IAS CSAT PAPER 2 ---   2018
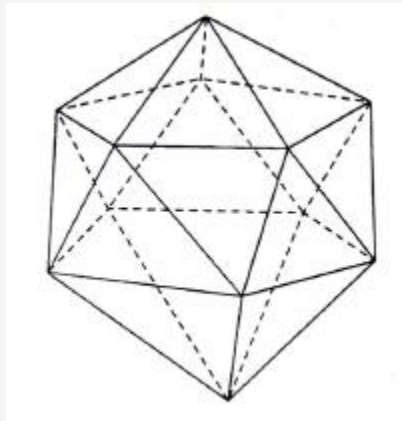
1.Consider the following three-dimensional figure:

How many tringles does the above figure have?

   a.   18
   b.   20
   c.   22
   d.   24

Sol. Answer is (b).

Five triangles are on top

Five triangles are in bottom

The middle layer is as shown with 10 triangles.

So, total = 5 + 5 + 10 = 20

2. Consider the following sum:

• + 1• + 2• + •3 + •1 = 21•

In the above sum, • stands for

   a. 4
   b. 5
   c. 6
   d. 8

Sol. Answer is (d).

The given expression can be expanded as:

x + 10 + x + 20 + x + 10(x) + 3 + 10(x) + 1 = 210 + x

On solving, we get: x = 8.

Here we used the concept of face value and place value - a number 2• can be 25 = 20 + 5 = 2x10 + 5.

3. Consider the following pattern of numbers :

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

Sol. Answer is (a).

$$
\begin{array}{cccc}
8 & 10 & 15 & 13 \\
6 & 5 & 7 & 4 \\
\underline{4} & \underline{6} & \underline{8} & \underline{8} \\
6 & 11 & 16 &
\end{array}
$$

1. $8 + 4 - 6 = 6$

2. $10 + 6 - 5 = 11$

3. $15 + 8 - 7 = 16$

4. $13 + 8 - 4 = 17$

The first number and the third number in each column is first added, and then the second number is subtracted from the total obtained. Thus, for the first column, we have $8 + 4 = 12$, and subtracting 6 from it, we get $12 - 6 = 6$. This is the last number in the first column. Repeat this in all columns, and in the end, we get $13 + 8 = 21$, and $21 - 4 = 17$.

4. How many diagonals can be drawn by joining the vertices of an octagon?

   a.   20
   b.   24
   c.   28
   d.   64

Sol. Answer is (a).
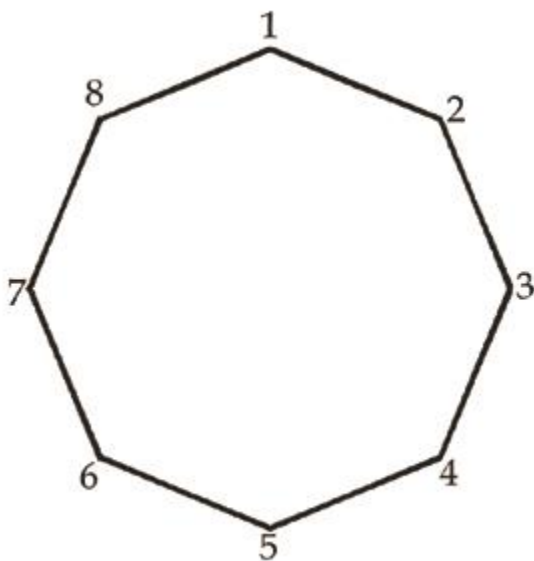
Each point on the octagon can be connected to (8 - 3) points.

So each point can form 5 diagonals.

So we get 40 in all.

However this includes similar pairs, i.e. 1-6, 6-1, 2-4, 4-2 etc.

So we divide this by 2.

So, answer is 20.

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= 1/2 LD :
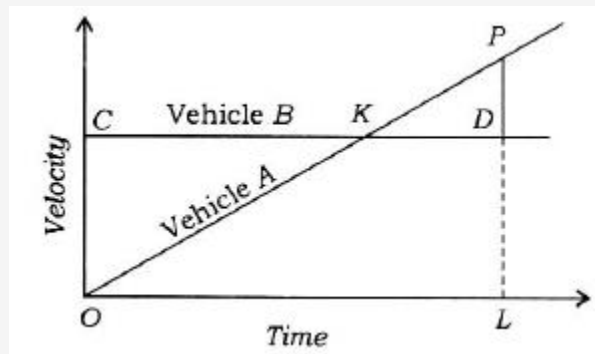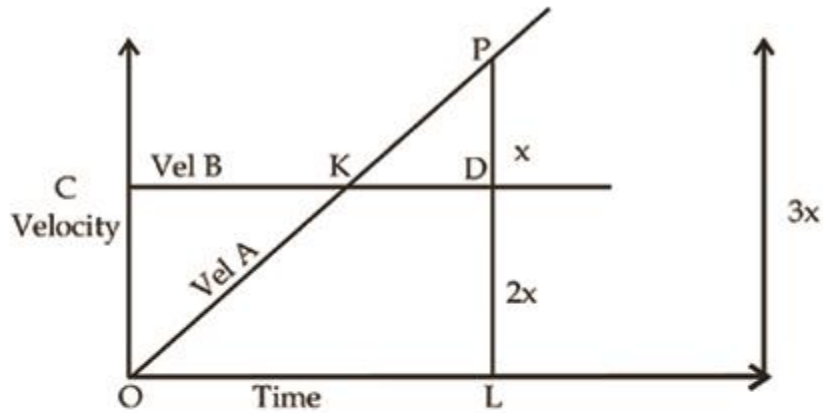

What is the ratio between the distances covered by vehicles A and B in the time interval OL?

   a. 1 : 2
   b. 2 : 3
   c. 3 : 4
   d. 1 : 1

Sol. Answer is (c).

Concept used is area of velocity-time graph gives diplacement.

So ratio here = $\dfrac{\text{(Area under Vehicle A)}}{\text{(Area under Vehicle B)}}$

$$= \dfrac{\frac{1}{2}(OL)(PL)}{OL(DL)} = \dfrac{1}{2}\dfrac{(PL)}{DL} = \dfrac{1}{2}\left(\dfrac{3x}{2x}\right)$$

$$= 3:4$$

6. A train 200 metres long is moving at the rate of 40 krnph. In how many seconds will it cross a man standing near the railway line?

    a.   12
    b.   15
    c.   16
    d.   18

Sol. Answer is (d).

Length = 200m

Speed = 40 km/h

So time in seconds ⇒ 9 = d/t

t = d/s

$$\text{Time} = \frac{200m}{40km/h} \approx 18 \text{ sec.}$$

Directions for the following 4 (four) items :

Read the following **four passage's** and answer the items that follow. Your answers to these items should be based on the passages only.

Passage-1

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.

7. 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.

Sol. Answer is (b).

We are asked to determined the most logical and rational inference.

The passage talks about the percentage of population in various regions that are dependent on agriculture for their livelihood. According to the passage India has around 47% of its people

working in agriculture. And going forward, the number is expected to be at least 42%, a huge proportion. So Option (b) is the most logical answer.

Option (a) is ruled out as it a value judgement, which is not the thrust of the passage. Option (c) is about a policy choice, not at all indicated in the passage. Option (c) is ruled out as that is a possibility, among many others, and nothing is actually hinted about it in the passage.

Passage-2

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.

8. 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.

Sol. Answer is (a).

A very simple question, as three options get eliminated directly.

The passage mainly talks about two things : 1. Food poisoning, and 2. Globalization of food production.

The passage says that "globalization of food production increases consumers' vulnerability as food production becomes harder to regulate and trace." This clearly indicates that the best option is (a).

Option (b) and (c) are clearly incorrect as they are not mentioned anywhere.

Option (d) may be rejected as the passage, though criticizing globalization of food production, does not imply that globalization should be curtailed. Even the WHO statement does not hint at "curtailment", it only tells us the nature of our food today.

Passage-3

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.

9. 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 are given more importance than spiritual views.

Sol. Answer is (b).

Option (a) is clearly incorrect as it is not mentioned.

Option (d) is incorrect because nowhere in the passage is it written that scientific views are currently been given more importance than cultural ones. The passage speaks of society considering science and faith incompatible.

The passage states that the author "finds it odd that even in today's culture there seems to be an assumption that scientific and cultural views are incompatible". This infers that the author is in disagreement with the said fact and so option (b) is the best answer.

The passage does state that there are some fundamental questions which science is currently unable to give a reasonable answer to, but it doesn't mean that science is not capable of answering them, it may just be a matter of time. Also, the passage does not talk about faith not having answers. So option (c) is incorrect.

Passage-4

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.

10. 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

Sol. Answer is (d).

Since the options can be eliminated easily, the question is an easy one!

The use of words like "shackles" and "bind" and "suppress" clearly show the author's view that certain past bonds obstruct "her physical and spiritual growth" (people and India considered synonymously). Option (d) is the best answer.

Options (b) and (c) are incorrect because the author has shown interest,appreciation and pride in India's past on a whole.

Option (a) is incorrect for the same reason.

