent of global foodborne illnesses is unknown. Improvements in international monitoring have led to greater public awareness, yet the rapid globalization of food production increases consumers' vulnerability by making food harder to regulate and trace. We have the world on our plates, says an official of WHO.

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

a. With more options for food come more risks.

b. Food processing is the source of all foodborne illnesses.

c. We should depend on locally produced food only.

d. Globalization of food production should be curtailed.

---

9. **Read the given passage and answer the question that follows:** Your answer to this item should be based on the passage only. **(+2.5, -0.83)**

Though I have discarded much of past tradition and custom, and am anxious that India should rid herself of all shackles that bind and contain her and divide her people, and suppress vast numbers of them, and prevent the free development of the body and the spirit; though I seek all this, yet I do not wish to cut myself off from that past completely. I am proud of that great inheritance that has been and is, ours and I am conscious that I too, like all of us, am a link in that unbroken chain which goes back to the dawn of history in the immemorial past of India.

The author wants India to rid herself of certain past bonds because

a. he is not able to see the relevance of the past

b. there is not much to be proud of

c. he is not interested in the history of India

d. they obstruct her physical and spiritual growth

---

10. Read the following passage and answer the item that follows. Your answer to this item should be based on the passage only. **(+2.5, -0.83)**

I am a scientist, privileged to be somebody who tries to understand nature using the tools of science. But it is also clear that there are some really important questions that science cannot really answer, such as : Why is there something instead of nothing? Why are we here? In those domains, I have found that faith provides a better path to answers. I find it oddly anachronistic that in today's culture there seems to be a widespread presumption that scientific and spiritual views are incompatible.

Which of the following is the ***most logical and rational inference*** that can be made from the above passage?

a. It is the faith and not science that can finally solve all the problems of mankind.

b. Science and faith can be mutually complementary if their proper domains are understood.

c. There are some very fundamental questions which cannot be answered by either science or faith.

d. In today's culture, scientific views arc given more importance than spiritual views

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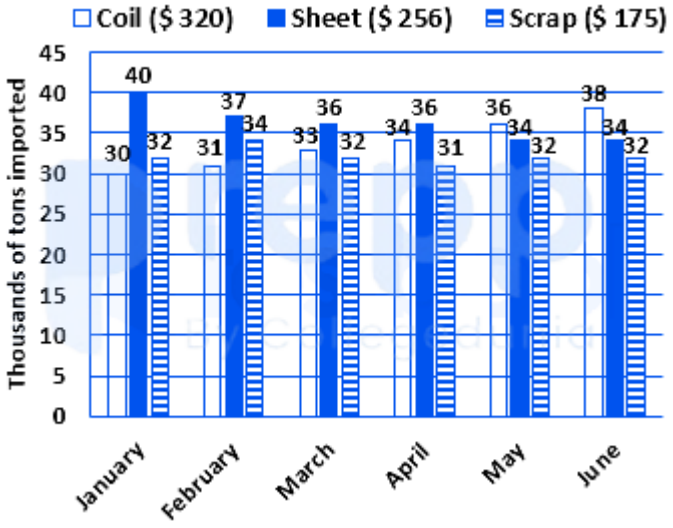
11. Directions: The following three items are based on the graph given below which shows imports of three different types of steel over a period of six months of a year. Study the graph and answer the three items that follow. **(+2.5, -0.83)**



The figures in the brackets indicate the average cost per ton over six months period

By how much (measured in thousands of tons) did the imports of sheet steel exceed the imports of coil steel in the first three months of the year?

a. 11

b. 15

c. 19

d. 23

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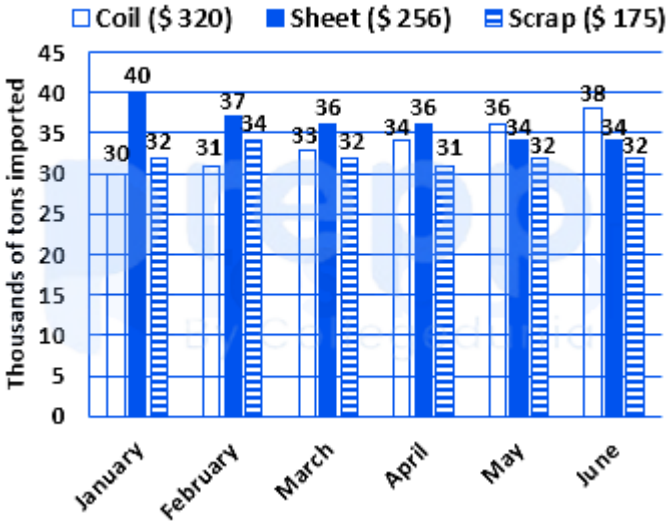
12. **Directions:** The following three items are based on the graph given below which shows imports of three different types of steel over a period of six months of a year. Study the graph and answer the three items that follow. **(+2.5, -0.83)**



The figures in the brackets indicate the average cost per ton over six months period

What was the approximate total value (in $ thousands) of sheet steel imported over the six months period?

a. 45,555

b. 50,555

c. 55,550

d. 65,750

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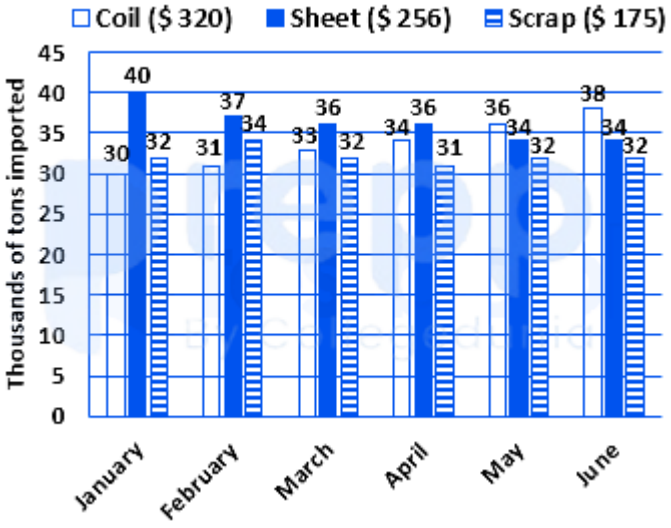
13. **Directions:** The following three items are based on the graph given below which shows imports of three different types of steel over a period of six months of a year. Study the graph and answer the three items that follow. **(+2.5, -0.83)**



The figures in the brackets indicate the average cost per ton over six months period

What was the approximate ratio of sheet steel and scrap steel imports in the first three months of the year?

a. 1 : 1

b. 1.2 : 1

c. 1.4 : 1

d. 1.6 : 1

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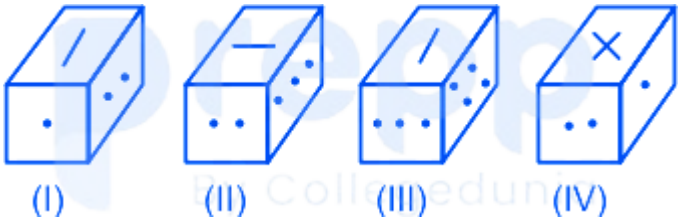
14. **Directions:** Rotated positions of a single solid are shown below. The various faces of the solid are marked with different symbols like dots, cross and line. Answer the three that follow the given figure. **(+2.5, -0.83)**



What is the symbol on the face opposite to that containing a single dot?

a. Four dots

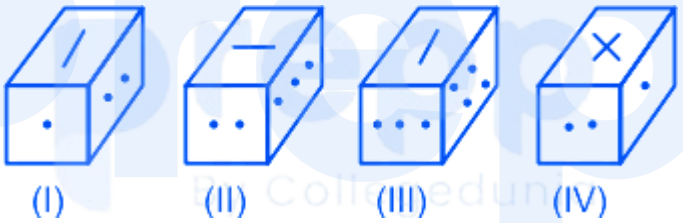
b. Three dots

c. Two dots

d. Cross

---

15. **Directions:** Rotated positions of a single solid are shown below. The various faces of the solid are marked with different symbols like dots, cross and line. Answer the three that follow the given figure. **(+2.5, -0.83)**



What is the symbol on the face opposite to that containing two dots?

a. Single dot

b. Three dots

c. Four dots

d. Line

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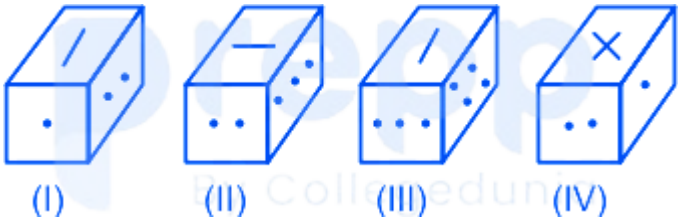
16. **Directions:** Rotated positions of a single solid are shown below. The various faces of the solid are marked with different symbols like dots, cross and line. Answer the three that follow the given figure. **(+2.5, -0.83)**



What is the symbol on the face opposite to that containing the cross?

a. Single dot

b. Two dots

c. Line

d. Four dots

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17. **Directions :** Read the following passage and answer the four items that follow. Your answers to these items should be based on the passage only. **(+2.5, -0.83)**

It is no longer enough for us to talk about providing for universal access to education. Making available schooling facilities is an essential prerequisite, but is insufficient to ensure that all children attend school and participate in the learning process. The school may be there, but children may not attend or they may drop out after a few months. Through school and social mapping, we must address the entire gamut of social, economic, cultural and indeed linguistic and pedagogic issues, factors that prevent children from weaker sections and disadvantaged groups, as also girls, from regularly attending and complementing elementary education.

The focus must be on the poorest and most vulnerable since these groups are the most disempowered and at the greatest risk of violation or denial of their right to education. The right to education goes beyond free and compulsory education to include quality education for all.

Quality is an integral part of the right to education. If the education process lacks quality, children are being denied their right. The Right of Children to Free and Compulsory Education Act lays down that the curriculum should provide for learning through activities, exploration and discovery. This places an obligation on us to change our perception of children as passive receivers of knowledge, and to move beyond the convention of using textbooks as the basis of examinations. The teaching-learning process must become stress-free; and a massive programme for curricular reform should be initiated to provide for a child-friendly learning system, that is more relevant and empowering. Teacher accountability systems and processes must ensure that children are learning, and that their right to learn in a child-friendly environment is not violated. Testing and assessment systems must be reexamined and redesigned to ensure that these do not force children to struggle between school and tuition centres, and bypass childhood.

According to the passage, which of the following is/are of paramount importance under the Right to Education?

1. Sending of children to school by all parents

2. Provision of adequate physical infrastructure in schools

3. Curricular reforms for developing child-friendly learning system

Select the correct answer using the code given below.

a. 1 only

b. 1 and 2 only

c. 3 only

d. None of the above

18. **Directions :** Read the following passage and answer the four items that follow. Your answers to these items should be based on the passage only. **(+2.5, -0.83)**

It is no longer enough for us to talk about providing for universal access to education. Making available schooling facilities is an essential prerequisite, but is insufficient to ensure that all children attend school and participate in the learning process. The school may be there, but children may not attend or they may drop out after a few months. Through school and social mapping, we must address the entire gamut of social, economic, cultural and indeed linguistic and pedagogic issues, factors that prevent children from weaker sections and disadvantaged groups, as also girls, from regularly attending and complementing elementary education.

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

1. The Right to Education guarantees teachers' accountability for the learning process of children.

2. The Right to Education guarantees 100% enrolment of children in the schools.

3. The Right to Education intends to take full advantage of demographic dividend.

Which of the above assumptions is/are valid?

a. 1 only

b. 2 and 3 only

c. 3 only

d. 1, 2 and 3

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19. **Directions :** Read the following passage and answer the four items that follow. Your answers to these items should be based on the passage only. **(+2.5, -0.83)**

It is no longer enough for us to talk about providing for universal access to education. Making available schooling facilities is an essential prerequisite, but is insufficient to ensure that all children attend school and participate in the learning process. The school may be there, but children may not attend or they may drop out after a few months. Through school and social mapping, we must address the entire gamut of social, economic, cultural and indeed linguistic and pedagogic issues, factors that prevent children from weaker sections and disadvantaged groups, as also girls, from regularly attending and complementing elementary education.

The focus must be on the poorest and most vulnerable since these groups are the most disempowered and at the greatest risk of violation or denial of their right to education. The right to education goes beyond free and compulsory education to include quality education for all. Quality is an integral part of the right to education. If the education process lacks quality, children are being denied their right. The Right of Children to Free and Compulsory Education Act lays down that the curriculum should provide for learning through activities, exploration and discovery. This places an obligation on us to change our perception of children as passive receivers of knowledge, and to move beyond the convention of using textbooks as the basis of examinations. The teaching-learning process must become stress-free; and a massive programme for curricular reform should be initiated to provide for a child-friendly learning system, that is more relevant and empowering. Teacher accountability systems and processes must ensure that children are learning, and that their right to learn in a child-friendly environment is not violated. Testing and assessment systems must be reexamined and redesigned to ensure that these do not force children to struggle between school and tuition centres, and bypass childhood.

According to the passage, which one of the following is critical in bringing quality in education?

a. Ensuring regular attendance of children as well as teachers in school

b. Giving pecuniary benefits to teachers to motivate them

c. Understanding the socio-cultural background of children

d. Inculcating learning through activities and discovery

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20. Directions : Read the following passage and answer the four items that follow. Your answers to these items should be based on the passage **(+2.5, -0.83)**

only.

It is no longer enough for us to talk about providing for universal access to education. Making available schooling facilities is an essential prerequisite, but is insufficient to ensure that all children attend school and participate in the learning process. The school may be there, but children may not attend or they may drop out after a few months. Through school and social mapping, we must address the entire gamut of social, economic, cultural and indeed linguistic and pedagogic issues, factors that prevent children from weaker sections and disadvantaged groups, as also girls, from regularly attending and complementing elementary education.

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What is the essential message in this passage?

a. The Right to Education now is a Fundamental Right.

b. The Right to Education enables the children of poor and weaker sections of the society to attend schools.

c. The Right to Free and Compulsory Education should include quality education for all.

d. The Government as well as parents should ensure that all children attend schools.

