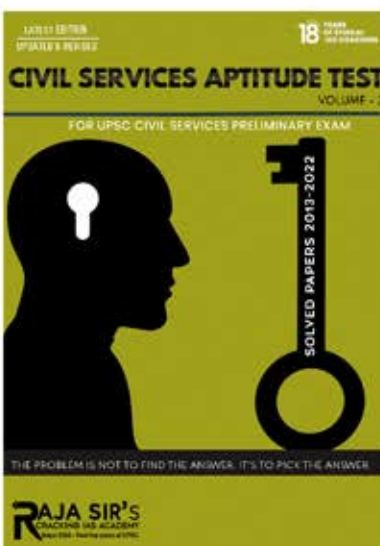
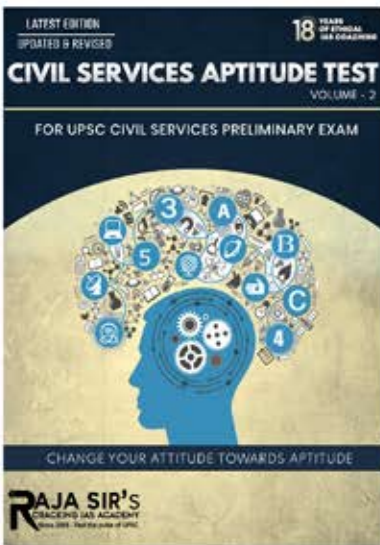


CSAT

Monthly CSAT Practice Questions (2016 UPSC CSE)



In a class, there are 18 very tall boys. If these constitute three fourths of the boys and the total number of boys is two-thirds of the total number of students in the class, what is the number of girls in the class?

- (a) 6
- (b) 12
- (c) 18
- (d) 21

Consider the following statements:

1. Either A and B are of the same age or A is older than B
2. Either C and D are of the same age or D is older than
3. B is older than C

Which of the following conclusions can be drawn from the above statements?

- (a) A is older than B
- (b) B and D are of the same age
- (c) D is older than C
- (d) A is older than C

The monthly average salary paid to all the employees of a company was Rs. 5000. The monthly average salary paid to male and f.....

- (a) 75%
- (b) 80%
- (c) 85%
- (d) 90%

1. Passage (Q.no 1-6)

Accountability, or the lack of it, in governance generally, and civil services, in particular, is a major factor underlying the deficiencies in governance and public administration. Designing an effective framework for accountability has been a key element of the reform agenda. A fundamental issue is whether civil services should be accountable to the political executive of the day or to society at large. In other words, how should internal and external accountability be reconciled? Internal accountability is sought to be achieved by internal performance monitoring, official supervision by bodies like the --Central-Vigilance Commission--and-Comptroller and Auditor--General, and judicial review of executive decisions. Articles 311 and 312 of the Indian Constitution provide job security and safeguards to the civil services, especially the All India Services. The framers of the Constitution had envisaged that provision of these safeguards would result in a civil service that is not totally subservient to the political

executive but will have the strength to function in larger public interest. The need to balance internal and external accountability is thus built into the Constitution. The issue is where to draw the line. Over the years, the emphasis seems to have tilted in favour of greater internal accountability of the civil services to the political leaders of the day who in turn are expected to be externally accountable to the society at large through the election process. This system for seeking accountability to Society has not worked out, and has led to several adverse consequences for governance. Some special measures can be considered for improving accountability in civil services. Provisions of articles 311 and 312 should be reviewed and laws and regulations framed to ensure external accountability of civil services. The proposed Civil Services Bill seeks to address some of these requirements. The respective roles of professional civil services and the political executive should be defined so that professional managerial functions and management of civil services are depoliticized.



For this purpose, effective statutory civil service boards should be created at the centre and in the states. Decentralization and devolution of authority to bring government and decision making closer to the people also helps to enhance accountability.

According to the passage, which of the following factor/factors led to the adverse consequences for governance/public administration?

1. Inability of civil services to strike a balance between internal and external accountabilities
2. Lack of sufficient professional training to the officers of All India Services
3. Lack of proper service benefits in civil services
4. Lack of Constitutional provisions to define the respective roles of professional civil services vis-a-vis political executive in this context

Select the correct answer using the code given below :

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

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

1. Political executive is an obstacle to the accountability of the civil services to the society
2. In the present framework of Indian polity, the political executive is no longer accountable to the society

Which of these assumptions is/are valid?