Directions for the following 3 (three) items:

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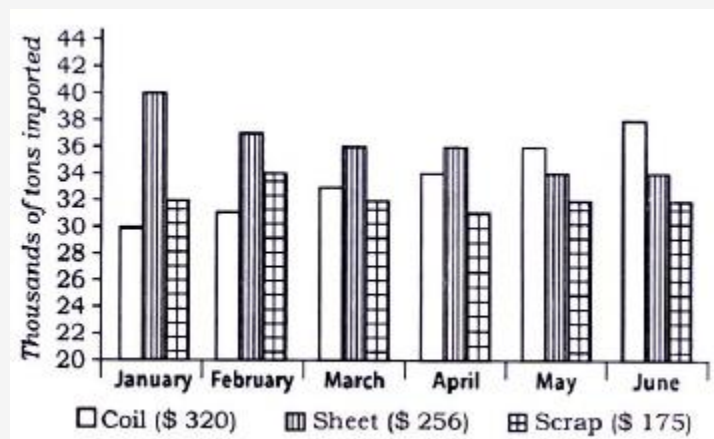
The figures in the brackets indicate the average cost per ton over six months period.

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

   a. 11
   b. 15
   c. 19
   d. 23

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

   a. 45,555
   b. 50,555

c. 55,550

d. 65,750

13. 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

Solutions to Q.11, 12 and 13 given below

Sol 11. Answer is (c).

Sheet steel imports = 40 + 37 + 36 thousand tons = 113 TT

Coil steel imports = 30 + 31 + 33 thousand tons = 94 TT

So the difference = 113 - 94 = 19 TT

The question requires you to read the graph in a fine manner.

Sol 12. Answer is (c).

Amount of sheet steel imported = 217 thousand tons

This is the total of all months = 40 + 37 + 36 + 36 + 34 + 34 = 217 thousand tons

So Cost = 217 × 256 × 1000 = $ 55,552,000

Hence, answer is (c).

Sol 13. Answer is (b).

Amount of sheet steel imported = 40 + 37 + 36 = 113 thousand tons

Amount of scrap steel imported = 32 + 34 + 32 = 98 thousand tons

So the ratio will be 113 / 98 = 1.2 approximately

(the closest option)

Hence, answer is (b).

Directions for the following 3 (three) items

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 items that follow the given figures

(I)   (II)   (III)   (IV)
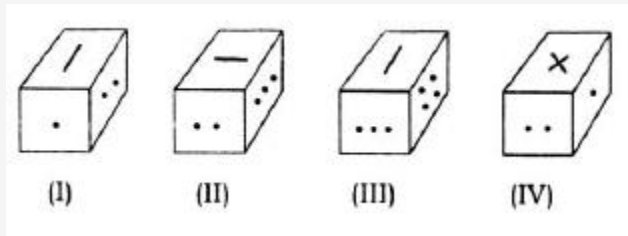
14. What is the symbol on the face opposite to that containing a single dot?

   a. Four dots
   b. Three dots
   c. Two dots
   d. Cross

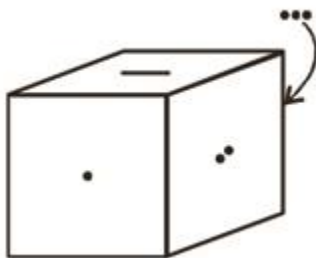**15.** What is the symbol on the face opposite to that containing two dots?

   a. Single dot
   b. Three dots
   c. Four dots
   d. Line

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

   a. Single dot
   b. Two dots
   c. Line
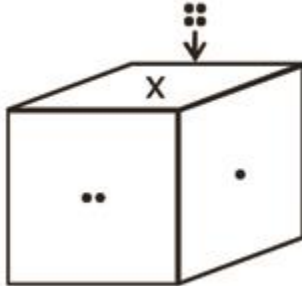   d. Four dots

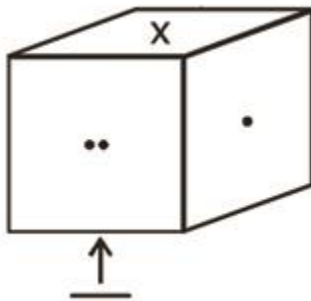**Solutions to Q.14, 15 and 16 given below**

Sol 14. Answer is (b).

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One dot is opposite to three dots.

Sol 15. Answer is (c).

Two dots is opposite to four dots.

Sol 16. Answer is (c).

Cross is opposite to line.

Directions for the following 4 (four) items:

Read the following **passage** and answer the four items that follow. Your answers to these items should be based on the passage only.

Passage

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 redesigned to ensure that these do not force children to struggle between school and tuition centres, and bypass childhood.

17. 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. 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

19. 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

20. 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.

Solutions to Q.17, 18, 19 and 20 given below

Sol 17. Answer is (c).

The thrust of the passage is about fundamental changes that go beyond mere infrastructure and attendance. It says that the Right to Education focuses not on changing the mindset of parents, but focuses on changing the quality of the education that disadvantaged groups receive. It focuses on intangible changes like curricular reforms, teacher's accountability etc. rather than the actual physical infrastructure present at schools. It focuses on teaching-learning process.

Statement 1 is not correct. Statement 2 also is incorrect. Only 3 fits in.

So best answer is (c) - 3 only.

Sol 18. Answer is (b).

Statement 1 says - '...RTE guarantees teachers' accountability...' - this is wrong as the passage speaks about "...teacher accountability systems must ensure that ... etc." Author is expecting that such a thing should happen, and that implies it is not a guaranteed feature. Statement 1 is thus wrong, and is not an assumption. "Guaranteed" is a very strong word, which indicates that all measures have already been taken! In fact, the author is hoping that one day such a situation can arise. Thus, options (a) and (d) are gone.

Statement 2 is correct as the passage speaks of "free and compulsory..." etc. That would imply 100% enrolment of children.

Now look at the options. Only (b) can be correct - 2 and 3 only.

Strictly speaking, even statement 3 may not be correct, but we have no option like "only 2".

Sol 19. Answer is (d).

Option (d) is the best answer as the passage says that ensuring regular attendance is required, but not sufficient in ensuring quality education. However inculcating learning through activities and discoveries falls under the Act's objectives to enhance the learning process and make it less dependent on stressful books and examinations.

Options (a) and (b) could be eliminated easily. Option (c) is not the major argument.

Sol 20. Answer is (c).

We are asked the "essential message" in the paragraph.

Option (a) is a fact, not the essential message.

Option (b) is another fact, though a praiseworthy one, but not the essential message.

Option (c) is correct, as that is what the passage is trying to communicate - Quality Education.

Option (d) is not the main message.

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21. If LSJXVC is the code for MUMBAI, the code for DELHI is

a. CCIDD
b. CDKGH
c. CCJFG
d. CCIFE

Sol. Answer is (a).

Code is a letter back for first letter, two back for second letter, three back for the third letter, and so on.

So, correct code for DELHI is CCIDD.

22. If RAMON is written as 12345 and DINESH as 675849, then HAMAM will be written as

a. 92233
b. 92323

c.   93322

d.   93232

Sol. Answer is (b).

RAMON → 12345

DINESH → 675849

H → 9, A → 2, M → 3

So HAMAM → 92323.

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?

a.   -9 and 1

b.   -9 and -1

c.   0 and 8

d.   0 and 9

Sol. Answer is (d).

If X is between -3, -1

Then X^2 is between 1 to 9

If Y is between -1, 1

Then Y^2 is between 0, 1

⇒ $X^2 - Y^2$ is between 0, 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?

a.   XY

b.   X / Y

c.   Y / X

d.   (X + Y) / XY

Sol. Answer is (a).

$$y > x > 1$$

$$x/y > x/y \text{ as } x/y < 1$$

$$xy > y/x \text{ as } y/x < y \text{ and } xy > y$$

$$xy > \frac{x+y}{xy} \text{ as } xy > \frac{x}{y}+\frac{1}{x} \text{ as } \frac{1}{y}+\frac{1}{x} < 2$$

but $xy > 2$.

Directions for the following 2 (two items):

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 a follows : Both B and CV occupy office to the right of the corridor (a one enters the office block) and A occupies on the left ofthe corridor. E and F occupy office 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.
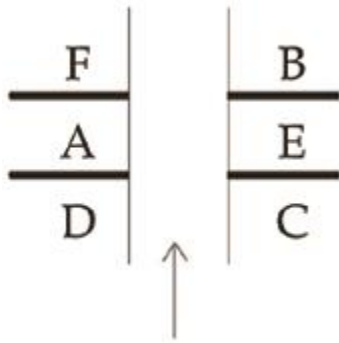
25. If E sits in his office and faces the corridor, whose office is to his left?

    a. A
    b. B
    c. C
    d. D

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

    a. A only
    b. A and D
    c. C only
    d. B and C

Sol 25. Answer is (c). Final Plan

Sol. 26 Answer is (a).

Directions for the following 7 (seven) items :

Read the following **four passages** and answer the items that follow. Your answers to these items should be based on the passages only.

Passage-1

'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 tht 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.

27. 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

28. 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

29. 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

Solutions to Q.27, 28 and 29 given below

Sol 27. Answer is (d).

A very good question, based on a passage on Agriculture and Environment / Ecology.

Deforestation leads to erosive losses, which lead to site degradation.