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21. If LSJXVC is the code for MUMBAI, the code for DELHI is **(+2.5, -0.83)**

a. CCIDD

b. CDKGH

c. CCJFG

d. CCIFE

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22. If RAMON is written as 12345 and DINESH as 675849, then HAMAM will be written as **(+2.5, -0.83)**

a. 92233

b. 92323

c. 93322

d. 93232

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23. If X is between -3 and -1, and Y is between -1 and 1, then $X^2 - Y^2$ is in between which of the following? **(+2.5, -0.83)**

a. -9 and 1

b. -9 and -1

c. 0 and 8

d. 0 and 9

---

24. X and Y are natural numbers other than 1, and Y is greater than X. Which of the following represents the largest number? **(+2.5, -0.83)**

a. XY

b. X/Y

c. Y/X

d. (X + Y)/XY

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25. Directions : Read the following information and answer the two items that follow. The plan of an office block for six officers A, B, C, D, E and F is as follows : Both B and C occupy offices to the right of the corridor (as one enters the office block) and A occupies on the left of the corridor. E and F occupy offices on opposite sides of the corridor but their offices do not face each other. The offices of C and D face each other. E does not have a corner office. F's office is further down the corridor than A's, but on the same side. **(+2.5, -0.83)**

If E sits in his office and faces the corridor, whose office is to his left?

a. A

b. B

c. C

d. D

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26. Directions : Read the following information and answer the two items that follow. The plan of an office block for six officers A, B, C, D, E and F is as follows : Both B and C occupy offices to the right of the corridor (as one enters the office block) and A occupies on the left of the corridor. E and F occupy offices on opposite sides of the corridor but their offices do not face each other. The offices of C and D face each other. E does not have a corner office. F's office is further down the corridor than A's, but on the same side. **(+2.5, -0.83)**

Who is/are F's immediate neighbour/neighbours?

a. A only

b. A and D

c. C only

d. B and C

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27. **Directions : Read the following four passages and answer the items that follow. Your answers to these items should be based on the passages only.** **(+2.5, -0.83)**

Desertification is a term used to explain a process of decline in the biological productivity of an ecosystem, leading to total loss of productivity. While this phenomenon is often linked to the arid, semi-arid and sub-humid ecosystems, even in the humid tropics, the impact could be most dramatic. Impoverishment of human-impacted terrestrial ecosystems may exhibit itself in a variety of ways : accelerated erosion as in the mountain regions of the country, salinization of land as in the semi-arid and arid 'green revolution' areas of the country, e.g., Haryana and western Uttar Pradesh, and site quality decline-a common phenomenon due to general decline in tree cover

and monotonous monoculture of rice/wheat across the Indian plains. A major consequence of deforestation is that it relates to adverse alterations in the hydrology and related soil and nutrient losses. The consequences of deforestation invariably arise out of site degradation through erosive losses. Tropical Asia, Africa and South America have the highest levels of erosion. The already high rates for the tropics are increasing at an alarming rate (e.g., through the major river systems-Ganga and Brahmaputra, in the Indian context), due to deforestation and ill-suited land management practices subsequent to forest clearing. In the mountain context, the declining moisture retention of the mountain soils, drying up of the underground springs and smaller rivers in the Himalayan region could be attributed to drastic changes in the forest cover. An indirect consequence is drastic alteration in the upland-lowland interaction, mediated through water. The current concern the tea planter of Assam has is about the damage to tea plantations due to frequent inundation along the flood-plains of Brahmaputra, and the damage to tea plantation and the consequent loss in tea productivity is due to rising level of the river bottom because of siltation and the changing course of the river system. The ultimate consequences of site desertification are soil degradation, alteration in available water and its quality, and the consequent decline in food, fodder and fuel-wood yields essential for the economic well-being of rural communities.

According to the passage, which of the following are the consequences of decline in forest cover?

1. Loss of topsoil

2. Loss of smaller rivers

3. Adverse effect on agricultural production

4. Declining of groundwater

Select the correct answer using the code given below.

a. 1, 2 and 3 only

b. 2, 3 and 4 only

c. 1 and 4 only

d. 1, 2, 3 and 4

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28. Directions : Read the following four passages and answer the items that follow. Your answers to these items should be based on the passages only. **(+2.5, -0.83)**

Desertification is a term used to explain a process of decline in the biological productivity of an ecosystem, leading to total loss of productivity. While this phenomenon is often linked to the arid, semi-arid and sub-humid ecosystems, even in the humid tropics, the impact could be most dramatic. Impoverishment of human-impacted terrestrial ecosystems may exhibit itself in a variety of ways : accelerated erosion as in the mountain regions of the country, salinization of land as in the semi-arid and arid 'green revolution' areas of the country, e.g., Haryana and western Uttar Pradesh, and site quality decline-a common phenomenon due to general decline in tree cover and monotonous monoculture of rice/wheat across the Indian plains. A major consequence of deforestation is that it relates to adverse alterations in the hydrology and related soil and nutrient losses. The consequences of deforestation invariably arise out of site degradation through erosive losses. Tropical Asia, Africa and South America have the highest levels of erosion. The already high rates for the tropics are increasing at an alarming rate (e.g., through the major river systems-Ganga and Brahmaputra, in the Indian context), due to deforestation and ill-suited land management practices subsequent to forest clearing. In the mountain context, the declining moisture retention of the mountain soils, drying up of the underground springs and smaller rivers in the Himalayan region could be attributed to drastic changes in the forest cover. An indirect consequence is drastic alteration in the upland-lowland interaction, mediated through water. The current

concern the tea planter of Assam has is about the damage to tea plantations due to frequent inundation along the flood-plains of Brahmaputra, and the damage to tea plantation and the consequent loss in tea productivity is due to rising level of the river bottom because of siltation and the changing course of the river system. The ultimate consequences of site desertification are soil degradation, alteration in available water and its quality, and the consequent decline in food, fodder and fuel-wood yields essential for the economic well-being of rural communities.

Which of the following is/are the***correct inference/ inferences***that can be made from the passage?

1. Deforestation can cause changes in the course of rivers.

2. Salinization of land takes place due to human activities only.

3. Intense monoculture practice in plains is a major reason for desertification in Tropical Asia, Africa and South America.

Select the correct answer using the code given below.

a. 1 only

b. 1 and 2 only

c. 2 and 3 only

d. None of the above is a correct inference

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29. Directions : Read the following four passages and answer the items that follow. Your answers to these items should be based on the passages only. **(+2.5, -0.83)**

Desertification is a term used to explain a process of decline in the biological productivity of an ecosystem, leading to total loss of productivity. While this phenomenon is often linked to the arid, semi-

arid and sub-humid ecosystems, even in the humid tropics, the impact could be most dramatic. Impoverishment of human-impacted terrestrial ecosystems may exhibit itself in a variety of ways : accelerated erosion as in the mountain regions of the country, salinization of land as in the semi-arid and arid 'green revolution' areas of the country, e.g., Haryana and western Uttar Pradesh, and site quality decline-a common phenomenon due to general decline in tree cover and monotonous monoculture of rice/wheat across the Indian plains. A major consequence of deforestation is that it relates to adverse alterations in the hydrology and related soil and nutrient losses. The consequences of deforestation invariably arise out of site degradation through erosive losses. Tropical Asia, Africa and South America have the highest levels of erosion. The already high rates for the tropics are increasing at an alarming rate (e.g., through the major river systems-Ganga and Brahmaputra, in the Indian context), due to deforestation and ill-suited land management practices subsequent to forest clearing. In the mountain context, the declining moisture retention of the mountain soils, drying up of the underground springs and smaller rivers in the Himalayan region could be attributed to drastic changes in the forest cover. An indirect consequence is drastic alteration in the upland-lowland interaction, mediated through water. The current concern the tea planter of Assam has is about the damage to tea plantations due to frequent inundation along the flood-plains of Brahmaputra, and the damage to tea plantation and the consequent loss in tea productivity is due to rising level of the river bottom because of siltation and the changing course of the river system. The ultimate consequences of site desertification are soil degradation, alteration in available water and its quality, and the consequent decline in food, fodder and fuel-wood yields essential for the economic well-being of rural communities.

With reference to 'desertification', as described in the passage, the following assumptions have been made :

1. Desertification is a phenomenon in tropical areas only.

2. Deforestation invariably leads to floods and desertification.

Which of the above assumptions is/are valid?

a. 1 only

b. 2 only

c. Both 1 and 2

d. Neither 1 nor 2

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30. Read the following passage and answer the items that follow. Your answers to these items should be based on the passage only. **(+2.5, -0.83)**

A diversity of natural assets will be needed to cope with climate change and ensure productive agriculture, forestay, and fisheries. For example, crop varieties are needed that perform well under drought, heat, and enhanced CO_2. But the private-sector and farmer-led process of choosing crops favours homogeneity adapted to past or current conditions, not varieties capable of producing consistently high yields in warmer, wetter, or drier conditions. Accelerated breeding programmes are needed to conserve a wider pool of genetic resources of existing crops, breeds, and their wild relatives. Relatively intact ecosystems, such as forested catchments, mangroves, wetlands, can buffer the impacts of climate change. Under a changing climate, these ecosystems are themselves at risk, and management approaches will need to be more proactive and adaptive. Connections between natural areas, such as migration corridors, may be needed to facilitate species movements to keep up with the change in climate.

With reference to the above passage, which of the following would assist us in coping with the climate change?

1. Conservation of natural water sources

2. Conservation of wider gene pool

3. Existing crop management practices

4. Migration corridors

Select the correct answer using the code given below.

a. 1, 2 and 3 only

b. 1, 2 and 4 only

c. 3 and 4 only

d. 1, 2, 3 and 4

---

31. Read the following passage and answer the items that follow. Your answers to these items should be based on the passage only. **(+2.5, -0.83)**

A diversity of natural assets will be needed to cope with climate change and ensure productive agriculture, forestay, and fisheries. For example, crop varieties are needed that perform well under drought, heat, and enhanced CO_2. But the private-sector and farmer-led process of choosing crops favours homogeneity adapted to past or current conditions, not varieties capable of producing consistently high yields in warmer, wetter, or drier conditions. Accelerated breeding programmes are needed to conserve a wider pool of genetic resources of existing crops, breeds, and their wild relatives. Relatively intact ecosystems, such as forested catchments, mangroves, wetlands, can buffer the impacts of climate change. Under a changing climate, these ecosystems are themselves at risk, and management approaches will need to be more proactive and adaptive. Connections between natural areas, such as migration corridors, may be needed to facilitate species movements to keep up with the change in climate.

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

1. Diversification of livelihoods acts as a coping strategy for climate change.

2. Adoption of monocropping practice leads to the extinction of plant varieties and their wild relatives.

Which of the above assumptions is/are valid?

a. 1 only

b. 2 only

c. Both 1 and 2

d. Neither 1 nor 2

---

32. Read the following passage and answer the item that follows. Your answer to this item should be based on the passage only. **(+2.5, -0.83)**

Today, the top environmental challenge is a combination of people and their aspirations. If the aspirations are more like the frugal ones we had after the Second World War, a lot more is possible than if we view the planet as a giant shopping mall. We need to get beyond the fascination with glitter and understand that the planet works as a biological system.

Which of the following is the most ***crucial and logical inference*** that can be made from the above passage?

a. The Earth can meet only the basic needs of humans for food, clothing and shelter.

b. The only way to meet environmental challenge is to limit human population.

c. Reducing our consumerism is very much in our own interest.

d. Knowledge of biological systems can only help us save this planet.

---

33. Read the following passage and answer the item that follows. Your answer to this item should be based on the passage only. **(+2.5, -0.83)**

Some people believe that leadership is a quality which you have at birth or not at all. This theory is false, for the art of leadership can be acquired and can indeed be taught. This discovery is made in time of war and the results achieved can surprise even the instructors. Faced with the alternatives of going left or right, every soldier soon grasps that a prompt decision either way is better than an endless discussion. A firm choice of direction has an even chance of being right while to do nothing will be almost certainly wrong.

The author of the passage holds the view that

a. leadership can be taught through war experience only

b. leadership can be acquired as well as taught

c. the results of training show that more people acquire leadership than are expected

d. despite rigorous instruction, very few leaders are produced

---

34. A number consists of three digits of which the middle one is zero and their sum is 4. If the number formed by interchanging the first and last digits is greater than the number itself by 198, then the difference between the first and last digits is **(+2.5, -0.83)**

a. 1

b. 2

c. 3

d. 4

---

35. A solid cube of 3 cm side, painted on all its faces, is cut up into small cubes of 1 cm side. How many of the small cubes will have exactly two painted faces? **(+2.5, -0.83)**

a. 12

b. 8

c. 6

d. 4

---

36. While writing all the numbers from 700 to 1000, how many numbers occur in which the digit at hundred's place is greater than the digit at ten's place, and the digit at ten's place is greater than the digit at unit's place? **(+2.5, -0.83)**

a. 61

b. 64

c. 85

d. 91

---

37. If Pen < Pencil, Pencil < Book and Book > Cap, then which one of the following is always true? **(+2.5, -0.83)**

a. Pen > Cap

b. Pen < Book

c. Pencil = Cap

d. Pencil > Cap

---

38. A bookseller sold 'a' number of Geography textbooks at the rate of Rs. x per book, 'a + 2' number of History textbooks at the rate of Rs. (x + 2) per book and 'a - 2' number of Mathematics textbooks at the rate of Rs. (x - 2) per book. What is his total sale in Rs. ? **(+2.5, -0.83)**

a. 3x + 3a

b. 3ax + 8

c. 9ax

d. x^3a^3

---

39. A bag contains 15 red balls and 20 black balls. Each ball is numbered either 1 or 2 or 3. 20% of the red balls are numbered 1 and 40% of them are numbered 3. Similarly, among the black balls, 45% are numbered 2 and 30% are numbered 3. A boy picks a ball at random. He wins if the ball is red and numbered 3 or if it is black and numbered 1 or 2. What are the chances of his winning? **(+2.5, -0.83)**

a. $\frac{1}{2}$

b. $\frac{4}{7}$

c. $\frac{5}{9}$

d. $\frac{12}{13}$

---

40. Two persons, A and B are running on a circular track. At the start, B is ahead of A and their positions make an angle of 30° at the centre of the circle. When A reaches the point diametrically opposite to his starting point, he meets B. What is the ratio of speeds of A and B, if they are running with uniform speeds? **(+2.5, -0.83)**

a. 6 : 5

b. 4 : 3

c. 6 : 1

d. 4 : 2

---

41. A student has to get 40% marks to pass in an examination. Suppose he gets 30 marks and fails by 30 marks, then what are the maximum marks in the examination? **(+2.5, -0.83)**

a. 100

b. 120

c. 150

d. 300

---

42. 19 boys turn out for playing hockey. Of these, 11 are wearing hockey shirts and 14 are wearing hockey pants. There are no boys without shirts and/or pants. What is the number of boys wearing full uniform? **(+2.5, -0.83)**

a. 3

b. 5

c. 6

d. 8

---

43. **Directions :** Read the information given below and answer the six items that follow. **(+2.5, -0.83)**

A, B, C and D are students. They are studying in four different cities, viz., P, Q, R and S (not necessarily in that order). They are studying in Science college, Arts college, Commerce college and Engineering college (not necessarily in that order), which are situated in four different States, viz., Gujarat, Rajasthan, Assam and Kerala (not necessarily in that order). Further, it is given that -

(i) D is studying in Assam

(ii) Arts college is located in city S which is in Rajasthan

(iii) A is studying in Commerce college

(iv) B is studying in city Q

(v) Science college is located in Kerala

A is studying in

a. Rajasthan

b. Gujarat

c. city Q

d. Kerala

---

44. **Directions :** Read the information given below and answer the six items that follow. **(+2.5, -0.83)**

A, B, C and D are students. They are studying in four different cities, viz., P, Q, R and S (not necessarily in that order). They are studying in Science college, Arts college, Commerce college and Engineering college (not necessarily in that order), which are situated in four different States, viz., Gujarat, Rajasthan, Assam and Kerala (not necessarily in that order). Further, it is given that -

(i) D is studying in Assam

(ii) Arts college is located in city S which is in Rajasthan

(iii) A is studying in Commerce college

(iv) B is studying in city Q

(v) Science college is located in Kerala

Science college is located in

a. city Q

b. city S

c. city R

d. city P

---

45. Directions : Read the information given below and answer the six items that follow. **(+2.5, -0.83)**

A, B, C and D are students. They are studying in four different cities, viz., P, Q, R and S (not necessarily in that order). They are studying in Science college, Arts college, Commerce college and Engineering college (not necessarily in that order), which are situated in four different States, viz., Gujarat, Rajasthan, Assam and Kerala (not necessarily in that order). Further, it is given that -

(i) D is studying in Assam

(ii) Arts college is located in city S which is in Rajasthan

(iii) A is studying in Commerce college

(iv) B is studying in city Q

(v) Science college is located in Kerala

C is studying in

a. Science college

b. Rajasthan

c. Gujarat

d. city Q

---

46. Directions : Read the information given below and answer the six items that follow. **(+2.5, -0.83)**

A, B, C and D are students. They are studying in four different cities, viz., P, Q, R and S (not necessarily in that order). They are studying in Science college, Arts college, Commerce college and Engineering college (not necessarily in that order), which are situated in four different States, viz., Gujarat, Rajasthan, Assam and Kerala (not necessarily in that order). Further, it is given that -

(i) D is studying in Assam

(ii) Arts college is located in city S which is in Rajasthan

(iii) A is studying in Commerce college

(iv) B is studying in city Q

(v) Science college is located in Kerala

Which one of the following statements is correct?

a. D is not studying in city S

b. A is studying in Science college.

c. A is studying in Kerala.

d. Engineering college is located in Gujarat.