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

3. Which one of the following is the essential message implied by this passage?

- (a) Civil services are not accountable to the society they are serving
- (b) Educated and enlightened persons are not taking up political leadership
- (c) The framers of the Constitution did not envisage the problems being encountered by the civil services
- (d) There is a need and scope for reforms to improve the accountability of civil services

4. According to the passage, which one of the following is not a means of enhancing internal accountability of civil services?
- (a) Better job security and safeguards
 - (b) Supervision by Central Vigilance Commission
 - (c) Judicial review of executive decisions
 - (d) Seeking accountability through enhanced participation by people in decision making process

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

- 1. Human relationships are derived from their religious traditions
- 2. Human beings can be duty bound only if they believe in god
- 3. Religious traditions are essential to practice and understand justice

Which of these assumption(s) is/are valid?

- (a) 1 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

6. Which one of the following is the crux of this passage?

- (a) Our duties to one another derive from our religious traditions
- (b) Having relationship to the divine principle is a great virtue
- (c) Balance between and duties is crucial to the delivery of justice in a society
- (d) Religious concept of rights is primarily derived from our relationship to god

7. A ate grapes and pineapple; B ate grapes and oranges; C ate oranges, pineapple and apple; D ate grapes, apple and pineapple. After taking fruits, B and C fell sick. In the light of the above facts, it can be said that the cause of sickness was:

- (a) Apple
- (b) Pineapple
- (c) Grapes
- (d) Oranges

8. Consider the following statements.

- 1. The rate of population growth is increasing in the country
- 2. The death rate is declining faster in the country compared to birth rate

3. The birth rate is declining faster in the country compared to death rate
4. Rural-urban migration is taking place regularly in the country

Which one of the following conclusions may be true in the light of the above facts?

- (a) The rate of population growth is increasing due to rural-urban migration
- (b) The rate of population growth is increasing due to decline in death rate only
- (c) The rate of population growth is increasing due to increase in birth rate only
- (d) The rate of population growth is increasing due to faster decline in death rate than in birth rate

- 9.** A person X was driving in a place where all roads ran either north-south or east-west, forming a grid. Roads are at a distance of 1 km from each other in a parallel. He started at the intersection of two roads, drove 3 km north, 3 km west and 4 km south. Which further route could bring him back to his starting point, if the same route is not repeated?
- (a) 3 km east, then 2 km south

- (b) 3 km east, then 1 km north
- (c) 1 km north, then 2 km west
- (d) 3 km south, then 1 km north

- 10.** Consider the following statement: "We shall go either for a picnic or for trekking". Which of the following, if true, would falsify this claim?

- (a) We go for a picnic but not for trekking
- (b) Activities such as picnic and trekking are encouraged by the health authorities
- (c) We go for trekking and not for picnic
- (d) We do not go either for picnic or for trekking

- 11.** There were 50 faculty member comprising 30 males and the rest females. No male faculty member knew music, but many of the female faculty members did. The Head of the institution invited six faculty members to a tea party by draw of lots. At the party it was discovered that no members knew music. The conclusion is that:

- (a) the party comprised male faculty members only
- (b) the party comprised only those female faculty members who could not give renderings in

music

(c) the party comprised both male and female faculty members

(d) nothing can be said about the gender composition of the party

- 12.** Five people A, B, C, D and E are seated about a round table. Every chair is spaced equidistant from adjacent chairs. (i) C is seated next to A (ii) A is seated two seats from D (iii) B is not seated next to A On the basis of above information, which of the following must be true? 1. D is seated next to B 2. E is seated next to A 3. D and C are separated by two seats Select the correct answer using the code given below:
- (a) 1 only
(b) 1 and 2 only
(c) 3 only
(d) Neither 1 nor 2 nor 3

- 13.** There are five hobby clubs in a college — photography, yachting, chess, electronics and gardening. The gardening group meets every second day, the electronics group meets every third day, the chess group meets every fourth day, the yachting group meets every fifth

day and the photography group meets every sixth day. How many times do all the five groups meet on the same day within 180 days?