The passage talks about the human impact on water bodies and general ecosystems, due to agricultural and other practices.

All the four statements are mentioned. Loss of topsoil is a great concern. Smaller rivers drying out (in Himalayan region) is mentioned. Drying up of underground springs and rivers leading to damage to tea plantations, leading to poor agricultural production too is mentioned.

Soil degradation, soil erosion and soil water retention capacity all indicate that the groundwater too is adversely affected.

Correct answer is (d) - 1, 2, 3 and 4.

Sol 28. Answer is (a).

Statement 1 is mentioned, hence a correct inference can be drawn.

Statement 2 is incorrect because it says that the salinization of land can take place only by human intervention, something that the passage does not claim.

Statement 3 is incorrect as the passage only talks about intense monoculture practices in India and does not specify its ill effects in Africa and South America.

Hence, answer is (a) - 1 only.

Sol 29. Answer is (b).

Assumption 1 is incorrect as desertification also occurs in sub-tropical and temperate regions.

Assumption 2 is correct as many negative outcomes of deforestation combine and eventually lead to flash floods and desertification.

Hence correct answer is (b) - 2 only.

So this set of 3 questions was rewarding, although slightly tough.

Passage-2

A diversity of natural assets will be needed to cope with climate change and ensure productive agriculture, forestry, 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.

30. 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. 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

Solutions to Q.30 and 31 given below

Sol 30. Answer is (b).

Another passage on climate change related issues.

Statement 2 is clearly wrong, as it goes against the question asked - "which of these will assist in coping with climate change?" Existing crop management practices (Statement 3) are directly against the idea of coping up with climate change.

Three options have 3 - (a), (c) and (d). All can be eliminated!

Answer is (b).

You can quickly check if that is indeed correct - it is - (b) - 1, 2 and 4 only.

Sol 31. Answer is (b).

The passage talks about monocropping practices and how they pose a danger to native plant varieties. It says - "...choosing crops favours homogeneity..."

However there is no mention of diversification of livelihoods in the passage. The opening line indicates "diversity of natural assets" not livelihoods.

Passage-3

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.

32. 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.

Sol. Answer is (c).

Another passage on environmental issues.

"Fascination with glitter" and "shopping mall" clearly states that the passage is trying to tell us to reduce our consumerism. Our top challenge is people and their aspirations, and they are guided by consumerism - hence (c) is best.

Option (a) is not chosen as it is not explicitly mentioned.

Option (b) is wrong.

Option (d) is incorrect as "knowledge of biological systems" is different from understanding the fact that the Earth is "a biological system".

Passage-4

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.

33. 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

Sol. Answer is (b).

The passage says that the theory that people are born with leadership qualities (or not at all) is false and that leadership can be naturally acquired or can be taught. So the best possible answer is (b).

Option (a) is wrong as that is not the only way.

Option (c) is wrong as any comparison of numbers is not provided.

Option (d) is not mentioned anywhere.

34. A number consists of three digits of which the middle one is zero and their sum is 4. If 'he 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

    a. 1
    b. 2
    c. 3
    d. 4

Sol 34. Answer is (b).

Let number be $\underline{\quad}\ \underset{0}{\overset{x}{\quad}}\ \underset{}{\overset{(4-x)}{\underline{\quad}}}$

now value of number is $100x + 10 (0) + 4-x$

$= 99x + 4$

On reversing, we get $100 (4-x) + 10(0) + x$

$= 400 - 99x$

The difference is 198.

$\Rightarrow 400 - 99x - [99x+4] = 198$
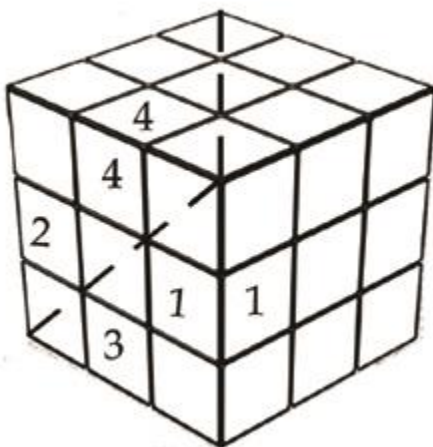
$\Rightarrow 396 - 198x = 198$

So, $x = 1$

So, number is 103.

And difference is 2

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?

    a. 12
    b. 8
    c. 6
    d. 4

Sol 35. Answer is (a).

4 cubes on each face, and 12 in total.

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?

   a. 61
   b. 64
   c. 85
   d. 91

Sol 36. Answer is (c).

700 – 1000

700 series

710	720	730	.....	760
1	2	3	.....	6

800 series

810	820		.....	870
1	2		.....	7

900 series

910	920		.....	980
1	2		.....	8

Total sum

= (1 + 2 + 3 ...6) + (1 + 2 ....7) + (1 1 2 ... 8) = 85

37. If Pen < Pencil, Pencil < Book and Book > Cap, then which one of the following is always true?

   a. Pen > Cap

b. Pen < Book
c. Pencil = Cap
d. Pencil > Cap

Sol 37. Answer is (b).

Pen < Pencil

Pencil < Book

So, Pen < Book. A simple question!

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. ?

a. 3x + 3a
b. 3ax + 8
c. 9ax
d. $x^3 a^3$

Sol. Answer is (b).

Sale from Geography → Rs. ax

From History → ax + 2a + 2x + 4

From Maths → ax – 2a – 2x + 4

So, Total Sale is Rs. 3ax + 8.

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?

a. 1/2
b. 4/7
c. 5/9
d. 12 /13

Sol. Answer is (b).

Probability of picking a random ball is

Red → 15/35, [within the 15 red balls : Red with number 1 → 20% of 15 = 3/15, Red with number 3 → 40% of 15 = 6/15].

Black → 20/35, [within the 20 black balls : Black with number 2 = 45% of 20 = 9/20, Black with number 3 = 30% of 20 = 6/20].

So, we have to find probability of red balls with number 3 or black balls with numbers 1 and 2 So probability is

So probability is $\left(\frac{15}{35}\times\frac{6}{15}\right)+\left(\frac{20}{35}\times\frac{5}{20}\right)+\left(\frac{20}{35}\times\frac{9}{20}\right)=\frac{4}{7}$.

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?

   a. 6 : 5
   b. 4 : 3
   c. 6 : 1
   d. 4 : 2

Sol. Answer is (a).
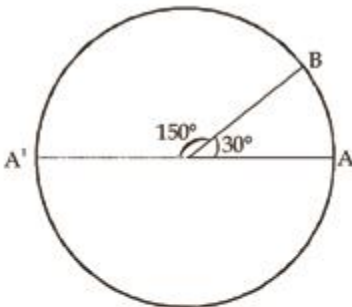
Ratio of angles covered by A & B = Ratio of their Speeds

∴ Answer = $\frac{180}{150}$ = 6/5

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?

   a. 100

b. 120
c. 150
d. 300

Sol. Answer is (c).

Let the total marks to pass the x.

$$\frac{40}{100} x = 30 + 30 \text{ [Marks gain + Marks left to pass]}$$

$$\Rightarrow x = 150.$$

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 pants. What is the number of boys wearing full uniform?

a. 3
b. 5
c. 6
d. 8

Sol. Answer is (c).

Total number of boys for playing hockey = 19

14 are wearing hockey pants

$\Rightarrow$ 5 are not wearing hockey pants

$\Rightarrow$ 5 are only wearing shirts

Now, 11 are wearing hockey shirts out of which 5 are only wearing shirts.

$\Rightarrow$ 6 people (= 11 - 5) are in full uniform, i.e. both hockey shirts and hockey pants.

Directions for the following 6 (six) items:

Read the information given below and answer t he six items that follow.

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

43. A is studying in

a. Rajasthan
b. Gujarat
c. city Q
d. Kerala

44. Science college is located in

a. city Q
b. city S
c. city R
d. city P

45. C is studying in

a. Science college
b. Rajasthan
c. Gujarat
d. city Q

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

a. C is studying there.
b. B is studying there.
c. It is located in Gujarat.
d. D is studying there.

48. 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.

Solutions to Q.43, 44, 45, 46, 47 and 48 given below

Sol 43. Answer is (a).

The correct pairing is

The correct pairing is

   City

A → P → Commerce → Gujarat

B → Q → Science → Kerala

C → S → Arts → Rajasthan

D → R → Engineering → Assam

Sol 44. Answer is (a).

See pairing above

Sol 45. Answer is (b).

See pairing above

Sol 46. Answer is (a).

See pairing above

Sol 47. Answer is (d).

See pairing above

Sol 48. Answer is (a).

See pairing above

Directions for the following 8 (eight) items

Read the following **eight passages** and answer the items that follow. Your answers to these items should be based on the passages only.

Passage-1

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.

49. 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 fount 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

Sol. Answer is (c).

The passage doesn't claim that climate change is a challenge for developed countries.

It states that climate change indeed is a complex policy especially for developing countries are hit the hardest by climate change as they need to continue their financial development.

The passage states that funding is required especially for countries like India if they are to adapt and find a possible solution to increase their adaptive capacity. So statements 2 and 3 are correct.

Passage-2

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.

50. 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 their 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.