---

47. **Directions :** Read the information given below and answer the six items that follow. **(+2.5, -0.83)**

A, B, C and D are students. They are studying in four different cities, viz., P, Q, R and S (not necessarily in that order). They are studying in Science college, Arts college, Commerce college and Engineering college (not necessarily in that order), which are situated in four different States, viz., Gujarat, Rajasthan, Assam and Kerala (not necessarily in that order). Further, it is given that -

(i) D is studying in Assam

(ii) Arts college is located in city S which is in Rajasthan

(iii) A is studying in Commerce college

(iv) B is studying in city Q

(v) Science college is located in Kerala

Which one of the following statements is correct regarding Engineering college?

a. C is studying there.

b. B is studying there.

c. B It is located in Gujarat.

d. D is studying there.

48. **Directions :** Read the information given below and answer the six items that follow. **(+2.5, -0.83)**

A, B, C and D are students. They are studying in four different cities, viz., P, Q, R and S (not necessarily in that order). They are studying in Science college, Arts college, Commerce college and Engineering college (not necessarily in that order), which are situated in four different States, viz., Gujarat, Rajasthan, Assam and Kerala (not necessarily in that order). Further, it is given that -

(i) D is studying in Assam

(ii) Arts college is located in city S which is in Rajasthan

(iii) A is studying in Commerce college

(iv) B is studying in city Q

(v) Science college is located in Kerala

Which one of the following statements is correct?

a. Engineering college is located in Assam.

b. City Q is situated in Assam.

c. C is studying in Kerala.

d. B is studying in Gujarat.

---

49. Read the following passage and answer the item that follows. Your answer to this item should be based on the passage only. **(+2.5, -0.83)**

All actions to address climate change ultimately involve costs. Funding is vital in order for countries like India to design and implement adaptation and mitigation plans and projects. The problem is more

severe for developing countries like India, which would be one of the hardest hit by climate change, given its need to finance development. Most countries do indeed treat climate change as real threat and are striving to address it in a more comprehensive and integrated manner with the limited resources at their disposal.

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

1. Climate change is not a challenge for developed countries.

2. Climate change is a complex policy issue and also a development issue for many countries.

3. Ways and means of finance must be found to enable developing countries to enhance their adaptive capacity.

Which of the above assumptions is/are valid?

a. 1 and 2 only

b. 3 only

c. 2 and 3 only

d. 1, 2 and 3

---

50. Read the following passage and answer the item that follows. Your answer to this item should be based on the passage only. **(+2.5, -0.83)**

Cooking with biomass and coal in India is now recognized to cause major health problems, with women and children in poor populations facing the greatest risk. There are more than 10 lakh premature deaths each year from household air pollution due to polluting cooking fuels with another 1.5 lakh due to their contribution to general outdoor air pollution in the country. Although the fraction of the Indian population using clean cooking fuels, such as LPG, natural gas and electricity, is

slowly rising, the number using polluting solid fuels as their primary cooking fuel has remained static for nearly 30 years at about 70 crore.

Which of the following is the most ***crucial and logical inference*** that can be made from the above passage?

a. Rural people are giving up the use of polluting solid fuels due to then increasing awareness of health hazards.

b. Subsidizing the use of clean cooking fuels will solve the problem of India's indoor air pollution.

c. India should increase its import of natural gas and produce more electricity.

d. Access to cooking gas can reduce premature deaths in poor households.

---

51. Read the following passage and answer the item that follows. Your answer to this item should be based on the passage only. **(+2.5, -0.83)**

Scientific knowledge has its dangers, but so has every great thing. Over and beyond the dangers with which it threatens the present, it opens up as nothing else can, the vision of a possible happy world; a world without poverty, without war, with little illness. Science, whatever unpleasant consequences it may have by the way, is in its very nature a liberator.

Which one of the following is the most important implication of the passage?

a. A happy world is a dream of science.

b. Science only can build a happy world, but it is also the only major threat.

c. A happy world is not possible without science.

d. A happy world is not at all possible with or without science.

---

52. Read the following passage and answer the item that follows. Your answer to this item should be based on the passage only. **(+2.5, -0.83)**

The Arctic's vast reserves of fossil fuel, fish and minerals are now accessible for a longer period in a year. But unlike Antarctica, which is protected from exploitation by the Antarctic Treaty framed during the Cold War and is not subject to territorial claims by any country, there is no legal regime protecting the Arctic from industrialization, especially at a time when the world craves for more and more resources. The distinct possibility of ice-free summer has prompted countries with Arctic coastline to scramble for great chunks of the melting ocean.

Which one of the following is the most important implication of the passage?

a. India can have territorial claims in the Arctic territory and free access to its resources.

b. Melting of summer ice in the Arctic leads to changes in the geopolitics.

c. The Arctic region will solve the world's future problem of resource crunch.

d. The Arctic region has more resources than Antarctica.

---

53. Read the following passage and answer the item that follows. Your answer to this item should be based on the passage only. **(+2.5, -0.83)**

Being a member of the WTO, India is bound by the agreements that have been signed and ratified by its members, including itself.

According to Article 6 of the Agriculture Agreement, providing minimum support prices for agricultural products is considered distorting and is subject to limits. The subsidy arising from 'minimal supports' cannot exceed 10 per cent of the value of agricultural production for developing countries. PDS in India entails minimum support prices and public stockholding of food grains. It is possible that, in some years, the subsidy to producers will exceed 10 per cent of the value of agricultural production.

What is the crucial message conveyed by the above passage?

a. India should revise its PDS.

b. India should not be a member of WTO.

c. For India, food security collides with trade.

d. India provides food security to its poor.

---

54. Read the following passage and answer the item that follows. Your answer to this item should be based on the passage only. **(+2.5, -0.83)**

India's educational system is modelled on the mass education system that developed in the 19th century in Europe and later spread around the world. The goal of the system is to condition children as 'good' citizens and productive workers. This suited the industrial age that needed the constant supply of a compliant workforce with a narrow set of capabilities. Our educational institutes resemble factories with bells, uniforms and batch-processing of learners, designed to get learners to conform. But, from an economic point of view, the environment today is very different. It is a complex, volatile and globally interconnected world.

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

1. India continues to be a developing country essentially due to its faulty education system.

2. Today's learners need to acquire new-age skill-sets.

3. A good number of Indians go to some developed countries for education because the educational systems there are a perfect reflection of the societies in which they function.

Which of the above assumptions is/are valid?

a. 1 and 3 only

b. 2 only

c. 2 and 3 only

d. 1, 2 and 3

---

55. Read the following passage and answer the item that follows. Your answer to this item should be based on the passage only. **(+2.5, -0.83)**

The practice of dieting has become an epidemic; everyone is looking out for a way to attain that perfect body. We are all different with respect to our ethnicity, genetics, family history, gender, age, physical and mental and spiritual health status, lifestyles and preferences. Thereby we also differ in what foods we tolerate or are sensitive to. So we really cannot reduce so many complexities into one diet or diet book. This explains the failure of diets across the world in curbing obesity. Unless the reasons for weight gain are well understood and addressed and unless habits are changed permanently, no diet is likely to succeed.

What is the most logical and rational inference that can be made from the above passage?

a. Obesity has become an epidemic all over the world.

b. A lot of people are obsessed with attaining a perfect body.

c. Obesity is essentially an incurable disease.

d. There is no perfect diet or one solution for obesity.

---

56. Read the following passage and answer the item that follows. Your answer to this item should be based on the passage only. **(+2.5, -0.83)**

Monoculture carries great risks. A single disease or pest can wipe out swathes of the world's food production, an alarming prospect given that its growing and wealthier population will eat 70% more by 2050. The risks are magnified by the changing climate. As the planet warms and monsoon rains intensify, farmlands in Asia will flood. North America will suffer more intense droughts, and crop diseases will spread to new latitudes.

Which of the following is the most logical, rational and crucial message given by the passage?

a. Preserving crop genetic diversity is an insurance against the effects of climate change.

b. Despite great risks, monoculture is the only way to ensure food security in the world.

c. More and more genetically modified crops only can save the world from impending shortages of food.

d. Asia and North America will be worst sufferers from climate change and the consequent shortage of food.

---

57. A shopkeeper sells an article at Rs. 40 and gets X% profit. However, when he sells it at Rs. 20, he faces same percentage of loss. What is the original cost of the article? **(+2.5, -0.83)**

a. Rs. 10

b. Rs. 20

c. Rs. 30

d. Rs. 40

---

58. There are 24 equally spaced points lying on the circumference of a circle. What is the maximum number of equilateral triangles that can be drawn by taking sets of three points as the vertices? **(+2.5, -0.83)**

a. 4

b. 6

c. 8

d. 12

---

59. Consider the sequence given below : **(+2.5, -0.83)**

4/12/95, 1/1/96, 29/1/96, 26/2/96, ____

What is the next term of the series?

a. 24/3/96

b. 25/3/96

c. 26/3/96

d. 27/3/96

---

60. Twelve equal squares are placed to fit in a rectangle of diagonal 5 cm. There are three rows containing four squares each. No gaps are left between adjacent squares. What is the area of each square? **(+2.5, -0.83)**

a. $\frac{5}{7}$ sq.cm

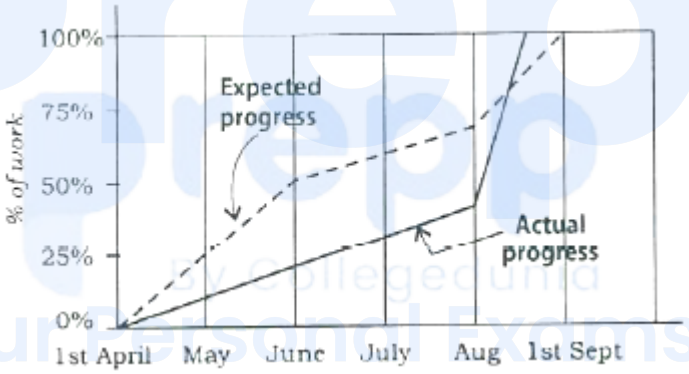
b. $\frac{5}{8}$ sq.cm

c. 1 sq. cm

d. $\frac{25}{12}$ sq.cm

---

61. Consider the following graph: **(+2.5, -0.83)**



Which one of the following statements is not correct with reference to the graph given above? (a) (b) (c) (d)

a. On 1st June, the actual progress of work was less than expected.

b. The actual rate of progress of work was the greatest during the month of August.

c. The work was actually completed before the expected time.

d. During the period from 1st April to 1st September, at no time was the actual progress more than the expected progress.

62. For a sports meet, a winners' stand comprising three wooden blocks is in the following form : **(+2.5, -0.83)**

There are six different colours available to choose from and each of the three wooden blocks is to be painted such that no two of them has the same colour. In how many different ways can the winners' stand be painted?

a. 120

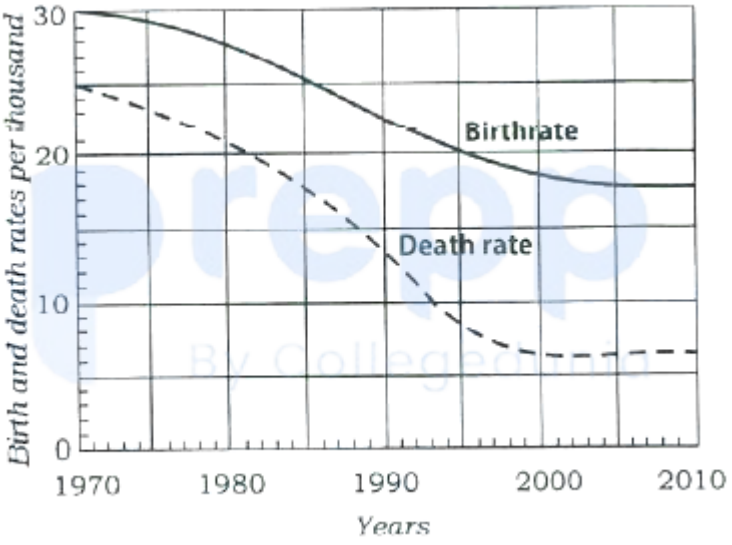
b. 81

c. 66

d. 36

---

63. **Directions:** Consider the following graph in which the birthrate and death rate of a country are given, two items that follow. **(+2.5, -0.83)**



Looking at the graph, it can be inferred that from 1990 to 2010

a. population growth rate has increased

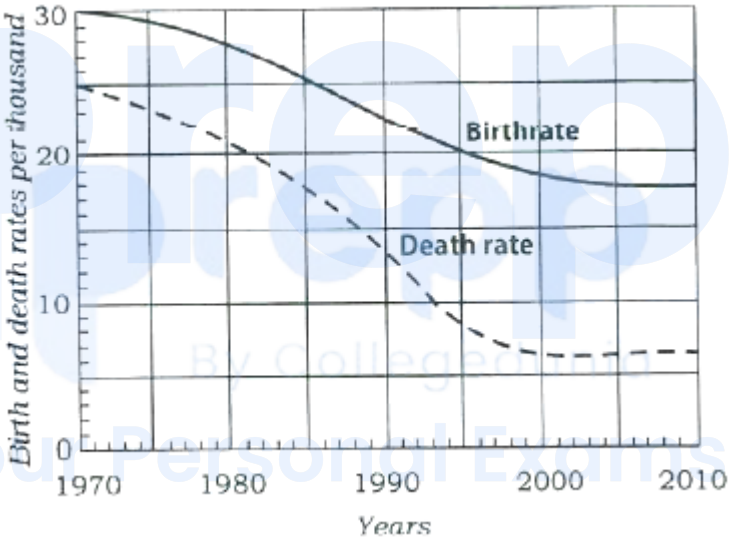
b. population growth rate has decreased

c. growth rate of population has remained stable

d. population growth rate shows no trend

---

64. Directions: Consider the following graph in which the birthrate and death rate of a country are given, two items that follow. **(+2.5, -0.83)**



With reference to the above graph, consider the following statements considering 1970 as base year :

1. Population has stabilized after 35 years.

2. Population growth rate has stabilized after 35 years.

3. Death rate has fallen by 10% in the first 10 years.

4. Birthrate has stabilized after 35 years.

Which of the above are the most logical and rational statements that can be made from the above graph?

a. 1 and 2 only

b. 1, 2 and 3

c. 3 and 4

d. 2 and 4

---

65. The average hourly earnings per year (E) of the workers in a firm are represented in figures A and B as follows: **(+2.5, -0.83)**

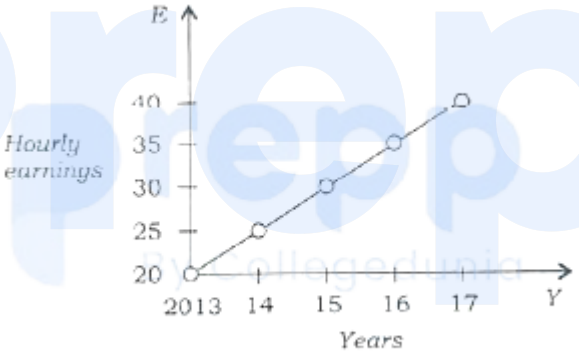


Fig. A

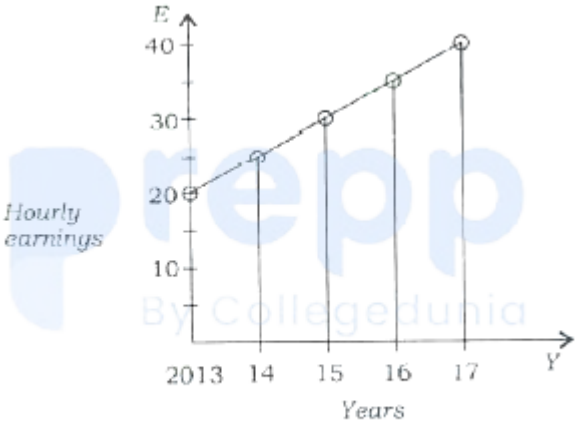


Fig. B

From the figures, it is observed that the

a. Values of E are different

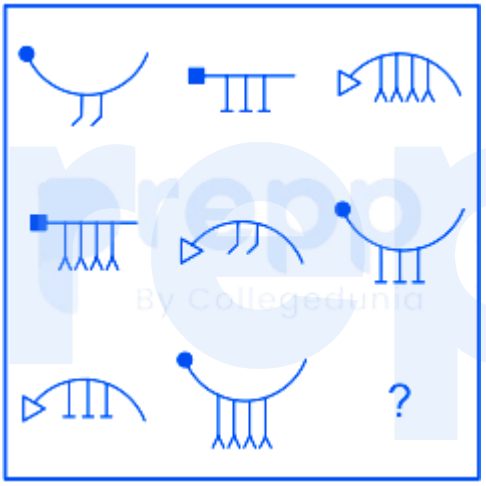
b. ranges (i.e., the difference between the maximum and the minimum) of E are different

c. slopes of the graphs are same

d. rates of increase of E are different

---

66. Consider the following given below: **(+2.5, -0.83)**



To fit the question mark, the correct answer is

a. 

b. 

c. 

d. 