- (a) 5
(b) 18
(c) 10
(d) 3

- 14.** There are some nectar-filled flowers on a tree and some bees are hovering on it. If one bee lands on each flower, one bee will be left out. If two bees land on each flower, one flower will be left out. The number of flowers and bees respectively are:
- (a) 2 and 4
(b) 3 and 2
(c) 3 and 4
(d) 4 and 3

- 15.** Consider the following information and answer the five items that follow:
- There are five persons in a group — P, Q, R, S and T. The group has one doctor, one lawyer and one artist. P and S are unmarried students. T is a man married to one of the group members. Q is the brother of P and is neither doctor nor artist. R is not doctor.

Who is the doctor?

- (a) T
- (b) P
- (c) Q
- (d) R

- 16.** Consider the following information and answer the five items that follow: There are five persons in a group — P, Q, R, S and T. The group has one doctor, one lawyer and one artist. P and S are unmarried students. T is a man married to one of the group members. Q is the brother of P and is neither doctor nor artist. R is not doctor.

Who is the artist?

- (a) P
- (b) Q
- (c) R
- (d) T

- 17.** Consider the following information and answer the five items that follow: There are five persons in a group — P, Q, R, S and T. The group has one doctor, one lawyer and one artist. P and S are unmarried students. T is a man married to one of the group members. Q is the brother of P and is neither doctor nor artist. R is not doctor.

Who is the spouse of R?

- (a) P
- (b) T
- (c) Q
- (d) S

- 18.** Consider the following information and answer the five items that follow: There are five persons in a group — P, Q, R, S and T. The group has one doctor, one lawyer and one artist. P and S are unmarried students. T is a man married to one of the group members. Q is the brother of P and is neither doctor nor artist. R is not doctor.

Who is the lawyer?

- (a) P
- (b) Q
- (c) R
- (d) S

- 19.** Consider the following information and answer the five items that follow: There are five persons in a group — P, Q, R, S and T. The group has one doctor, one lawyer and one artist. P and S are unmarried students. T is a man married to one of the group members. Q is the brother of P and is neither doctor nor artist. R is not doctor.

Who of the following is definitely a man?

- (a) P
- (b) S
- (c) Q
- (d) None of the above

- 20.** There is an order of 19000 quantity of a particular product from a customer. The firm produces 1000 quantity of that product per out of which 5% are unfit for sale. In how many days will the order be completed?

- (a) 18
- (b) 19
- (c) 20
- (d) 22

- 21.** Passage

Biomass as fuel for power, heat, and transport has the highest mitigation potential of all renewable sources. It comes from agriculture and forest residues as well as from energy crops. The biggest challenge in using biomass residues is a long-term reliable supply delivered to the power plant at reasonable costs; the key problems are logistical constraints and the costs of fuel collection. Energy crops, if not managed properly, compete with food production and may

have undesirable impacts on food prices. Biomass production is also sensitive to the physical impacts of a changing climate. Projections of the future role of biomass are probably overestimated, given the limits to the sustainable biomass supply, unless breakthrough technologies substantially increase productivity. Climate-energy models project that biomass use could increase nearly four-fold to around 150 — 200 exajoules, almost a quarter of world primary energy in 2050. However the maximum sustainable technical potential of biomass resources (both residues and energy crops) without disruption of food and forest resources ranges from 80 — 170 exajoules a year by 2050, and only part of this is realistically and economically feasible. In addition, some climate models rely on biomass-based carbon capture and storage, an unproven technology, to achieve negative emissions and to buy some time during the first half of the century. Some liquid biofuels such as corn-based ethanol, mainly for transport, may aggravate rather than ameliorate carbon emissions on

a life-cycle basis. Second generation biofuels, based on ligno-cellulosic feedstocks — such as straw, bagasse, grass and wood — hold the promise of sustainable production that is high-yielding and emit low levels of greenhouse gases, but these are still in the R & D stage. What is/are the present constraint/constraints in using biomass as fuel for power generation?