Sol. Answer is (d).

A passage reflecting the reality sought to be tackled by the Pradhan Mantri Ujwala Yojana (PMUY).

The passage talks about the health hazards posed by cooking with biomass and coal and reports that there are more than 10 lakh premature deaths each year due to household pollution via cooking fuels. It also says that using of clean cooking fuels such as LPG, electricity etc. are being used by a fraction of Indians. The only logical inference is that access to cleaner sources of fuel like cooking gas can reduce premature deaths in poor households.

Option (a) can be ruled out - it is not given.

Option (b) is not explained in the passage.

Option (c) is irrelevant to the given content in the passage.

Passage-3

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, whateverunpleasant consequences it may have by the way, is in its very nature a liberator.

51. 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.

Sol. Answer is (c).

According to the passage, science is a necessary but not a sufficient condition for a happy world. The option (c) says that a happy world is not possible without science, which is true.

Option (a) is wrong as science opens up the vision of a possible happy world, but a happy world may or may not be the dream of science.

Option (b) is wrong as it says "Science only can ..."

Option (d) is wrong as it says "...with or without science".

Passage-4

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.

52. Which one of the following is the **most importakt 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.

Sol. Answer is (b).

Option (a) is clearly wrong, and is nowhere mentioned.

Option (c) is incorrect as the passage does not talk about the resource hunger of the world getting solved by Arctic resources.

Option (d) is wrong as comparison of quantum of resources of Arctic and Antarctica is not given.

The passage clearly says that there is no legal regime protecting the Arctic , and an ice-free summer could be the catalyst for geo-political changes as countries try to scramble for parts of the arctic.

Passage-5

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.

53. 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.

Sol. Answer is (c).

This passage talks about a persistent problem India is facing at the WTO regarding the Agreement on Agriculture (AoA).

The passage talks about the problem India, as a WTO member, is facing. On the one hand, it has to uphold the agreements it has signed as a member of WTO, but on the other it also has to look out for the food security of its underprivileged citizens, which often clashes with WTO's norms.

So option (c) is the best answer.

Option (a) is wrong as that is a strong policy recommendation, not mentioned.

Option (b) is wrong as that is another strong recommendation, not mentioned!

Option (d) is not to be chosen as it is a mere fact, not a crucial message conveyed.

Passage-6

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.

54. 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

Sol. Answer is (b).

This passage talks about the gross delinking which our education system has, with today's competitive markets. It tells us that our educational institutions, made by the Britishers, haven't reformed with time and resemble factories whose only job is to produce conforming students.

So the most relevant option is (b). Today's learners need to acquire new-age skills-sets.

Statement 1 is incorrect as it does not explicitly mention or even imply that our education system is a reason for our country still being a developing nation.

Statement 3 is not given anywhere.

Passage-7

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.

55. 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.

Sol. Answer is (d).

The main inference that can be drawn from the passage is that every individual has a slightly different body style which leads to lots of complexities. A diet cannot take into consideration these complexities; that is why most diets fail to work out. The passage urges people to understand the reasons for weight gain and changing habits.

So the perfect answer is (d).

Passage-8

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.

56. 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.

Sol. Answer is (a).

This passage only talks about the risks posed by monoculture and climate change related risks. So option (b) and (c) are ruled out.

Although the passage only mentions the negative effects of climate change that could happen in North America and Asia, this does not mean that they will be the worst sufferers of food shortage. Hence we rule out (d).

So only correct option left is (a).

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?

a. Rs. 10
b. Rs. 20
c. Rs. 30
d. Rs. 40

Sol. Answer is (c).

$$CP + \frac{x}{100}CP = Rs. 40$$

$$CP - \frac{x}{100}(CP) = Rs. 20$$

On solving CP = Rs. 30

$\Rightarrow x = 33.33$

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?

   a. 4
   b. 6
   c. 8
   d. 12

Sol. Answer is (c).
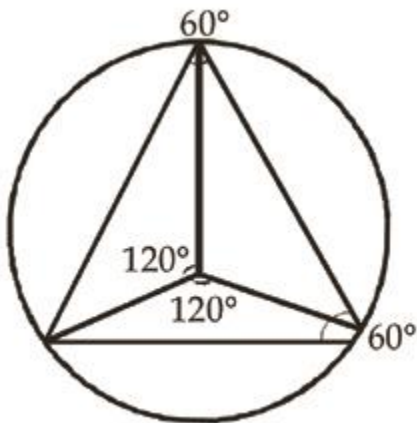
According to a property of circles, angle subtended at centre is double than that at the circumference.

So, we need 60° (for condition of equilateral triangles)

So, we need 120° at centre.

According to symmetry, we can get 24/[(360)/120] = 8 equilateral triangles.

59. Consider the sequence given below:

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

Sol. Answer is (b).

We are adding 28 days to each date.

So adding 28 days to 26-02-1996 which is a leap year, we get 25-03-1996.

60. welve 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 areg of each square?

   a. 5/7 sq cm
   b. 7/5 sq cm
   c. 1 sq cm
   d. 25/12 sq cm

Sol. Answer is (c).
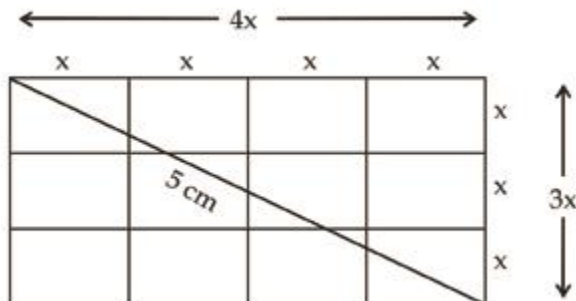
By Pythagoras theorem, we have

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

$25 = 25x^2$

$\Rightarrow x = 1$

So area of squares are $= x^2 = 1$.

61. Consider the following graph :
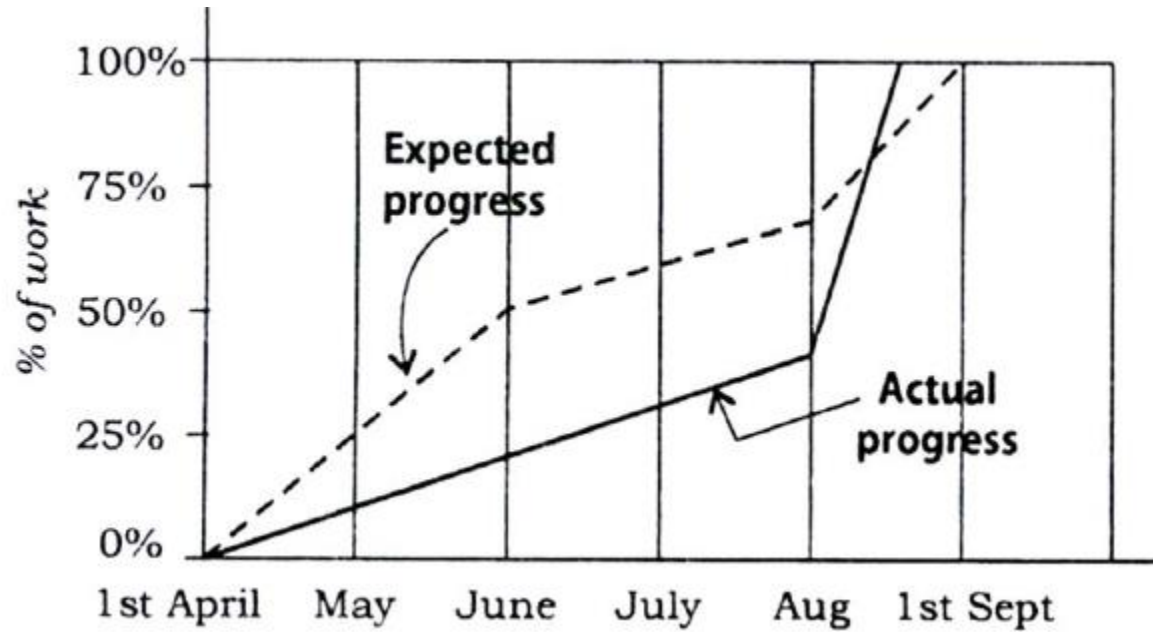
Which one of the following statements is not correct with reference to the graph given above?

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.

Sol. Answer is (d).

Option (d) is incorrect hence it is our answer.

There is a brief window of time from mid August to 1st September where actual progress was more than expected progress.

62. For a sports meet, a winners' stand comprising three wooden blocks is in the following form :
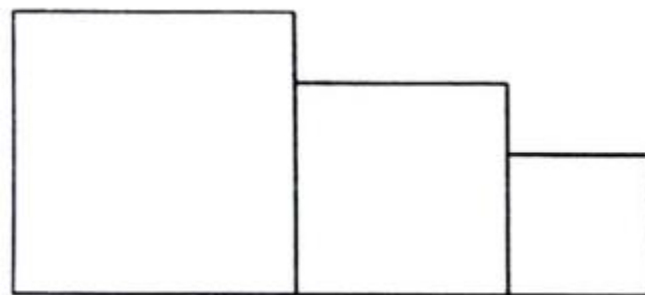
There are six different colours available to choose from and each of the three wooden blocks is to be painted such that no two of them has the same colour. In how many different ways can the winners' stand be painted?

    a. 120
    b. 81
    c. 66
    d. 36

Sol. Answer is (a).

$$6 \times 5 \times 4$$
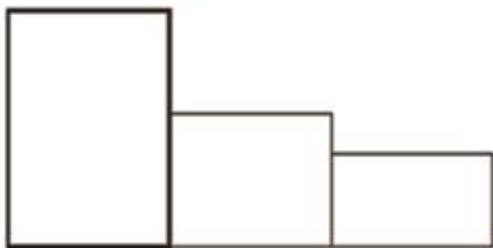
The Stand can be painted in $6 \times 5 \times 4 = 120$ ways in which no color will be clashing.