---

67. Consider the following figures A and B: **(+2.5, -0.83)**

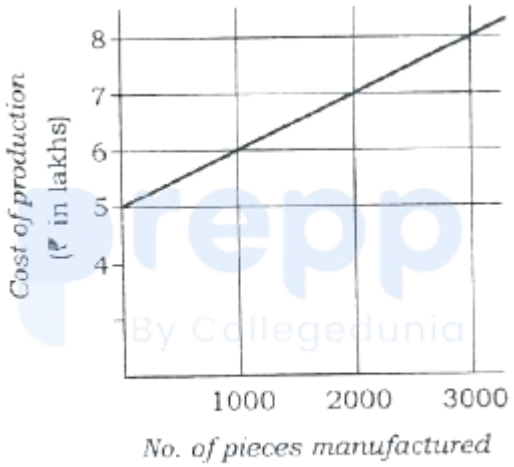


Fig. A

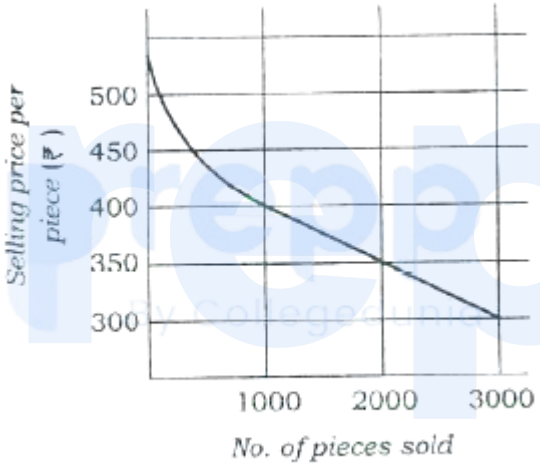


Fig. B

The manufacturing cost and projected sales for a product are shown in the above figures A and B respectively. What is the minimum number of pieces that should be manufactured to avoid a loss?

a. 2000

b. 2500

c. 3000

d. 3500

68. A lift has the capacity of 18 adults or 30 children. How many children can board the lift with 12 adults? **(+2.5, -0.83)**

a. 6

b. 10

c. 12

d. 15

---

69. A person bought a refrigerator worth Rs. 22,800 with 12.5% interest compounded yearly. At the end of first year he paid Rs. 8,650 and at the end of second year Rs. 9,125. How much will he have to pay at the end of third year to clear the debt? **(+2.5, -0.83)**

a. Rs. 9,990

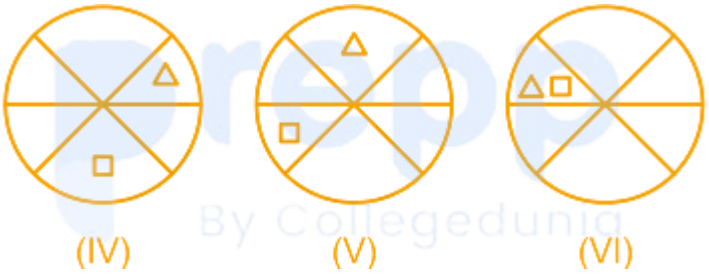
b. Rs. 10,000

c. Rs. 10,590

d. Rs. 11,250

---

70. Consider the following figures: **(+2.5, -0.83)**



In the figure (I) to (VI) above, some parts are shown to change their positions in regular directions. Following the same sequence, which of the figures given below will appear at (VII) stage?

a. 

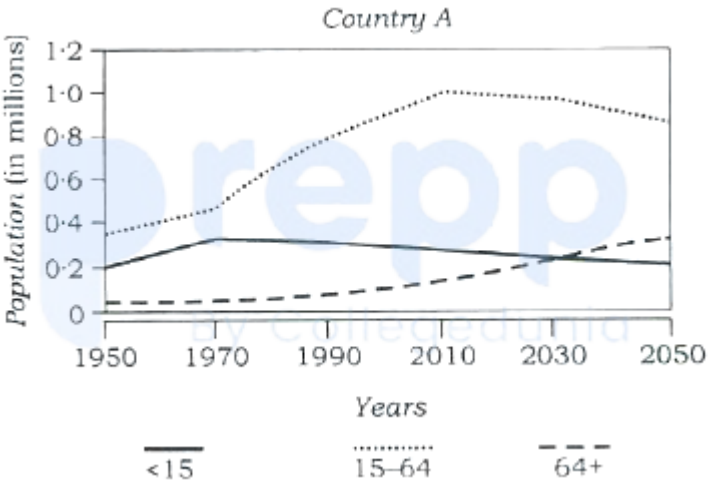
b. 

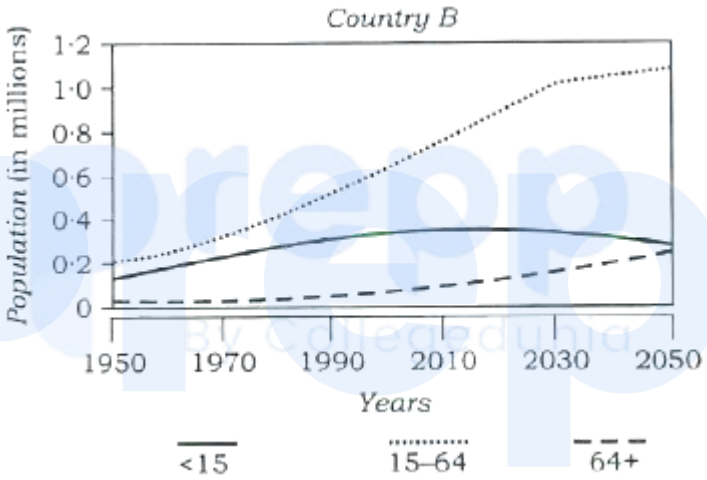
c. 

d. 

---

71. Consider the following graphs. The curves in the graphs indicate different age groups in the populations of two countries A and B over a period of few decades: **(+2.5, -0.83)**





With reference to the above graphs, which of the following are the most logical and rotational inferences that can be made?

1. Over the last two and a half decades, the dependency ratio for country B has decreased.

2. By the end of the next two and a half decades, the dependency ratio of country A and be much less than that of country B.

3. In the next two decades, the work-force relative to its total population will increase in country B as compared to country A.

Select the correct answer using the code given below.

a. 1 and 2 only

b. 2 and 3 only

c. 1 and 3 only

d. 1, 2 and 3

---

72. Lakshmi, her brother, her daughter and her son are badminton players. A game of doubles is about to begin: **(+2.5, -0.83)**

(i) Lakshmi's brother is directly across the net from her daughter.

(ii) Her son is diagonally across the net from the worst player's sibling.

(iii) The best player and the worst player are on the same side of the net.

Who is the best player?

a. Her brother

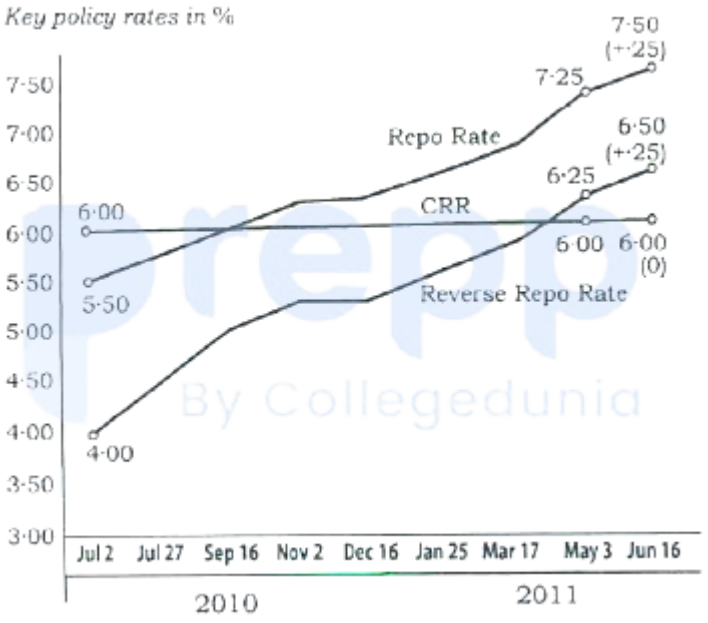
b. Her daughter

c. Her son

d. Lakshmi

---

73. The graph given below indicates the changes in key policy rates made by the Central Bank several times in a year: **(+2.5, -0.83)**



Which one of the following can be the most likely reason for the Central bank for such an action?

a. Encouraging foreign investment

b. Increasing the liquidity

c. Encouraging both public and private savings

d. Anti-inflationary stance

---

74. **Directions:** The following table gives the GDP growth rate and Tele-density data of different States of a country in a particular year. Study the table and answer the two items that follow. **(+2.5, -0.83)**

States	Per Capita income ($)	GDP growth rate (%)	Tele-density
State 1	704	9.52	70.27
State 2	419	5.31	35.88
State 3	254	10.83	50.07
State 4	545	9.78	5.94
State 5	891	10.8	76.12
State 6	1077	11.69	77.5
State 7	900	8.88	104.86
State 8	395	5.92	6
State 9	720	7.76	82.25
State 10	893	9.55	96.7
State 11	363	4.7	57.7

State 12	966	7.85	63.8
State 13	495	9.37	52.3
State 14	864	5.46	97.9
State 15	497	7.48	62.3
State 16	777	7.03	93.8
State 17	335	5.8	49.9
State 18	599	7.49	47.84

With reference to the above table, which of the following is/are the most logical and rational inference/inferences that can be made?

1. Higher per capita income is generally associated with higher Tele-density.

2. Higher GDP growth rate always ensures higher per capita income.

3. Higher GDP growth rate does not necessarily ensure higher Tele-density.

Select the correct answer using the code given below.

a. 1 only

b. 2 and 3

c. 1 and 3

d. 3 only

---

75. **Directions:** The following table gives the GDP growth rate and Tele-density data of different States of a country in a particular year. Study the table and answer the two items that follow. **(+2.5, -0.83)**

States	Per Capita income ($)	GDP growth rate (%)	Tele-density
State 1	704	9.52	70.27
State 2	419	5.31	35.88
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State 6	1077	11.69	77.5
State 7	900	8.88	104.86
State 8	395	5.92	6
State 9	720	7.76	82.25
State 10	893	9.55	96.7
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State 12	966	7.85	63.8
State 13	495	9.37	52.3
State 14	864	5.46	97.9
State 15	497	7.48	62.3
State 16	777	7.03	93.8
State 17	335	5.8	49.9
State 18	599	7.49	47.84

With reference to the above table, the following assumptions have been made:

1. Nowadays, the prosperity of an already high performing State cannot be sustained without making further large investments in its telecom infrastructure.

2. Nowadays, a very high Tele-density is the most essential condition for promoting business and economic growth in a Stage.

Which of the above assumptions is/are valid?

a. 1 only

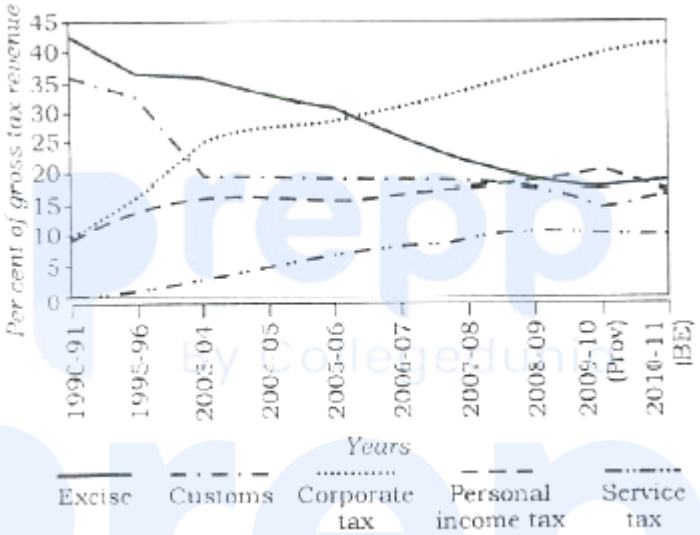
b. 2 only

c. Both 1 and 2

d. Neither 1 nor 2

---

76. The following graph indicates the composition of our tax revenue for a period of two decades: **(+2.5, -0.83)**



With reference to the above graph, which of the following is/are the most logical and rational inference/inferences that can be made?

1. During the given period, the revenue from Direct Taxer as percentage of gross tax revenue has increased while that of Indirect Taxes decreased.

2. The trend in the revenue from Excise Duty demonstrates that the growth of manufacturing vector has been negative during the given period.

Select the correct answer using the code given below.

a. 1 only

b. 2 only

c. Both 1 and 2

d. Neither 1 nor 2

77. If x - y = 8, then which of the following must be true? **(+2.5, -0.83)**

1. Both x and y must be positive for any value of x and y.

2. If x is positive, y must be negative for any value of x and y.

3. If x is negative, y must be positive for any value of x and y.

Select the correct answer using the code given below.

a. 1 only

b. 2 only

c. Both 1 and 2

d. Neither 1 nor 2 nor 3

---

78. Read the following passage and answer the item that follows. Your answer to this item should be based on the passage only. **(+2.5, -0.83)**

The quest for cheap and plentiful meat has resulted in factory farms where more and more animals are squeezed into smaller lots in cruel and shocking conditions. Such practices have resulted in many of the world's health pandemics such as the avian flu. Worldwide, livestock are increasingly raised in cruel, cramped conditions, where animals spend their short lives under artificial light, pumped full of antibiotics and growth hormones, until the day they are slaughtered. Meat production is water-intensive. 15000 litres of water is needed for every kilogram of meat compared with 3400 litres for rice, 3300 litres for eggs and 255 litres for a kilogram of potatoes.

What is the most rational and crucial message given by the passage?

a. Mass production of meat through industrial farming is cheap and is suitable for providing protein nutrition to poor countries.

b. Meat-producing industry violates the laws against cruelty to animals.

c. Mass production of meat through industrial farming is undesirable and should be stopped immediately.

d. Environmental cost of meat production is unsustainable when it is produced through industrial farming.