1. Lack of sustainable supply of biomass
2. Biomass production competes with food production
3. Bio-energy may not always be low carbon on a life-cycle basis

Select the correct answer using the code given below:

- (a) 1 and 2 only
- (b) 3 only
- (c) 2 and 3 only
- (d) 1, 2 and 3

22. Passage

Biomass as fuel for power, heat, and transport has the highest mitigation potential of all renewable sources. It comes from agriculture and forest residues as well as from energy crops. The biggest challenge in

using biomass residues is a long-term reliable supply delivered to the power plant at reasonable costs; the key problems are logistical constraints and the costs of fuel collection. Energy crops, if not managed properly, compete with food production and may have undesirable impacts on food prices. Biomass production is also sensitive to the physical impacts of a changing climate. Projections of the future role of biomass are probably overestimated, given the limits to the sustainable biomass supply, unless breakthrough technologies substantially increase productivity. Climate-energy models project that biomass use could increase nearly four-fold to around 150 — 200 exajoules, almost a quarter of world primary energy in 2050. However the maximum sustainable technical potential of biomass resources (both residues and energy crops) without disruption of food and forest resources ranges from 80 — 170 exajoules a year by 2050, and only part of this is realistically and economically feasible. In addition, some climate models rely on biomass-based carbon capture and

storage, an unproven technology, to achieve negative emissions and to buy some time during the first half of the century. Some liquid biofuels such as corn-based ethanol, mainly for transport, may aggravate rather than ameliorate carbon emissions on a life-cycle basis. Second generation biofuels, based on ligno-cellulosic feedstocks — such as straw, bagasse, grass and wood — hold the promise of sustainable production that is high-yielding and emit low levels of greenhouse gases, but these are still in the R & D stage. Which of the following can lead to food security problem?

1. Using agricultural and forest residues as feedstock for power generation
2. Using biomass for carbon capture and storage
3. Promoting the cultivation of energy crops

Select the correct answer using the code given below:

- (a) 1 and 2 only
- (b) 3 only
- (c) 2 and 3 only
- (d) 1, 2 and 3

- 23.** Passage
Biomass as fuel for power, heat,

and transport has the highest mitigation potential of all renewable sources. It comes from agriculture and forest residues as well as from energy crops. The biggest challenge in using biomass residues is a long-term reliable supply delivered to the power plant at reasonable costs; the key problems are logistical constraints and the costs of fuel collection. Energy crops, if not managed properly, compete with food production and may have undesirable impacts on food prices. Biomass production is also sensitive to the physical impacts of a changing climate. Projections of the future role of biomass are probably overestimated, given the limits to the sustainable biomass supply, unless breakthrough technologies substantially increase productivity. Climate-energy models project that biomass use could increase nearly four-fold to around 150 — 200 exajoules, almost a quarter of world primary energy in 2050. However the maximum sustainable technical potential of biomass resources (both residues and energy crops) without disruption of food and forest resources ranges from 80

— 170 exajoules a year by 2050, and only part of this is realistically and economically feasible. In addition, some climate models rely on biomass-based carbon capture and storage, an unproven technology, to achieve negative emissions and to buy some time during the first half of the century. Some liquid biofuels such as corn-based ethanol, mainly for transport, may aggravate rather than ameliorate carbon emissions on a life-cycle basis. Second generation biofuels, based on ligno-cellulosic feedstocks — such as straw, bagasse, grass and wood — hold the promise of sustainable production that is high-yielding and emit low levels of greenhouse gases, but these are still in the R & D stage. In the context of using biomass, which of the following is/are the characteristic/characteristics of the sustainable production of biofuel?

1. Biomass as a fuel for power generation could meet all the primary energy requirements of the world by 2050
2. Biomass as a fuel for power generation does not necessarily disrupt food and

forest resources

3. Biomass as a fuel for power generation could help in achieving negative emissions, given certain nascent technologies

Select the correct answer using the code given below:

- (a) 1 and 2 only
- (b) 3 only
- (c) 2 and 3 only
- (d) 1, 2 and 3

24. Passage

Biomass as fuel for power, heat, and transport has the highest mitigation potential of all renewable sources. It comes from agriculture and forest residues as well as from energy crops. The biggest challenge in using biomass residues is a long-term reliable supply delivered to the power plant at reasonable costs; the key problems are logistical constraints and the costs of fuel collection. Energy crops, if not managed properly, compete with food production and may have undesirable impacts on food prices. Biomass production is also sensitive to the physical impacts of a changing climate. Projections of the future role of biomass are probably