Direction for the following 2 (two) items :

63. Looking at the graph, it can be inferred that from 1990 to 2010
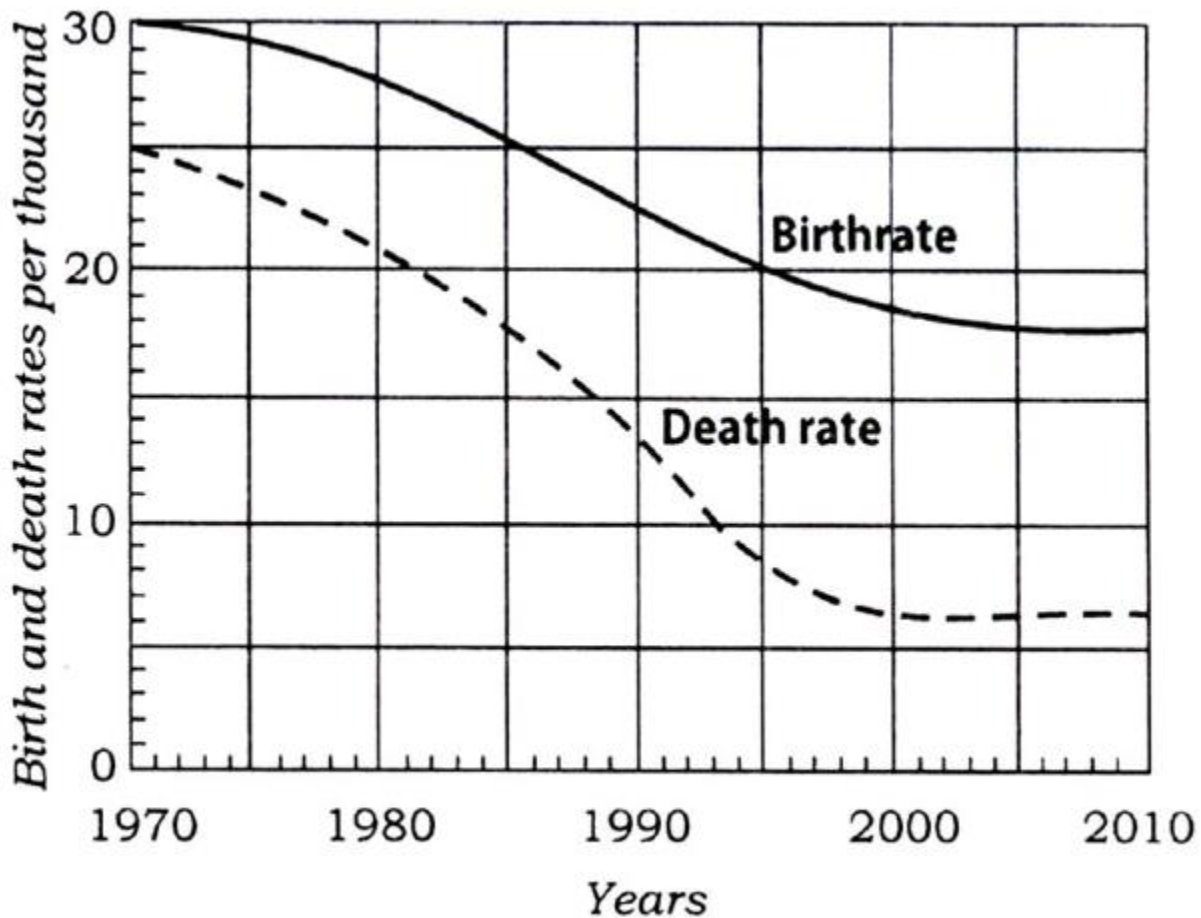
a. population growth rate has increased
b. population growth rate has decreased
c. growth rate of population has remained stable
d. population growth rate shows no trend

64. 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

Sol 63. Answer is (d).

If we observe carefully fron 1990 to 2010, we can see that first thre is a decrease in both birth rate and death rate and then they are stabilized. So option (d) is the best answer.

Sol 64. Answer is (d).

Population growth rate has been stabilized after 35 years as the difference between the birth rate and the death rate has been some from approximately 2000. Option (d) is best answer.

65. Average hourly earnings per year (E) of the workers in a firm are represented in figures A and B as follows :
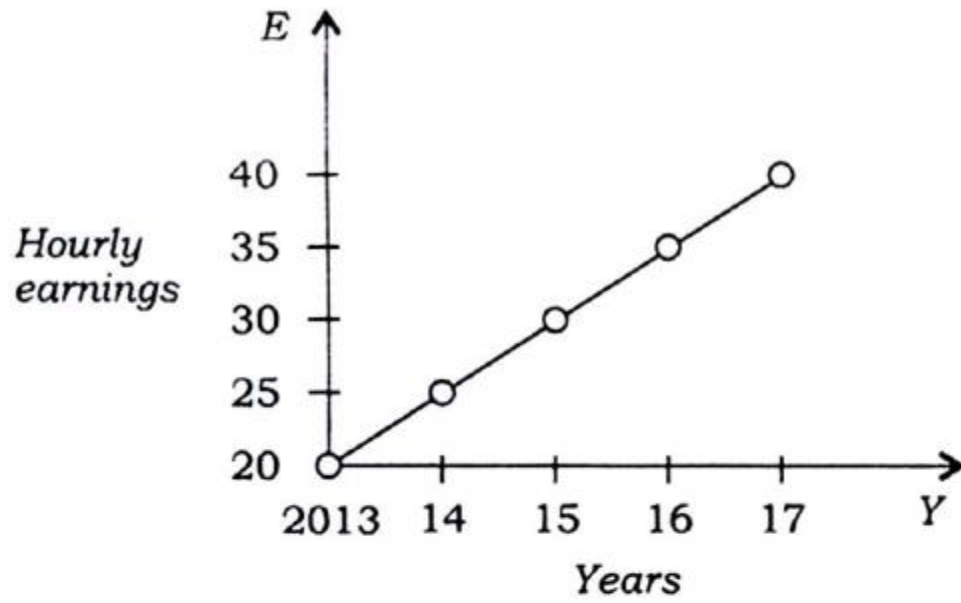
Fig. A
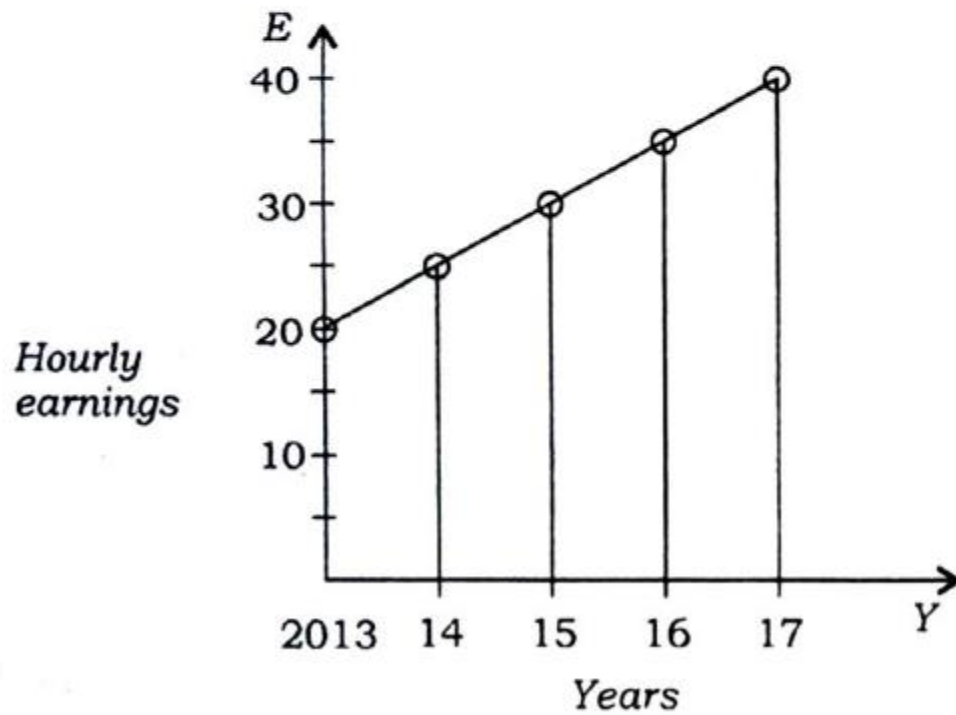
Fig. B

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

Sol. Answer is (c).