---

79. Read the following passage and answer the item that follows. Your answer to this item should be based on the passage only. **(+2.5, -0.83)**

A male tiger was removed from Pench Tiger Reserve and was relocated in Panna National Park. Later, this tiger trekked toward his home 250 miles away. The trek of this solitary tiger highlights a crisis. Many wildlife reserves exist as islands of fragile habitat in a vast sea of humanity, yet tigers can range over a hundred miles, seeking prey, mates and territory. Nearly a third of India's tigers live outside tiger reserves, a situation that is dangerous for both human and animal. Prey and tigers can only disperse if there are recognized corridors of land between protected areas to allow unmolested passage.

Which of the following is the ***most rational and crucial message*** given by the passage?

a. The conflict between man and wildlife cannot be resolved, no matter what efforts we make.

b. Safe wildlife corridors between protected areas is an essential aspect of conservation efforts.

c. India needs to declare more protected areas and set up more tiger reserves.

d. India's National Parks and Tiger Reserves need to be professionally managed.

80. Read the following passage and answer the item that follows. Your answer to this item should be based on the passage only. **(+2.5, -0.83)**

A male tiger was removed from Pench Tiger Reserve and was relocated in Panna National Park. Later, this tiger trekked toward his home 250 miles away. The trek of this solitary tiger highlights a crisis. Many wildlife reserves exist as islands of fragile habitat in a vast sea of humanity, yet tigers can range over a hundred miles, seeking prey, mates and territory. Nearly a third of India's tigers live outside tiger reserves, a situation that is dangerous for both human and animal. Prey and tigers can only disperse if there are recognized corridors of land between protected areas to allow unmolested passage.

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

1. The strategy of conservation of wildlife by relocating them from one protected area to another is no often successful.

2. India does not have suitable legislation to save the tigers, and it: conservation efforts have failed which forced the tigers to live outside protected areas.

Which of the above assumptions is/are valid?

a. 1 only

b. 2 only

c. Both 1 and 2

d. Neither 1 nor 2

Answers

1. **Answer: b**

Explanation:

In this figure, there are 5 triangles on the top. Similarly, 5 triangles are on bottom.

In the middle portion, 5 triangles are visible in the front. Similarly, 5 triangles are there at the back.

Therefore, the figure has total 20 triangles.

Hence, **option 2** is the correct answer.

---

2. **Answer: d**

Explanation:

1) 4 + 1 4 + 2 4 + 4 3 + 4 1 = 2 1 4

L.H.S = 4 + 1 4 + 2 4 + 4 3 + 4 1 = **1 2 6 ≠ R.H.S**

2) 5 + 1 5 + 2 5 + 5 3 + 5 1 = 2 1 5

L.H.S = 5 + 1 5 2 5 + 5 3 + 5 1 = **1 4 9 ≠ R.H.S**

3) 6 + 1 6 + 2 6 + 6 3 + 6 1 = 2 1 6

L.H.S = 6 + 1 6 + 2 6 + 6 3 + 6 1 = **1 7 2 ≠ R.H.S**

4) 8 + 1 8 + 2 8 + 8 3 + 8 1 = 2 1 8

L.H.S = 8 + 1 8 + 2 8 + 8 3 + 8 1 = **2 1 8 = R.H.S**

Hence, **8**is the correct answer.

---

3. **Answer: a**

Explanation:

In each column, second element is subtracted from the sum of first and third element to get the fourth element.

Column 1 : (8 + 4) - 6 = 6

Column 2 : (10 + 6) - 5 = 11

Column 3 : (15 + 8) - 7 = 16

Column 4 : (13 + 8) - 4 = 17

Hence, **17** is the correct answer.

---

4. **Answer: a**

Explanation:

Concept used :

Number of diagonals in polygon = [n(n - 3)]/2 (where n is the number of sides)

Calculations :

Here n will be 8 as octagon has 8 sides.

Number of polygons in octagon = [8 × (8 - 3)]/2

⇒ (8 × 5)/2

⇒ 40/2 = 20

∴ **Option 1 will be the right choice.**

---

5. **Answer: c**

Explanation:

Concept used:

Area of rectangle = Length × breadth

Area of triangle = (1/2) × Base × Height

Distance covered 'S' = Area of (V - T) graph

Calculations:

Displacement of vehicle A = Distance covered by A = Area of ΔOPL

⇒ (1/2) × OL × LP

⇒ (1/2) × OL × (LD + PD)

⇒ (1/2) × OL × (LD + LD/2)

⇒ (1/2) × OL × 3LD/2

⇒ 3/4 × OL × LD

Displacement of vehicle B = Distance covered by B = Area of rectangle OLDC

⇒ OL × LD

The ratio between the distances covered by vehicles A and B in the time interval OL

⇒ (Displacement of vehicle A)/Displacement of vehicle B

⇒ ((3/4) × OL × LD)/(OL × LD)

⇒ 3/4

∴ The ratio between the distances covered by vehicles A and B in the time interval OL is 3 : 4

6. **Answer: d**

Explanation:

Given :

A train 200 metres long is moving at the rate of 40 kmph

Formula used :

Time = Distance/speed

Calculations :

Let the the time to cross man be 't'

t = 200/(100/9) (distance to cover = length of train and speed = 40 km/h = 100/9 m/s)

⇒ 18 seconds

∴ Option 4 is the correct choice.

7. **Answer: a**

Explanation:

The correct answer is **Prosperity of agriculture is of critical importance to India.**

⭐ Key Points

- The given passage talks about the correlation between population growth, economy and changes therein.
- The author argues that population is rapidly increasing around the world but the majority of the population in advanced countries is in secondary/tertiary sectors.

- However, in India, majority of the population (47%) is dependent on agriculture.
- This has crucial implications for the Indian economy.
- In order for Indian economy to perform better, it is crucial that the government take steps to ensure growth and prosperity of agricultural sector.

Thus, the most logical inference that can be drawn from the passage is that prosperity of agriculture is of critical importance to India.

⭐ Additional Information

- Let's look at other options as well:
- Option 2 simply reiterates what has been said in the passage that vast section of Indian population is in agriculture.
- Option 3 states the need for population growth. However, the passage is focused more on employment of population in different sectors of economy rather than the need to control population or adverse effects of large population.
- Option 4 states that shifting to other sectors of population will improve the economic condition of people. This is not definitely true, nor has this been hinted at in the passage.

---

8. **Answer: a**

Explanation:

The correct answer is **"With more options for food, come more risks".**

⭐ Key Points

- In the passage, it has been stated that *since food in our plates comes from various sources in various places, there are multiple originating points of pathogen that lead to foodborne illnesses around the world.*
- It further argues that *rapid globalization is one of the factors that make regulation of food that is reaching our plates difficult.*
- That is, as food in our plates comes from multiple sources and its regulation is not easy, risks fro foodborne illnesses increases.

Therefore, the correct option is that with more options for food, come more risks.

⭐ Mistake Points

- Let's look at other options as well:
- Option 2 states that food processing is the cause of foodborne illnesses. It's not true. Food processing usually helps increase the shelf life of food. Further, it's nowhere hinted at in the passage.
- Option 3 is not the right option. Since the pathogens in our food come from multiple sources, it is not assured that depending on locally produced food only will eliminate foodborne illnesses.
- Option 4 is not the right option as:
    - Curtailing globalization does not seem to be a practical option.
    - The given passage does not talk about the ways to address food-borne illnesses.

---

9. **Answer: d**

Explanation:

The correct answer is **they obstruct her physical and spiritual growth** .

⭐ Key Points

- In the passage, the author has talked about the problems with the past traditions of India.
- According to him/her, our country should get rid of the past bondages because **they prevent the free development of the body and the spirit,** as the given lines contain: *"...and suppress vast numbers of them, and prevent the free development of the body and the spirit; though I seek all this, yet I do not wish to cut myself off from that past completely."*

Thus, the correct answer would be that **they obstruct her physical and spiritual growth.**

---

10. **Answer: b**

Explanation:

The correct answer is " **Science and faith can be mutually complementary if their proper domains are understood** ."

⭐ Key Points

- In the passage, it has been argues that there are some questions to which science can not provide answers.
- In such situations, faith fills in the space.
- However, in today's world, faith is disregarded and science considered as supreme.
- But, the author argues that both faith and science have their own roles.
- Thus, they should exist alongside and accepted as such.

Thus, the correct inference would be that science and faith can be mutually complementary if their proper domains are understood.

⭐ Additional Information

- **Anachronistic:**belonging or appropriate to an earlier period, especially so as to seem conspicuously old-fashioned.
- Example: *"She is rebelling against the anachronistic morality of her parents."*

---

11. **Answer: c**

Explanation:

Concepts used:

Total imports of sheet steel in first three months = Sum of imports of sheet steel in January, February and March

Total imports of coil steel in first three months = Sum of imports of coil steel in January, February and March

Calculation:

Total imports of sheet steel in first 3 months of the year = Sum of imports of sheet steel in January, February and March

⇒ Total imports of sheet steel in first 3 months of the year = (40 + 37 + 36) thousand tons = 113 thousand tons

Total imports of coil steel in first three months of the year = Sum of imports of coil steel in January, February and March

⇒ Total imports of coil steel in first three months = (30 + 33 + 31) thousand tons = 94 thousand tons

The amount by which imports of sheet steel is greater than the imports of coil steel = Total imports of sheet steel in first 3 months of the year - Total imports of coil steel in first 3 months of the year

⇒ 113 - 94 thousand tons = 19 thousand tons

∴ Imports of sheet steel are greater than the imports of coil steel by 19 thousand tons.

---

12. **Answer: c**

Explanation:

Concepts used:

The total cost of sheet steel imported in 6 months = Total amount of sheet steel imported in 6 months × $256 per ton

Calculation:

The total amount of sheet steel imported in 6 months = Sum of imports of sheet steel in January, February, March, April, May and June

⇒ Total amount of sheet steel imported in 6 months = (40 + 37 + 36 + 36 + 36 + 34) thousand tons = 217 thousand tons

Cost of sheet steel per ton = $256 per ton

The total cost of sheet steel imported in 6 months = Total amount of sheet steel imported in 6 months × $256 per ton

The total cost of sheet steel imported in 6 months = Total amount of sheet steel imported in 6 months × $256 per ton

⇒ The total cost of sheet steel imported in 6 months = 217 thousand tons × $256 per ton

⇒ The total cost of sheet steel imported in 6 months = $55,552 thousand

⇒ Approximate cost of steel imported in 6 months = $55,550 thousand

∴ The approximate cost of steel imported in 6 months is $55,550 thousand.

---

13. **Answer: b**

Explanation:

Concepts used:

The ratio of imports of sheet steel to imports of scrap steel in first 3 months of year = Total imports of sheet steel in first 3 months/Total imports of scrap steel in first 3 months

Calculation:

Total imports of sheet steel in first 3 months of the year = Sum of imports of sheet steel in January, February and March

⇒ Total imports of sheet steel in first 3 months of the year = (40 + 37 + 36) thousand tons = 113 thousand tons

Total imports of scrap steel in first three months of the year = Sum of imports of scrap steel in January, February and March

⇒ Total imports of scrap steel in first three months = (32 + 34 + 32) thousand tons = 98 thousand tons

The ratio of imports of sheet steel to imports of scrap steel in first 3 months of year = Total imports of sheet steel in first 3 months/Total imports of scrap steel in first 3 months

⇒ The ratio of imports of sheet steel to imports of scrap steel in the first 3 months of the year = 113 thousand tons/98 thousand tons = 1.153 = 1.2 : 1 approximately

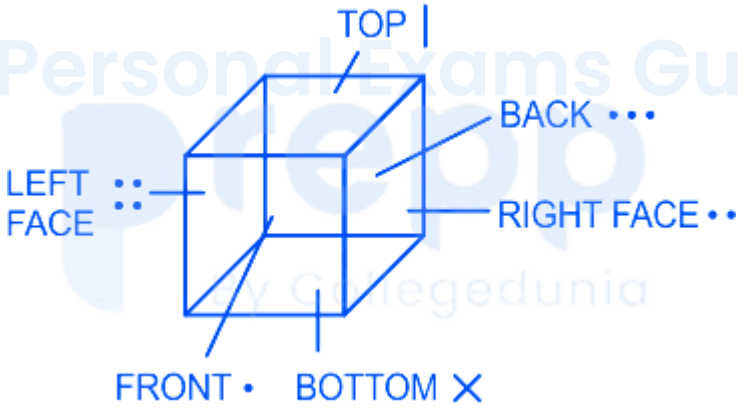
∴ The approximate ratio of imports of sheet steel to imports of scrap steel in the first 3 months of the year is 1.2 : 1.

---

14. Answer: b

Explanation:

If we assemble the figures given in question, the final figure will be :



The front face has one dot, back face has three dots, right face has two dots, left face has four dots, top face has line and bottom face has cross.

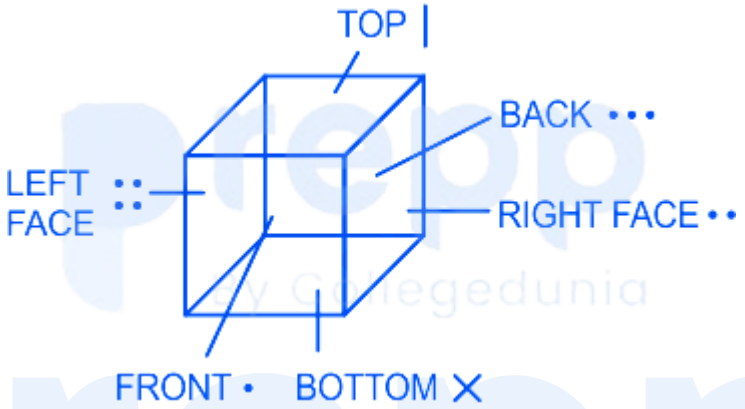
The face opposite to that containing a single dot has three dots.

Hence, **option 2** is the correct answer.

15. **Answer: c**

Explanation:

If we assemble the figures given in question, the final figure will be:



The front face has one dot, back face has three dots, right face has two dots, left face has four dots, top face has line and bottom face has cross.

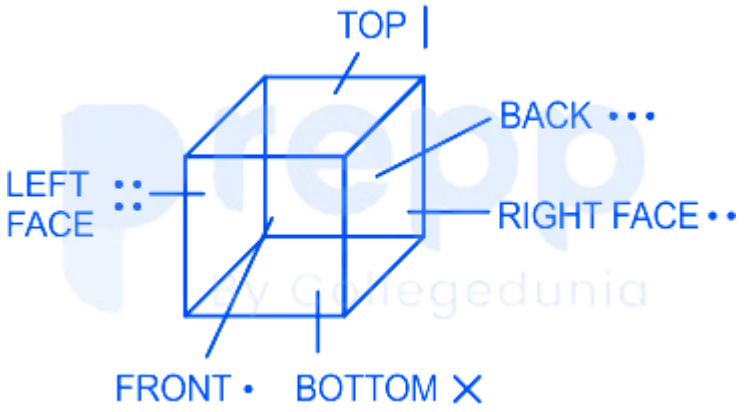
The face opposite to that containing a two dots has four dots.

Hence, option 3 is the correct answer.

16. **Answer: c**

Explanation:

If we assemble the figures given in question, the final figure will be :



The front face has one dot, back face has three dots, right face has two dots, left face has four dots, top face has line and bottom face has cross.

The face opposite to that containing cross has line.

Hence, option 3 is the correct answer.

---

17. **Answer: c**

Explanation:

The correct answer is **3 only.**

⭐ Key Points

- In the passage, the author has talked about the problem with the current perspective on RTE.
- It argues that just ensuring school infrastructure and enrollment is not the way to ensure good education to all.
- The focus must be on providing quality education through child-friendly learning: *"If the education process lacks quality, children are being denied their right....provide for learning through activities, exploration and discovery...a massive program for curricular reform should be initiated to provide for a child-friendly learning system..."*

Thus, **curricular reforms fro developing child-friendly learning system is of paramount importance under Right to Education.**

18. **Answer: a**

Explanation:

The correct answer is **1 only.**

⭐ Key Points

- In the passage, it has been argues that RTE focuses on providing school infrastructure and school enrolment.
- It does not focus on providing training to teachers to create a child friendly learning environment which is vital in ensuring quality education.
- This is because RTE assumes that teachers' accountability is guaranteed.
- Assumption 2 is incorrect as RTE strives to enrol more and more children in school, which is also its motive.
- Assumption 3 is irrelevant as the reference to taking advantage of demographic dividend has nowhere been referred to in the passage.

Thus, the assumption inherent in the passage is that **the Right to Education guarantees teachers' accountability for the learning process of the children.**

19. **Answer: d**

Explanation:

The correct answer is **inculcating learning through activities and discovery.**

⭐ Key Points

- The answer to the given passage can be found in the following lines: " *Quality is an integral part of the right to education...The Right of Children to Free and Compulsory Education Act lays down that the curriculum should provide for learning through activities, exploration and discovery.* "

- Thus, inculcating learning through activities, exploration and discovery, moving beyond textbooks is vital in ensuring quality education.

Hence, **option 4 is the right answer.**

---

20. Answer: c

Explanation:

The correct answer is **The Right to Free and Compulsory Education should include quality education for all.**

⭐ Key Points

- The given passage raises questions about the quality of education provided through RTE.
- It provides that denying good quality in education is equivalent to denying education itself.
- The following lines contain the main message of the passage: *"Making available schooling facilities is an essential prerequisite, but is insufficient to ensure that all children attend school and participate in the learning process....Quality is an integral part of the right to education. If the education process lacks quality, children are being denied their right."*
- Let's evaluate other options as well:
- Option 1 is not the main message, rather it's a well-established right.
- Option 2 is incorrect: " *...insufficient to ensure that all children attend school and participate in the learning process. The school may be there, but children may not attend or they may drop out after a few months...factors that prevent children from weaker sections and disadvantaged groups, as also girls, from regularly attending and complementing elementary education."*
- Option 4 is incorrect as the passage says that only ensuring enrollment won't suffice, rather quality education is needed.

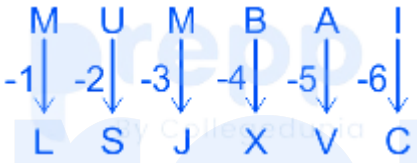
Thus, the main message is that **the Right to Free and Compulsory Education should include quality education for all.**

21. **Answer: a**

Explanation:

Alphabets	A	B	C	D	E	F	G	H	I	J	K	L	M
Positional value	1	2	3	4	5	6	7	8	9	10	11	12	13
Positional value	26	25	24	23	22	21	20	19	18	17	16	15	14
Alphabets	Z	Y	X	W	V	U	T	S	R	Q	P	O	N

The pattern followed here is :



Similarly,

Hence, **CCIDD** is the correct answer.

22. **Answer: b**

Explanation:

The pattern followed here is :

R	A	M	O	N
1	2	3	4	5

D	I	N	E	S	H
6	7	5	8	4	9

Therefore,

H	A	M	A	M
9	2	3	2	3

Hence, **92323** is the correct answer.

---

23. Answer: d

Explanation:

Given :

If X is between -3 and -1, and Y is between -1 and 1

Calculations :

X lies between -3 to -1 so, $0 < x^2 < 9$

Y lies between -1 to 1 so, $0 < y^2 < 1$

Least value of $x^2 - y^2 = 0 - 0 = 0$

Maximum value of $x^2 - y^2 = 9 - 0 = 9$

So, $0 < x^2 - y^2 < 9$

∴ Option 4 will be the correct choice.

---

24. Answer: a

Explanation:

Given :

X and Y are natural numbers other than 1, and Y is greater than X

Calculations :

1 < X < Y

Let X be 2 and Y be 3 (X and Y are natural numbers)

Now put value in each option to get the values

Option(1) ⇒ XY = 2 × 3 = 6

Option(2) ⇒ X/Y = 2/3

Option(3) ⇒ Y/X = 3/2

Option(4) ⇒ (X + Y)XY = 5/6

We can see that option 1 represents the largest value among all

∴ Option1 will be the correct choice.

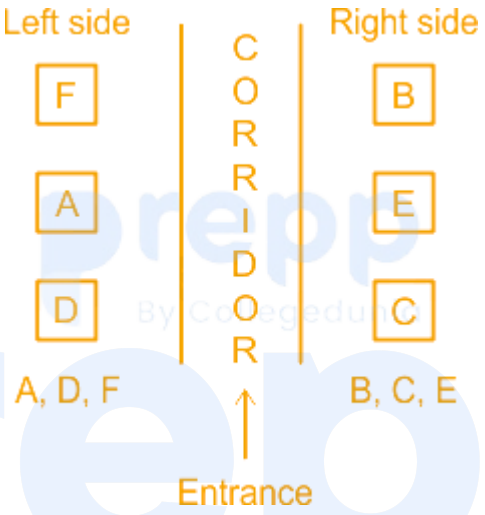
---

25. Answer: c

Explanation:

According to the information given in the question, A, D and F occupy offices on the left side of the corridor where as B, C and E occupy offices on the right side of corridor.

The final arrangement will be :



If E sits in his office and faces the corridor, C's office is to his left.

Hence, **option 3** is the correct answer.

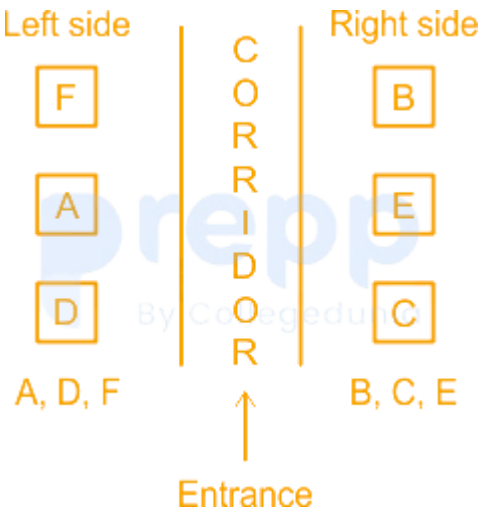
---

26. Answer: a

Explanation:

According to the information given in the question, A, D and F occupy offices on the left side of the corridor where as B, C and E occupy offices on the right side of corridor.

The final arrangement will be :



A is F's immediate neighbour.

Hence, **option 1** is the correct answer.

---

27. **Answer: d**

Explanation:

The correct answer is **1, 2, 3 and 4** .

⭐ Key Points

- The decline in forest cover has a number of direct and indirect impacts:
- " *...adverse alterations in the hydrology and related soil and nutrient losses* ": Due to deforestation, the top soil is prone to erosion by wind, water, etc. This leads to the loss of topsoil.
- Apart from that, changes in nutrient content of soil also affect the agricultural production patterns of soil, as in Western U.P. and Haryana.
- Also, according to the passage, the other impacts are: *"In the mountain context, the declining moisture retention of the mountain soils, drying up of the underground springs and smaller rivers in the Himalayan region could be attributed to drastic changes in the forest cover."*
- Thus, **loss of topsoil, loss of smaller rivers, adverse effect on agricultural production and declining of groundwater: all are the consequences of decline sin forest cover.**

Hence, the correct option is **1, 2, 3 and 4.**

---

28. Answer: a

Explanation:

The correct answer is **1 only.**

⭐ Key Points

- Let's examine the given inferences one by one:
  - I **nference 1** states that deforestation is responsible for changes in the course of river. The following line in the passage leads to this inference: *"An indirect consequence is drastic alteration in the upland-lowland interaction, mediated through water."* This line implies that deforestation causes change in the water channels as it passes between upward lying areas and low-lying areas. Thus, this is the **correct inference** .
  - **Inference 2** provides that only human activities are responsible for salinisation of land. This is **incorrect** as various other natural factors like disasters as well as deforestation indirectly affect the land salinity.
  - **Inference 3** is not an implication. Rather, it's explicitly stated in the passage: "salinization of land as in the semi-arid and arid 'green revolution' areas...site quality decline-a common phenomenon due to general decline in tree cover and monotonous monoculture of rice/wheat across the Indian plains...Tropical Asia, Africa and South America have the highest levels of erosion." Thus, desertification in Asia and Africa has significant cause to be attributed to monocultual practices. Thus, inference 3 is **incorrect** .

Hence, the correct answer is **1 only.**

---

29. Answer: d

Explanation:

The correct answer is **Neither 1 nor 2.**

⭐ Key Points

- In the passage, the author has talked about the phenomenon of desertification in tropics, arid, semi-arid and sub-humid ecosystems: *"While this phenomenon is often linked to the arid, semi-arid and sub-humid ecosystems, even in the humid tropics, the impact could be most dramatic."* Thus, assumption 1 is incorrect.
- Also, the author has listed various consequences of deforestation: loss of top soil, decline in nutritional quality, decline in groundwater, floods, agricultural problems, etc. Desertification is only one of them. Thus, assumption 2 is also incorrect.

Hence, the correct option is **Neither 1 nor 2.**

---

30. Answer: b

Explanation:

The correct answer is **1, 2 and 4 only.**

⭐ Key Points

- In the passage, the author has suggested ways to cope with climate change.
- Accordingly, *"...crop varieties are needed that perform well under drought, heat, and enhanced CO_2."* This will allow conservation of water resources. Also, this means that existing crops and crop management practices are not sufficient to deal with climate change.
- *"Accelerated breeding programmes are needed to conserve a wider pool of genetic resources of existing crops, breeds, and their wild relatives."* This will allow conservation of species that might help in mitigating climate change.
- *"Connections between natural areas, such as migration corridors, may be needed to facilitate species movements to keep up with the change in climate."* Thus, conservation of migration corridors is also an important step in dealing with climate change.

Hence, the correct option is **1, 2 and 4 only.**

---

31. Answer: c

Explanation:

The correct answer is **Both 1 and 2.**

⭐ Key Points

- Let's examine the given assumptions:
- Assumption 1: Diversification of livelihoods acts as a coping strategy for climate change.- This assumption is correct since the passage highlights the need for conservation of natural assets to deal with climate change. This means that there is a need to reduce the pressure on natural resources.
  - Diversification of livelihoods leads to shifting of people away from highly burdened fields to others which have not been explored optimally. This will allow judicious use of multiple resources that is a major step in conserving natural resources.
  - Thus, assumption 1 is valid.
- Assumption 2: Adoption of monocropping practice leads to the extinction of plant varieties and their wild relatives.- Monocropping practice prefers homogeneity over species that give consistent yields.
  - This leads to neglect and decline of other species.
  - Thus, breeding programmes are required to conserve the wide genetic pool.
  - Thus, assumption 2 is also valid.

Hence, the correct answer is **Both 1 and 2.**

---

32. Answer: c

Explanation:

The correct answer is **Reducing our consumerism is very much in our own interest.**

⭐ Key Points

- Let's examine the given inferences:
- I **nference 1** is the assumption that this passage is based on, rather than the inference. This is because the passage asks us to limit our needs and stop running after material things so that Earth can fulfill the needs of people without getting resources exhausted. Also, Earth can meet other needs of individuals like recreation rather than only food, clothing and shelter. Thus, option 1 is not the right option.
- I **nference 2** is incorrect as limiting the human population is **not** the only way to control environmental pollution, it requires a variety of other measures.
- **Inference 3 i** s right since the passage asks us to limit our needs and stop running after material things so that Earth can fulfill the needs of people without getting resources exhausted. That is, it asks us to limit our consumerism so that life on earth can comfortably survive.
- I **nference 4** is not right since just having knowledge of biological ecosystems won't suffice to save the planet. It requires the implementation of that knowledge as well as other measures.

Hence, the correct inference is that **reducing our consumerism is very much in our own interest.**

---

33. Answer: b

Explanation:

The correct answer is **leadership can be acquired as well as taught.**

⭐ Key Points

- In the passage, the answer to the given question is in the following lines: "This theory is false, for the art of leadership can be acquired and can indeed be taught." This can be done through instructions as well as personal experience.

Hence, the author holds the view that **leadership can be acquired as well as taught.**

---

34. Answer: b

Explanation:

Given :

A number consists of three digits of which the middle one is zero and their sum is 4. If the number formed by interchanging the first and last digits is greater than the number itself by 198.

Calculations :

Let the number be 100x + 10y + z
Then the number of reversed digit will be 100z + 10y + x

According to the question

100z + x - (100x + z) = 198 (y = 0)

99z - 99x = 198

z - x = 2

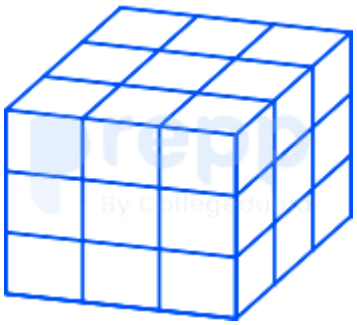
∴ The difference of the 1st and last digit is 2.

---

35. Answer: a

Explanation:

The diagrammatic representation of cube is :



Therefore, the number of cubes having two sides painted is 12.

Hence, **option 1** is the correct answer.

---

36. Answer: c

Explanation:

Given :

Numbers are such that the hundred's place is greater than ten's place and the ten's digit is greater than the unit digit.

Calculations :

(I) Numbers from 700 to 800 where hundred's digit is more than ten' digit are ⇒ 700, 701, 702,.....769

Numbers from above-written numbers where ten's digit is more than unit's digit are ⇒ 710, 720, 721, 730, 731, 732, 740, 741, 742, 743, 750, 751, 752, 753, 754, 760, 761, 762, 763, 764, 765

Total such numbers from 700 to 800 are 21

(ii) Numbers from 801 to 900 where hundred's digit is more than ten's digit are ⇒ 801 to 879

Numbers from above-written numbers where ten's digit is more than the unit's digit are the same as in the previous group from 700 to 800 up to 869

Other such numbers are ⇒ 870, 871, 872, 873, 874, 875, 876

Total such number from 801 to 900 are 28 (21 + 7)

(iii) Numbers from 901 to 1000 where hundred's digit is more than ten's digit are ⇒ 901 to 989

Numbers from above-written numbers where ten's digit is more than unit's digit are same up to previous group up to 969

Other such numbers are 970, 971, 972, 973, 974, 975, 976, 980, 981, 982, 983, 984, 985, 986, 987,

Total such number form 901 to 1000 are 36 (21 + 15)

Now total numbers from 700 to 1000

⇒ 21 + 28 + 36

⇒ 85

∴ Option 3 will be the correct choice.

---

37. Answer: b

Explanation:

Pen < Pencil

Pencil < Book

Book > Cap

Therefore,

Pen < Pencil < Book > Cap

From this it can be concluded that Pen < Book

Hence, **option 2** is the correct answer.

38. **Answer: b**

Explanation:

Given:

The price of each Geography textbook is x

The price of each History textbook is (x + 2)

The price of each Mathematics textbook is (x - 2)

Calculation:

⇒ Total expenditure on Geography textbook = ax

⇒ Total expenditure on History textbook = (a + 2) × (x + 2) = ax + 2x + 2a + 4

⇒ Total expenditure on Mathematics textbook = (a - 2) × (x - 2) = ax - 2x - 2a + 4

⇒ The total sale = ax + ax + 2x + 2a + 4 + ax - 2x - 2a + 4 = 3ax + 8

∴ The required result will be "3ax + 8".