$$\text{Slope of first Graph} = \frac{25-20}{2014-2013} = 5$$

$$\text{Slope of second Graph} = \frac{25-20}{2014-2013} = 5$$

66. Consider the figures given below:
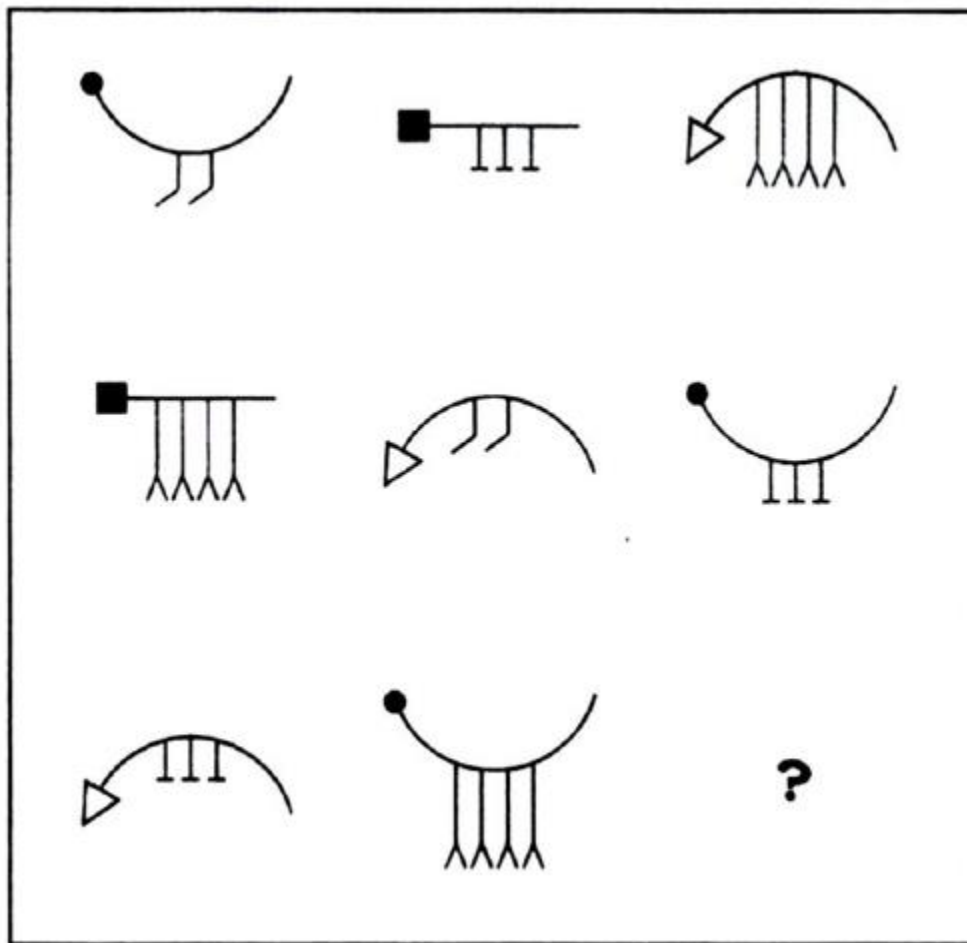
To fit the question mark, the correct answer is

(a)

(b)

(c)

(d)
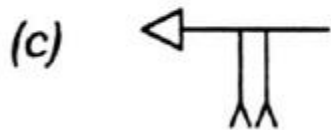
Sol. Answer is (a).

There is a pattern
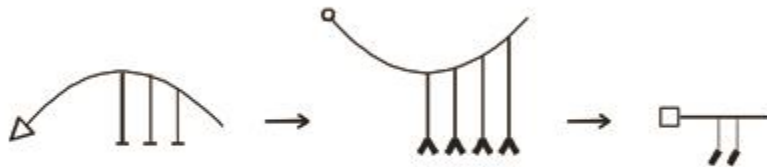
Best answer is (a).

67. Consider the following figures A and B :
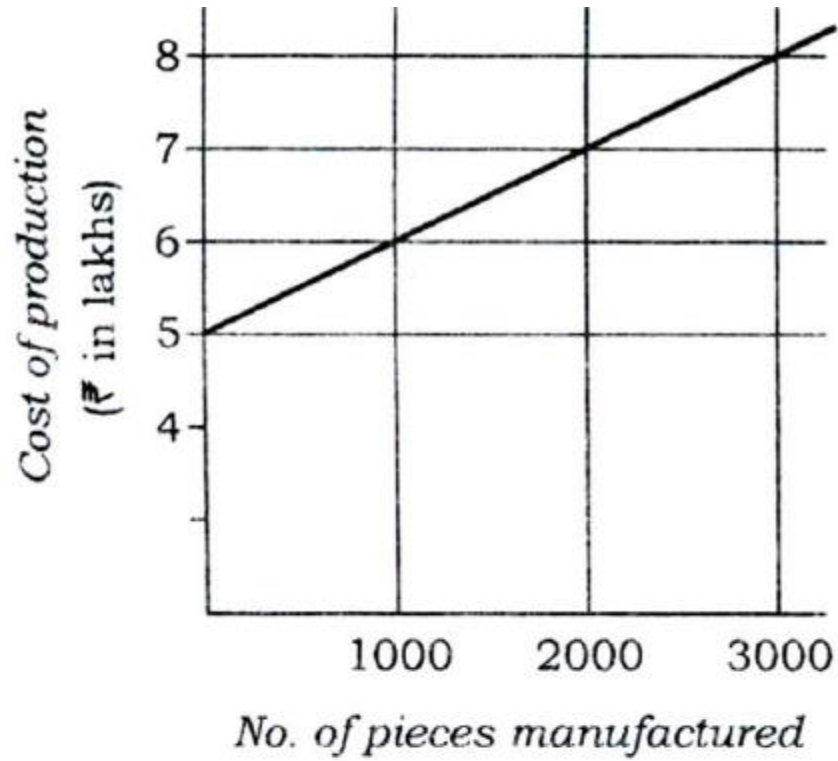
Fig. A
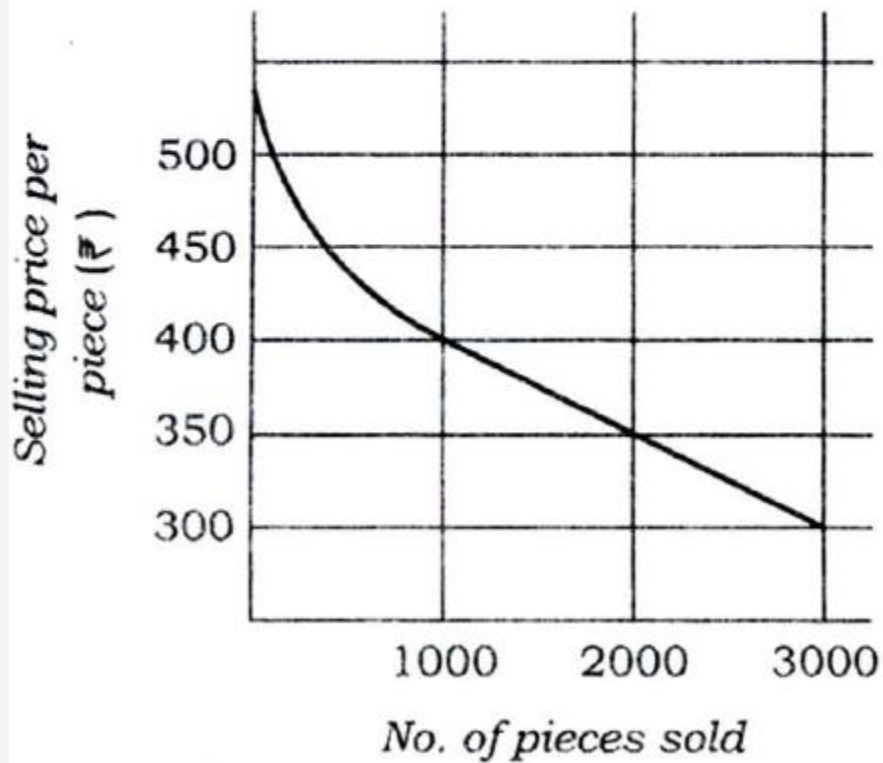
Fig. B

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

Sol. Answer is (a).

To avoid loss, $SP \geq CP$.

Minimum case $SP = CP$

So the selling price should be equal to cost price.

Selling price of 2000 pieces $= 2000 \times 350 =$ Rs. 7 lakh

Cost Price of 2000 pieces $=$ Rs. 7 lakh

So best answer is (a).

68. A lift has the capacity of 18 adults or 30 children. How many children can board the lift with 12 adults?

    a. 6
    b. 10
    c. 12
    d. 15

Sol. Answer is (b).

18 adults = 30 children

$1 \text{ adult} = \dfrac{30}{18} \text{ children}$

So with 12 adults 6 more adults can board

i.e. $12 + \dfrac{30}{18}(6) \Rightarrow 22$ total people

So, out of 22 total people, 10 are are children

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?

   a. Rs. 9,990
   b. Rs. 10,000
   c. Rs. 10,590
   d. Rs. 11,250

Sol. Answer is (d).