39. **Answer: b**

Explanation:

Given:

A bag contains 15 red balls and 20 black balls

Calculation:

The winning condition is if the ball is red and numbered 3 or if it is black and numbered 1 and 2

⇒ Total number of balls in bag = 15 + 20 = 35

⇒ Number of red balls numbered 3 = 40% of 15 = 6

⇒ Number of black balls numbered 1 or 2 = 70% of 20 = 14

⇒ The probability of winning = (6 + 14)/35 = 20/35 = 4/7

∴ The required result will be 4/7.

---

40. Answer: a

Explanation:

Concept:

Speed = Distance/Time

Calculation:

⇒ Time travel is the same for both A and B

⇒ Distance travelled by A = π × r

⇒ Distance travelled by B = (π × r) - (π × r)/6 = 5πr/6

⇒ The ratio of the speed of A and B = 6 : 5 (Speed is the same for both)

∴ The required result will be "6 : 5".

---

41. Answer: c

Explanation:

Given:

A student has to get 40% marks to pass an examination

Calculation:

Let be assume the total marks of the examination is X

⇒ X × (40/100) = 30 + 30

⇒ X = 150

∴ The required result will be 150.

---

42. Answer: c

Explanation:

Total no. of boys who came for playing hockey = 19

No. of boys wearing hockey shirts = 11

No. of boys not wearing hockey shirts = 19 - 11 = 8

No. of boys wearing hockey pants = 14

No. of boys wearing full uniform = No. of boys wearing hockey pants - No. of boys not wearing hockey shirts

= 14 - 8 = 6

Hence, **option 3** is the correct answer.

---

43. Answer: b

Explanation:

According to the question,

4 students : A, B, C and D

4 cities : P, Q, R and S

4 colleges : Science, Arts, Commerce, Engineering

4 states : Gujarat, Rajasthan, Assam, Kerala

i) D is studying in Assam

Student	City	College	State
A			
B			
C			
D			Assam

(ii) Arts college is located in city S which is in Rajasthan.

(iii) A is studying in Commerce college

Student	City	College	State
A		Commerce	
B			
C			
D			Assam

(iv) B is studying in city Q

Student	City	College	State
A		Commerce	
B	Q		
C			
D			Assam

(v) Science college is located in Kerala.

According to the question, Arts college is in city S which is in Rajasthan. There is only one possibility in the above table for this condition. Therefore,

Student	City	College	State
A		Commerce	
B	Q		
C	S	Arts	Rajasthan
D			Assam

Also, Science college is located in Kerala. There is only one possibility in the above table for this condition. Therefore,

Student	City	College	State
A		Commerce	
B	Q	Science	Kerala
C	S	Arts	Rajasthan
D			Assam

The final arrangement is :

Student	City	College	State
A	P/R	Commerce	Gujarat
B	Q	Science	Kerala
C	S	Arts	Rajasthan
D	P/R	Engineering	Assam

A is studying in Gujarat

Hence, Gujarat is the correct answer.

---

44. Answer: a

Explanation:

According to the question,

4 students : A, B, C and D

4 cities : P, Q, R and S

4 colleges : Science, Arts, Commerce, Engineering

4 states : Gujarat, Rajasthan, Assam, Kerala

i) D is studying in Assam

Student	City	College	State
A			
B			
C			
D			Assam

(ii) Arts college is located in city S which is in Rajasthan.

(iii) A is studying in Commerce college

Student	City	College	State
A		Commerce	
B			
C			
D			Assam

(iv) B is studying in city Q

Student	City	College	State
A		Commerce	
B	Q		
C			
D			Assam

(v) Science college is located in Kerala.

According to the question, Arts college is in city S which is in Rajasthan. There is only one possibility in the above table for this condition. Therefore,

Student	City	College	State
A		Commerce	
B	Q		
C	S	Arts	Rajasthan
D			Assam

Also, Science college is located in Kerala. There is only one possibility in the above table for this condition. Therefore,

Student	City	College	State
A		Commerce	
B	Q	Science	Kerala
C	S	Arts	Rajasthan
D			Assam

The final arrangement is :

Student	City	College	State
A	P/R	Commerce	Gujarat
B	Q	Science	Kerala
C	S	Arts	Rajasthan
D	P/R	Engineering	Assam

Science college is located in city Q.

Hence, Qis the correct answer.

---

45. Answer: b

Explanation:

According to the question,

4 students : A, B, C and D

4 cities : P, Q, R and S

4 colleges : Science, Arts, Commerce, Engineering

4 states : Gujarat, Rajasthan, Assam, Kerala

i) D is studying in Assam

Student	City	College	State
A			
B			
C			
D			Assam

(ii) Arts college is located in city S which is in Rajasthan.

(iii) A is studying in Commerce college

Student	City	College	State
A		Commerce	
B			
C			
D			Assam

(iv) B is studying in city Q

Student	City	College	State
A		Commerce	
B	Q		
C			
D			Assam

(v) Science college is located in Kerala.

According to the question, Arts college is in city S which is in Rajasthan. There is only one possibility in the above table for this condition. Therefore,

Student	City	College	State
A		Commerce	
B	Q		
C	S	Arts	Rajasthan
D			Assam

Also, Science college is located in Kerala. There is only one possibility in the above table for this condition. Therefore,

Student	City	College	State
A		Commerce	
B	Q	Science	Kerala
C	S	Arts	Rajasthan
D			Assam

The final arrangement is :

Student	City	College	State
A	P/R	Commerce	Gujarat
B	Q	Science	Kerala
C	S	Arts	Rajasthan
D	P/R	Engineering	Assam

C is studying in Rajasthan.

Hence, **Rajasthan** is the correct answer.

---

46. Answer: a

Explanation:

According to the question,

4 students : A, B, C and D

4 cities : P, Q, R and S

4 colleges : Science, Arts, Commerce, Engineering

4 states : Gujarat, Rajasthan, Assam, Kerala

i) D is studying in Assam

Student	City	College	State
A			
B			
C			
D			Assam

(ii) Arts college is located in city S which is in Rajasthan.

(iii) A is studying in Commerce college

Student	City	College	State
A		Commerce	
B			
C			
D			Assam

(iv) B is studying in city Q

Student	City	College	State
A		Commerce	
B	Q		
C			
D			Assam

(v) Science college is located in Kerala.

According to the question, Arts college is in city S which is in Rajasthan. There is only one possibility in the above table for this condition. Therefore,

Student	City	College	State
A		Commerce	
B	Q		
C	S	Arts	Rajasthan
D			Assam

Also, Science college is located in Kerala. There is only one possibility in the above table for this condition. Therefore,

Student	City	College	State
A		Commerce	
B	Q	Science	Kerala
C	S	Arts	Rajasthan
D			Assam

The final arrangement is :

Student	City	College	State
A	P/R	Commerce	Gujarat
B	Q	Science	Kerala
C	S	Arts	Rajasthan
D	P/R	Engineering	Assam

Hence, **option 1** is the correct answer.

47. **Answer: d**

Explanation:

According to the question,

4 students : A, B, C and D

4 cities : P, Q, R and S

4 colleges : Science, Arts, Commerce, Engineering

4 states : Gujarat, Rajasthan, Assam, Kerala

i) D is studying in Assam

Student	City	College	State
A			
B			
C			
D			Assam

(ii) Arts college is located in city S which is in Rajasthan.

(iii) A is studying in Commerce college

Student	City	College	State
A		Commerce	
B			
C			
D			Assam

(iv) B is studying in city Q

Student	City	College	State
A		Commerce	
B	Q		
C			
D			Assam

(v) Science college is located in Kerala.

According to the question, Arts college is in city S which is in Rajasthan. There is only one possibility in the above table for this condition. Therefore,

Student	City	College	State
A		Commerce	
B	Q		
C	S	Arts	Rajasthan
D			Assam

Also, Science college is located in Kerala. There is only one possibility in the above table for this condition. Therefore,

Student	City	College	State
A		Commerce	
B	Q	Science	Kerala
C	S	Arts	Rajasthan
D			Assam

The final arrangement is :

Student	City	College	State
A	P/R	Commerce	Gujarat
B	Q	Science	Kerala
C	S	Arts	Rajasthan
D	P/R	Engineering	Assam

Hence, option 4 is the correct answer.

---

48. Answer: a

Explanation:

According to the question,

4 students : A, B, C and D

4 cities : P, Q, R and S

4 colleges : Science, Arts, Commerce, Engineering

4 states : Gujarat, Rajasthan, Assam, Kerala

i) D is studying in Assam

Student	City	College	State
A			
B			
C			
D			Assam

(ii) Arts college is located in city S which is in Rajasthan.

(iii) A is studying in Commerce college

Student	City	College	State
A		Commerce	
B			
C			
D			Assam

(iv) B is studying in city Q

Student	City	College	State
A		Commerce	
B	Q		
C			
D			Assam

(v) Science college is located in Kerala.

According to the question, Arts college is in city S which is in Rajasthan. There is only one possibility in the above table for this condition. Therefore,

Student	City	College	State
A		Commerce	
B	Q		
C	S	Arts	Rajasthan
D			Assam

Also, Science college is located in Kerala. There is only one possibility in the above table for this condition. Therefore,

Student	City	College	State
A		Commerce	
B	Q	Science	Kerala
C	S	Arts	Rajasthan
D			Assam

The final arrangement is :

Student	City	College	State
A	P/R	Commerce	Gujarat
B	Q	Science	Kerala
C	S	Arts	Rajasthan
D	P/R	Engineering	Assam

Hence, **option 1** is the correct answer.

49. **Answer: c**

Explanation:

The correct answer is **2 and 3 only.**

⭐ Key Points

- Let's examine the given assumptions one by one:
- **Assumption 1** states that climate change is not a challenge for developing countries. However, the passage mentions that climate change is a **more severe** problem for developing countries, rather than it being a problem only for them. Thus, this is **incorrect.**
- **Assumption 2** is **correct** as, according to the passage, climate change requires attention at funding, development and policy level in an integrated manner to have effective results.
- **Assumption 3** is **correct** as the passage states that countries need huge funding to deal with climate challenges but they do not have resources. To enhance their adaptation to climate change, the need to develop mechanisms and institutions that will enable such funding.

Thus, the correct option is **2 and 3 only.**

50. **Answer: d**

Explanation:

The correct answer is **Access to cooking gas can reduce premature deaths in poor households.**

⭐ Key Points

- Let's examine the given assumptions:

- **Assumption 1** is **incorrect** as the passage itself says that though the number of people using cooking gas is increasing, the number of those using polluting fuels has been static.
- **Assumption 2** is **incorrect** as polluting due to cooking fuel is not the only cause of indoor air pollution. Besides, only subsidizing cooking gas won't suffice, awareness generation programmes are required for the same.
- **Assumption 3 i sirrelevant** to the given passage.
- **Assumption 4** is **correct** as the passage highlights that the use of polluting solid fuels leads to immature deaths. Thus, access to clean cooking gas will solve the issue.

Hence, assumption 4 is the correct answer.

⭐ Additional Information

- Causes of indoor air pollution include: Passive tobacco smoke, Polluting fuels, products like finishes, paint strippers, rug and oven cleaners, pesticides and paints, Vapor-phase compounds include vinyl chloride and benzene, asbestos, etc.

---

51. Answer: a

Explanation:

The correct answer is **A happy world is a dream of science.**

⭐ Key Points

- In the passage, it has been highlighted that *science is a liberator.*
- Like every other great thing, it seeks to create a world without poverty, wars and illnesses.
- Used within limits, science has the potential to uplift the state of living of mankind.

Thus, the most direct implication is that **a happy world is a dream of science.**

---

52. **Answer: b**

Explanation:

The correct answer is **Melting of summer ice in the Arctic leads to changes in the geopolitics** .

⭐ Key Points

- In the passage, it has been stated that the melting of ice in the Arctic region opens up new possibilities for the exploration of resources.
- This also paves the way for contesting claims for resources from the countries based on their geography.
- This creates new power equations in geopolitics.

Hence, the correct implication is that melting of summer ice in the Arctic leads to changes in the geopolitics.

⭐ Additional Information

- **Geopolitics** refers to politics, especially international relations, as influenced by geographical factors.

---

53. **Answer: c**

Explanation:

The correct answer is **For India, food security collides with trade.**

⭐ Key Points

- In the passage, the author has talked about the subsidy norms of WTO and that it should not exceed 10% of agricultural production for developing countries.

- However, the food security programme of India requires the Indian government to support farmers through MSP and distribute the procured food grains to the public through PDS.
- With the increasing population and deteriorating economic condition of farmers, the government might need to increase MSP periodically.
- This support might cross the maximum limit set by WTO agreement in coming years.

Therefore, **food security programme of India collides with WTO agreement.**

---

54. Answer: b

Explanation:

The correct option is **2 only.**

⭐ Key Points

- In the passage, it has been highlighted that India's educational system is not reflective of the current world's situation.
- Rather, it has been drawn from European model and hence focuses on creating employees rather than thinkers and innovators.
- The need of the current world is people with an entrepreneurial mindset, new-age skills and innovative spirit.

Thus, the assumption made in the passage is that **today's learners need to acquire new-age skill-sets.**

---

55. Answer: d

Explanation:

The correct answer is **There is no perfect diet or one solution for obesity.**

⭐ Key Points

- In the passage, the following lines are crucial in selecting the correct inference: " *So we really cannot reduce so many complexities into one diet or diet book.*"
- The passage further says that unless the underlying reasons for weight gain are addressed, the problem of obesity can not be solved.
- This will differ from one individual to another and accordingly, weight loss diet and plan will differ.

Thus, the correct inference that can be drawn is that **there is no perfect diet or one solution for obesity.**

---

56. Answer: a

Explanation:

The correct answer is **Preserving crop genetic diversity is an insurance against the effects of climate change.**

⭐ Key Points

- Let's look at the options given:
- **Option 1** gives a solution to the issue of widespread disease caused by monoculture, as highlighted in the passage. Preservation of genetic diversity of crops will help in case of occurrence disease in one crop.
- **Option 2** is **incorrect** as monoculture is not the way to ensure food security in the world.
- **Option 3** is **not right** because GM crops along with traditional crops and methods of farming are the methods to solve the issue.
- **Option 4** is **not right** because food security issues will be magnified in Asia and North America due to climate change but there's been made no comparison as to the intensity of climate change has been made in the passage.

Thus, the crucial message from the paragraph is that **preserving crop genetic diversity is an insurance against the effects of climate change.**

---

57. **Answer: c**

Explanation:

Calculation:

Let be assume cost price of article is C

⇒ C × (100 + X)/100 = 40

⇒ 100C + XC = 4000 .... (1)

⇒ C × (100 - X)/100 = 20

⇒ 100C - XC = 2000 .... (2)

⇒ 100C - 2000 = 4000 - 100C

⇒ C = 30

∴ The required result will be 30.

---

58. **Answer: c**

Explanation:

Given:

There are 24 equally spaced points lying on the circumference of a circle

Calculation:

⇒ The complete circle = 360°

⇒ Each of 24 points subtends an angle at the centre of the circle = 360/24 = 15°

⇒ Two consecutive vertices of an equilateral triangle an angle of 120° at the center

⇒ The number of possible equilateral triangle = 120/15 = 8

∴ **The required result will be 8.**

---

59. **Answer: b**

Explanation:

There is a difference of 28 days between the dates given in the question.

The pattern followed is :

4/12/95 + 28 days = 1/1/96

1/1/96 + 28 days = 29/1/96

29/1/96 + 28 days = 26/2/96

26/2/96 + 28 days = 25/3/96

Hence, **option 2** is the correct answer.