Total interets in first year is 12.5% of 22800 = Rs. 2850.

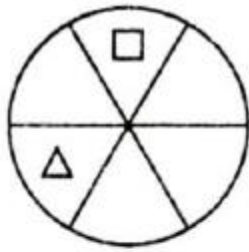Debt at end of first year is Rs. 22800 + 2850 = Rs. 25650.

After paying 8650, new principle is Rs. 17000.

Now, 12.5% of that is 2125

So, debt at end of second year = 19125.

So, he is left with debt Rs. 10000 + 12.5% of 10,000
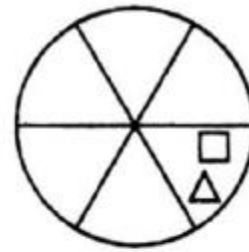
i.e. total Rs. 11,250
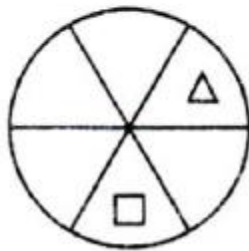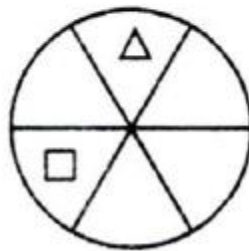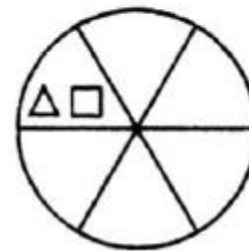
70. Consider the following figures :
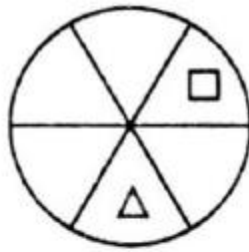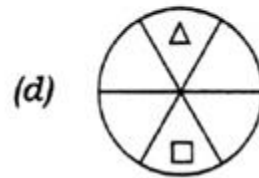
(I)   (II)   (III)
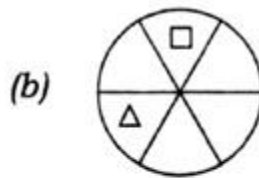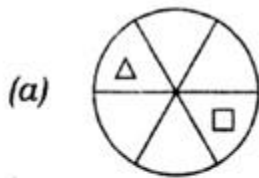
(IV)   (V)   (VI)

In the figures (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)

Sol. Answer is (b).
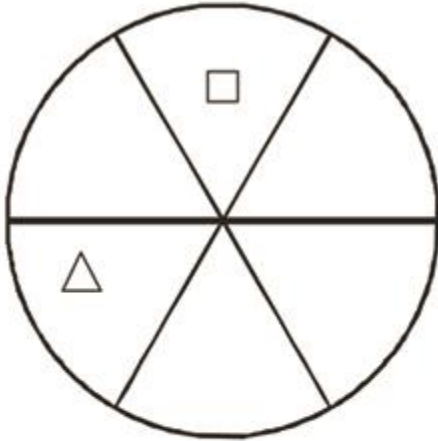
Δ moving anti-clockwise
□ moving clockwise

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:

Country A

Population (in millions)

Years

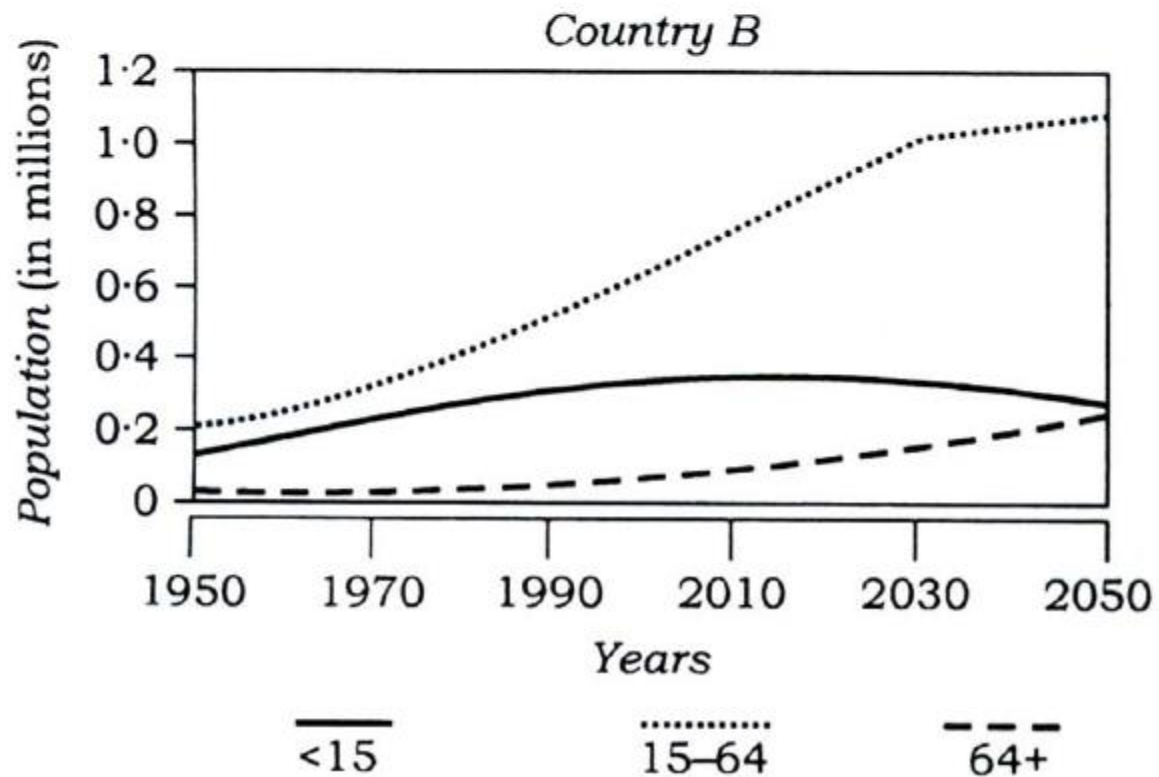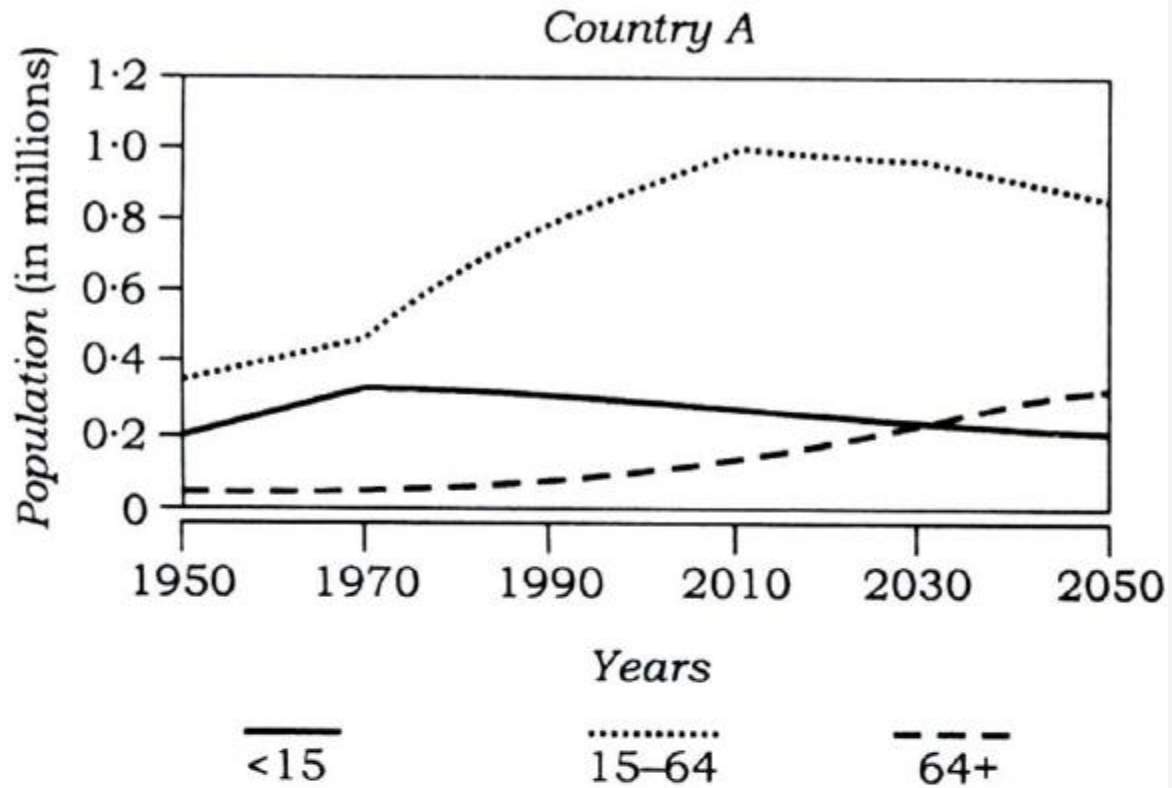—— <15   15–64   – – – 64+

Country B

Population (in millions)

Years

—— <15   15–64   – – – 64+

With reference to the above graphs, which of the following are the most logical and rational 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 next two and a half decades, the dependency ratio of country A will 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

Sol. Answer is (c).