---

60. **Answer: c**

Explanation:

Given:

Rectangle has diagonal of 5 cm.

12 equal squares are fit into the rectangle in 3 rows with 4 squares in each row.

Calculation:

Let the side the square be x

Each row has 4 cubes of each x cm

Length of the rectangle will be x + x + x + x = 4x

Breadth of the rectangle will be x + x + x = 3x

The diagonal is 5 cm. Consider the triangle formed with the diagonal

According to Pythagoras theorem,

$\Rightarrow 5^2 = (4x)^2 + (3x)^2$

$\Rightarrow 25 = 16x^2 + 9x^2$

$\Rightarrow 25 = 25x^2$

$\Rightarrow x = 1$

Side of the square (x) = 1 cm.

Area of the square = $1^2 = 1\ cm^2$

∴ The area of each square is 1 cm^2.

---

61. Answer: d

Explanation:

Concepts used:

The slope of the graph of actual progress and expected progress are compared at a given point to know the greatest rate in the month of August.

The actual progress and expected progress are compared in absolute months to infer various conclusions.

Calculation:

On 1st June, the actual progress was approximately 25% while the expected progress was approximately 50% which indicates that actual progress was lower than the expected progress.

The slope of the graph of actual progress and expected progress are compared at a given point to know the greatest rate in the month of August and it can be inferred that the rate of actual progress (actual progress graph with steeper slope) was higher than the rate of expected progress during the month of August.

The fact that work was completed before the expected time can be inferred from the graph as the actual progress graph approached the expected progress before 1st of September.

The rate of actual progress (actual progress graph with steeper slope) was higher than the rate of expected progress during the month of August. This indicates that for some time, actual progress was greater than expected progress.

∴ Statement D cannot be inferred using the information given in the graph.

---

62. Answer: a

Explanation:

Given:

There are 6 colours and three winner blocks.

Calculation:

Three colours have to be chosen from the six colours so that the colours won't repeat.

This will be solved using the permutation method.

Number of colors = n = 6

Number of colors to be chosen = r = 3

${}^{n}P_{r} = n! / (n - r)!$

$\Rightarrow 6! / (6 - 3)!$

⇒ (6 × 5 × 4 × 3 × 2 × 1)/(3 × 2 × 1)

⇒ 6 × 5 × 4

⇒ 120

∴ There are 120 different ways to paint the winner blocks with no two blocks having the same colour.

---

63. Answer: d

Explanation:

Concepts used:

The population growth rate is the difference between the Birth rate and the Death Rate.

Calculation:

If we observe carefully from 1990 to 2010, we can see that firstly there is a decrease in both birth rate and death rate and then they are stabilized. Therefore, population growth rate shows no trend in this period.

Hence, option 4 is the correct answer.

---

64. Answer: d

Explanation:

Concepts used:

The population growth rate is the difference between the birth rate and the Death rate.

Calculation:

From 1970 to 2010, the Birth Rate has fallen and the slope of the graph of Birth Rate approached a constant value from 2005 which shows the stabilization of Birth Rate after 35 years starting from the year 1970.

From 1990 to 2010, the Birth Rate is continuously falling from 1990 to 2005 but approached a stabilized value between 2005 and 2010. Similarly, Death Rate fell from 1970 to 2005 and then remained constant. This indicates that the population growth rate has stabilized after 35 years.

∴ Logical statements that can be inferred are statements 2 and 4.

---

65. **Answer: c**

Explanation:

Calculations :

Value of E for Figure A

Value of E for 2013 = 20

Value of E for 2014 = 25

Value of E for 2015 = 30

Value of E for 2016 = 35

Value of E for 2017 = 40

Value of E for Figure B

Value of E for 2013 = 20

Value of E for 2014 = 25

Value of E for 2015 = 30

Value of E for 2016 = 35

Value of E for 2017 = 40

we should check each option

Option(1) ⇒ Values of E are same in both case

Option(2) ⇒ Ranges of E are also the same (from 20 to 40)

Option(3) ⇒ Slope of both graphs are the same as the value of E are the same for each value of the year.

Option(4) ⇒ Rate of increase of E is the same in both cases as we can see through the value of E in both graphs.

So we can conclude that only option (3) is correct among all.

∴ **Option 3 is the correct choice.**

---

66. **Answer: a**

Explanation:

In Row 1, there are three figures. First figure has shaded circle on one end, second figure has shaded square on one end and third figure has triangle on one end.

Similarly in Row 2, first figure has shaded square on one end, second figure has triangle on one end and third figure has shaded circle on one end.

In Row 3, first figure has triangle, second figure has shaded circle. Therefore, third figure must have shaded square.

Based on this, option 2, 3 and 4 can be eliminated.

Hence, **option 1** is the correct answer.

---

67. **Answer: a**

Explanation:

Calculations :

Number of piece ⇒ Cost of production

0 ⇒ 500000 rupees

1000 ⇒ 600000 rupees

2000 ⇒ 700000 rupees

3000 ⇒ 800000 rupees

Now selling price for total number of pieces sold

Total selling price for 1000 pieces = 1000 × 400 (selling price is 400 rupees per piece when 1000 pieces are sold)

⇒ 400000 rupees

Total selling price for 2000 pieces = 350 × 2000 (selling price is 350 rupees per piece when 2000 pieces are sold)

⇒ 700000 rupees

We can see that at 2000 pieces there is no loss.

∴ **He should sell at least 2000 pieces.**

---

68. **Answer: b**

Explanation:

Given:

The capacity of the lift = 30 children or 18 adults

Calculation:

To find the capacity of the lift, find LCM of 18 and 30 = 90x

1 adult = 90x/18 = 5x

1 child = 90x /30 = 3x

If, the lift is occupied by 12 adults,

12 × 5x = 60x

Remaining capacity will be = 90x - 60x

= 30x

So, the number of children that be accommodated with 12 adults are:

30x/3x = 10

∴ 10 children can board the lift with 12 adults.

---

69. **Answer: d**

Explanation:

Given:

Cost of the refrigerator = Rs.22, 800

Interest rate= 12.5 %

Amount paid at the end of the first year = Rs.8,650

Amount paid at the end of the second year = Rs.9,125

Calculation:

Cost of the refrigerator = Principal amount = Rs.22,800

Interest rate = 12.5%

After first year, interest = 12.5 % of Rs.22, 800 = Rs.2850

Principal amount remaining = Original Principal amount + Interest of first year - Amount paid

⇒ 22800 + 2850 - 8650

⇒ Rs.17000

After second year, interest = 12.5% of Rs.17,000 = Rs.2125

Principal amount remaining = Original Principal amount + Interest of second year - Amount paid

⇒ 17000 + 2125 - 9125

⇒ Rs. 10,000

After third year, interest = 12.5% of Rs.10,000 = Rs.1250

Amount to be paid too clear the debt = 10000 + 1250 = Rs.11,250

∴ Amount to be paid at the end of the third year is Rs.11, 250

---

70. Answer: b

Explanation:

Here, the square moves in clockwise direction and triangle moves in anti clockwise direction in each successive figure.

Based on this, option 1, 3 and 4 can be eliminated.

Hence, **option 2** is the correct answer.

---

71. Answer: c

Explanation:

Concept used :

Dependency ratio is the ratio of the non-working population to the working population. (15 to 64 is working population)

Calculations :

Checking for condition 1

The dependency ratio of country B has decreased in the last two decades as the population has increased during this period.

Checking for condition 2

The dependency ratio of country A is more than the dependency ratio of Country B because the working population of country B has increased more than the working population of country A.

Checking for condition 3

We can see through the graph that the working population of country B to the overall population has increased more than the working population of country A to the overall population.

So both inferences 1 and 3 are the following.

∴ Option 3 is the correct answer.

---

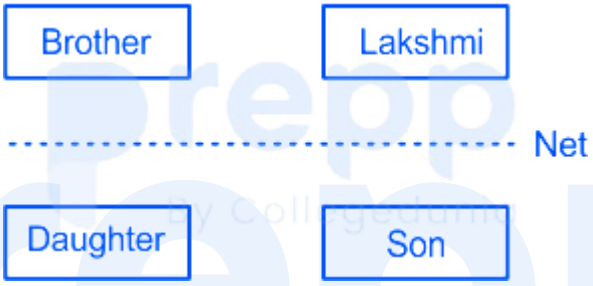
72. Answer: a

Explanation:

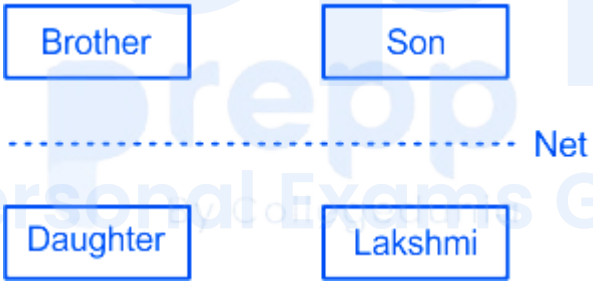
(i) Lakshmi's brother is directly across the net from her daughter.

(ii) Her son is diagonally across the net from the worst player's sibling. Here, two cases arise :

Case 1 : Lakshmi is worst player. Son will be diagonally across Lakshmi's Brother.



Case 2 : Son is worst player. Son will be diagonally across Lakshmi's daughter.



(iii) The best player and the worst player are on the same side of the net.

Therefore, in both the cases the best player is Lakshmi's Brother.

Hence, **option 1** is the correct answer.

---

73. Answer: d

Explanation:

Calculations:

From July '2' to June '16' it is almost one year. In this duration repo rate and reverse repo rate is going to increase continuously Wherever CRR is fixed. This only happens to control the inflation in the market. So whenever the central bank resists the policy rate, it is a way to suck out liquidity from the system. Normally this is due to the central bank expectation of rising inflation. Hence a continuously rising repo rate indicates an anti-inflationary stance.

∴ Option 4 is correct

---

74. Answer: c

Explanation:

Calculations:

Statement 1: Higher per capita income is generally associated with higher Tele-density. Here generally word is used in the statement that means in this statement we can negate one and two exceptions. Therefore, According to the table, State 4 and state 8 are the exceptions. Otherwise higher per capita income is associated with higher teledensity. So statement 1 is true.

Statement 2: Higher GDP growth rate always ensures higher per capita income. Here Always word is used in the statement that means in this statement we can not negate the exceptions. Therefore, According to the table, state 3 has the lowest Capita income but the second-highest GDP growth rate (%). It means a Higher GDP growth rate does not ensure a higher per capita income. So statement 2 is false

Statement 3: Higher GDP growth rate does not necessarily ensure higher Tele-density. According to the table is statement 3 is true.

∴ Statement 1 and statement 3 is true.

---

75. Answer: d

Explanation:

Calculations:

Statement 1: Nowadays, the prosperity of an already high performing State cannot be sustained without making further large investments in its telecom infrastructure.

States	Per Capita income ($)	GDP growth rate (%)	Tele-density
State 8	395	5.92	6
State 4	545	9.78	5.94

In these two state teledensity is low but the GDP rate is high. So there is no need for a large investment in telecom infrastructure. So, statement 1 is false.

Statement 2: Nowadays, a very high Tele-density is the most essential condition for promoting business and economic growth in a Stage.

States	Per Capita income ($)	GDP growth rate (%)	Tele-density
State 7	900	8.88	104.86

So, statement 2 is false.

∴ Both the statements are false.

---

76. Answer: a

Explanation:

Concepts used:

Indirect taxes' revenue consists of Excise, Customs and Service tax revenue.

Direct Taxes' revenue consists of Corporate and Personal Income tax revenues.

Calculation:

Indirect taxes' revenue consists of Excise, Customs and Service tax revenue.

⇒ Tax revenue from Indirect taxes = Revenue from Excise + Customs + Service tax

Direct Taxes' revenue consists of Corporate and Personal Income tax revenues.

⇒ Tax revenue from Direct taxes = Revenue from Corporate tax + Personal income tax

As excise and customs tax revenue is falling from 1990 to 2011 while service tax revenue is rising but the amount is very small, it can be inferred that Indirect taxes as a percentage of total tax revenue are falling over time.

On the other hand, both Personal income tax and Corporate Tax revenues are rising and Corporate tax revenues are the highest over the most of the period, it can be inferred that Direct tax revenue as a percentage of total tax revenue has fallen during the given period.

As information about the contribution of various sectors of economy - agriculture, manufacturing and service sector towards any individual tax revenue or total tax revenues is not given, any inference about the growth rate of any sector cannot be done.

∴ Only statement 1 is correct.

---

77. Answer: d

Explanation:

Given :

x - y = 8

Calculations :

For this question, we must check each option

For option (1) ⇒ x - y = 8 at x = 4 and b = -4, so option 1 does not satisfy.

For option (2) ⇒ x - y = 8 at x = 12 and y = 4, so option 2 also does not satisfy.

For option (3) ⇒ x - y = 8 at x = -1 and y = -9, so option 3 also does not satisfy.

So no option follows.

∴ Option 4 will be the right choice.

---

78. Answer: d

Explanation:

The correct answer is **Environmental cost of meat production is unsustainable when it is produced through industrial farming.**

⭐ Key Points

- Let's examine the options given one by one:
- **Option 1** states that mass production is cheap and suitable for providing nutrition in poor countries. This is **not right** as the environmental cost of meat production is high and mass production also has the chance of spreading diseases.
- **Option 2** is correct but **not the main message** as the **passage does not deal with legal aspects** of meat production and animal rights.
- **Option 3** is **incorrect** as stopping mass production of meat is not practical and feasible.
- **Option 4** is **correct** as the passage significantly highlights the environmental cost of meat production in terms of water consumption.

Thus, the crucial message is that the **environmental cost of meat production is unsustainable when it is produced through industrial farming.**

---

79. Answer: b

Explanation:

The correct answer is **Safe wildlife corridors between protected areas is an essential aspect of conservation efforts** .

⭐ Key Points

- In the passage, it's been highlighted that a significant number of tigers live outside the tiger reserve because they don't have enough space for movement and to fulfill their needs.
- This poses a problem for humans and tigers.
- Therefore, as part of conservation efforts, safe wildlife corridors must be created to ensure easy movement and maintenance of genetic diversity.

Hence, the correct answer is that safe wildlife corridors between protected areas is an essential aspect of conservation efforts.

⭐ Additional Information

- **Pench Tiger Reserve** or Pench National Park is one of the premier tiger reserves of India and the first one to straddle across two states - Madhya Pradesh and Maharashtra .
- Pench Tiger Reserve comprises the Indira Priyadarshini Pench National Park and the Pench Mowgli Sanctuary
- The Pench River which emerges from Mahadeo Hills of Satpuda Ranges flows through it.
- Pench is categorized as a tropical moist deciduous tiger habitat.

---

80. Answer: a

Explanation:

The correct answer is **1 only.**

⭐ Key Points

- Let's examine each of the two assumptions:
- Assumption 1 argues that the strategy of conservation of wildlife by relocating them from one protected area to another is no often successful. This is correct because relocation and enclosing tigers in protected spaces leads to restriction of movement which has counter effects on conservation of tigers.
- Assumption 2 is incorrect since there is **Project Tiger** that was started to save the declining population of tigers in the country.

Hence, the correct assumption is 1 only.

⭐ Additional Information

- **Project Tiger** is a tiger conservation programme launched in April 1973 by the Government of India during Prime Minister Indira Gandhi 's tenure.
- As the Bengal Tiger is the national animal of India, this project aims to stem the dwindling population of the big cats and work to increase their numbers.
- The project aims at ensuring a viable population of Bengal tigers in their natural habitats, protecting them from extinction, and preserving areas of biological importance as a natural heritage forever represented as close as possible the diversity of ecosystems across the distribution of tigers in the country.