Statement 1 is correct.

Dependency ratio is the ratio of $\dfrac{\text{Years } 15-64}{\text{Years} < 15 + \text{years} > 64}$

Statement 3 is correct. See graph

72. Lakshmi, her brother, her daughter and her son are badminton players. A game of doubles is about to begin :

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

Sol. Answer is (a).
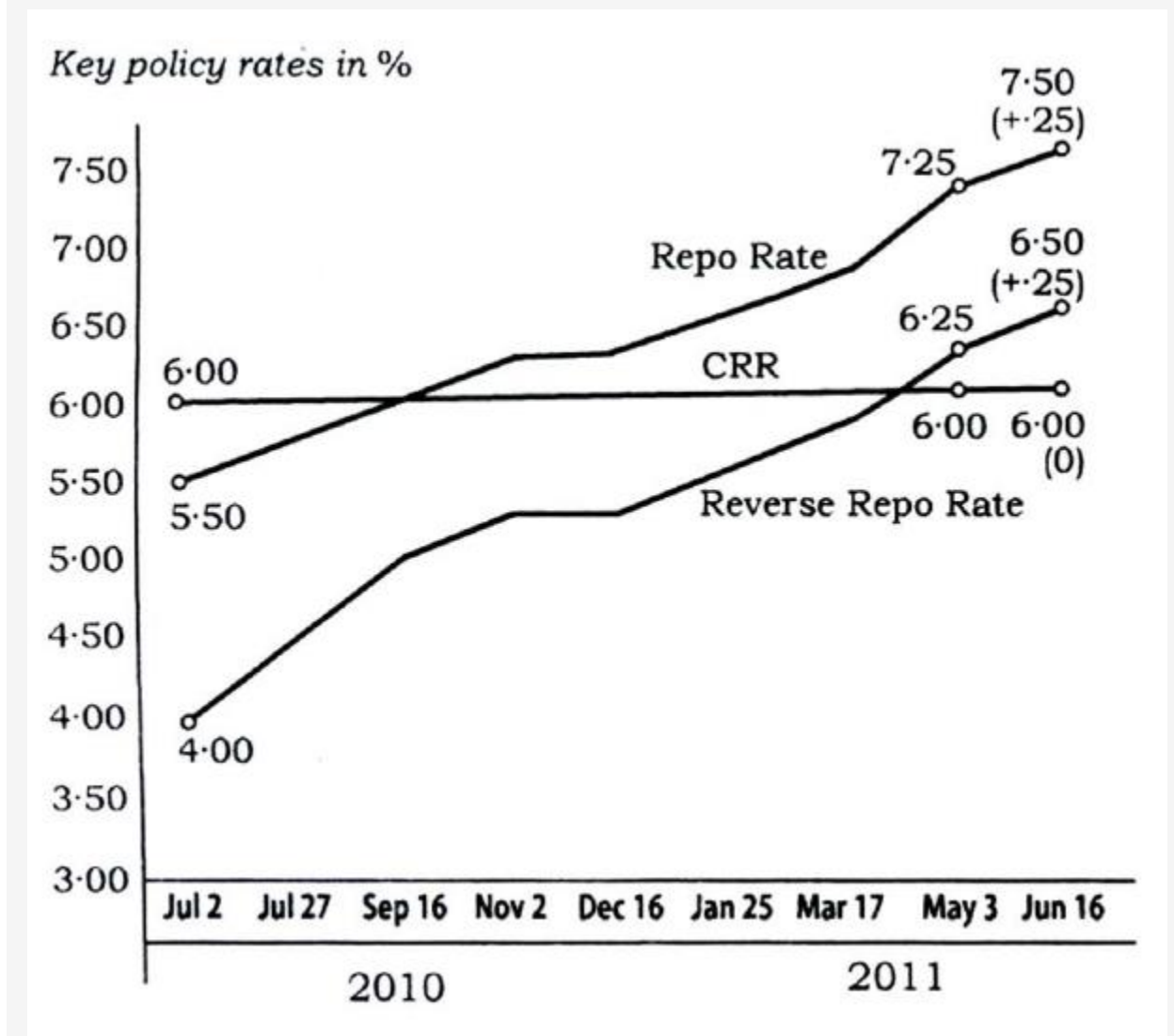
Arrangement is

Lakshmi	Brother
Son	Daughter

— Net

Best player is her brother.

73. The graph given below indicates the changes in key policy rates made by the Central Bank several times in a year:

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

Sol. Answer is (d).

This is a question based on general knowledge and not aptitude!

Whenever the Central Bank resists policy rates, 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. Hence option d is correct.

Directions for the following 2 (two) items :

The following table gives the GDP growth rate and Tele-density is data of different States of a country in a particular year. Study the table and answer the two items that follow.

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

74. 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

Sol. Answer is (d).

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
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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

See the states 15 and 16. State 15 has a higher GDP growth rate but less per capita income.

So, statement 2 which says that higher GDP growth rate always ensure higher per capita income, is wrong.

Statement 1 says that higher per capita income is associated with higher teledensity. But if u look at states 2 and 3, the relationship is inverse. There are other examples also. So statement 1 is wrong. Hence answer is option (d).

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

1. Nowdays, 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 the business and economic growth in a State.

Which of the above assumptions is/are valid?

a. 1 only
b. 2 only
c. Both 1 and 2
d. Neither 1 nor 2

Sol. Answer is (d).

Statement 1 tries to connect higher GDP growth rate only with further large investments in telecom. That is wrong. Hence statement 1 is ruled out. Statement 2 seems to be statement 1 in a reworded format. It is wrong. Hence answer is option (d).

76. The following graph indicates the composition of our tax revenue for a period of two decades :
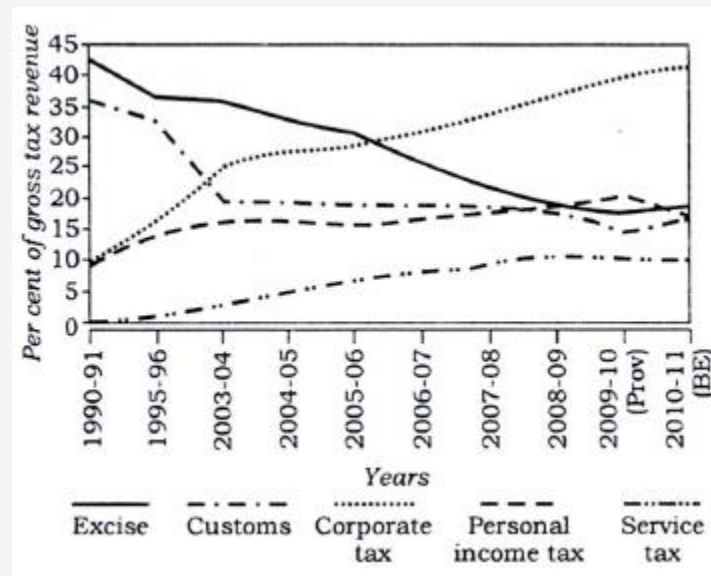
With reference to the above graph, which of the following is/are the most logical and rational inference/ inferences that can be made?

1. During the given beriod, the revenue from Direct Taxes 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 sector 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

Sol. Answer is (a).

Check graph. (1) is correct (2) is incorrect.

77. If x - y = 8, then which of the following must be true?

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

Sol. Answer is (d).

x = 10 x = 5 x = -1

y =2 y = –3 y = ± 9

If x > 0

y can be both > 0 or < 0

If x < 0

y < 0

Directions for the following 3(three) items:

Read the following two passages and answer the name that follow. Your answers to these name should be based on the passages only.

Passage-1

The quest for cheap and plentiful meat has resulted in 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, livesotck increasingly raised in cruel, cramped conditions, where animals spend their short live 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 liters for rice, 3300 litres for eggs and 256 for a kilogram of potatoes.

78. 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.

Sol. Answer is (d).

The passage focuses on mainly two aspects :

1. Cruelty to animals which are slaughtered in factory farms, and

2. High environmental cost of maintaining such farms instead of, say, organic free roam poultry or other methods.

Option (a) is the opposite of what is being said.

Option (b) is correct but it is not the most crucial message being given.

Option (c) is an extreme statement, and not a recommendation being given.

Option (c) is an extreme statement, and not a recommendation being given.

Passage-2

A male tiger vas removed from Pench Tiger Reserve and was relocated in Parma 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.

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

   1. The strategy of conversation of wildlife by relocating them from one protected area to another is not often successful.
   2. India does not have suitable legislation to save the tigers, and its 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

Solutions to Q.79 and 80 given below

Sol 79. Answer is (b).

The passage focuses on the problems with relocation of wild animals, especially animals like tigers as they tend to wander towards their original place of living.

This puts the tigers at risk of human hunting and also puts the native human population at risk. So the solution offered here is the presence of wildlife corridors in which wild animals can safely travel.

Sol 80. Answer is (a).

India does have suitable legislation that help in saving the tiger population. Further, that is not the topic of discussion in this passage. Hence, statement 2 is ruled out.

However, due to the absence of wildlife corridors in the country, relocating of wild animals is often unsuccessful.