overestimated, given the limits to the sustainable biomass supply, unless breakthrough technologies substantially increase productivity. Climate-energy models project that biomass use could increase nearly four-fold to around 150 — 200 exajoules, almost a quarter of world primary energy in 2050. However the maximum sustainable technical potential of biomass resources (both residues and energy crops) without disruption of food and forest resources ranges from 80 — 170 exajoules a year by 2050, and only part of this is realistically and economically feasible. In addition, some climate models rely on biomass-based carbon capture and storage, an unproven technology, to achieve negative emissions and to buy some time during the first half of the century. Some liquid biofuels such as corn-based ethanol, mainly for transport, may aggravate rather than ameliorate carbon emissions on a life-cycle basis. Second generation biofuels, based on ligno-cellulosic feedstocks — such as straw, bagasse, grass and wood — hold the promise of sustainable production that is

high-yielding and emit low levels of greenhouse gases, but these are still in the R & D stage. With reference to the passage, following assumptions have been made :

1. Some climate-energy models suggest that the use of biomass as a fuel for power generation helps in mitigating greenhouse gas emissions
2. It is not possible to use biomass as a fuel for power generation without disrupting food and forest resources

Which of these assumptions is/are valid?

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

25. Passage

We are witnessing a dangerous dwindling of biodiversity in our food supply. The green revolution is a mixed blessing. Over time farmers have come to rely heavily on broadly adapted, high yield crops to the exclusion of varieties adapted to the local conditions. Monocropping vast fields with the same genetically uniform seeds helps boost yield

and meet immediate hunger needs. Yet high-yield varieties are also genetically weaker crops that require expensive chemical fertilizers and toxic pesticides. In our focus on increasing the amount of food we produce today, we have accidentally put ourselves at risk for food shortages in future. Which among the following is the most logical and critical inference that can be made from the above passage?

- (a) In our agricultural practices, we have become heavily dependent on expensive chemical fertilizers and toxic pesticides only due to green revolution
- (b) Monocropping vast fields with high-yield varieties is possible due to green revolution
- (c) Monocropping with high-yield varieties is the only way to ensure food security to millions
- (d) Green revolution can pose a threat to biodiversity in food supply and food security in the long run

- 26.** A class starts at 11:00 am and lasts till 2:27 pm. Four periods of equal duration are held during this interval. After every period, a rest of 5 minutes is given to the students. The exact

duration of each period is:

- (a) 48 minutes
- (b) 50 minutes
- (c) 51 minutes
- (d) 53 minutes

- 27.** Four friends A, B, C and D need to cross a bridge. A maximum of two persons can cross it at a time. It is night and they just have one lamp. Persons that cross the bridge must carry the lamp to find the way. A pair must walk together at the speed of slower person. After crossing the bridge, the person having faster speed in the pair will return with the lamp each time to accompany another person in the group. Finally, the lamp has to be returned at the original place and the person who returns the lamp has to cross the bridge again without lamp. To cross the bridge, the time taken by them is as follows : A: 1 minute, B: 2 minutes, C: 7 minutes and D: 10 minutes. What is the total minimum time required by all the friends to cross the bridge?

- (a) 23 minutes
- (b) 22 minutes
- (c) 21 minutes
- (d) 20 minutes



- 28.** 30g of sugar was mixed in 180 ml water in a vessel A, 40 g of sugar was mixed in 280 ml of water in vessel B and 20 g of sugar was mixed in 100 ml of water in vessel C. The solution in vessel B is
- (a) sweeter than that in C
(b) sweeter than that in A
(c) as sweet as that in C
(d) less sweet than that in C
- 29.** In aid of charity, every student in a class contributes as many rupees as the number of students in that class. With the additional contribution of Rs. 2 by one student only, the total collection is Rs. 443. Then how many students are there in the class?
- (a) 12
(b) 21
(c) 43
(d) 45
- 30.** Anitas mathematics test had 70 problems carrying equal marks i.e., 10 arithmetic, 30 algebra and 30 geometry. Although she answered 70% of the arithmetic, 40% of the algebra and 60% of the geometry problems correctly, she did not pass the test because she got less than 60% marks. The number of

more questions she would have to answer correctly to earn a 60% passing marks is:

- (a) 1
(b) 5
(c) 7
(d) 9
- 31.** In a class, there are 18 very tall boys. If these constitute three-fourths of the boys and the total number of boys is two-thirds of the total number of students in the class, what is the number of girls in the class?
- (a) 6
(b) 12
(c) 18
(d) 21
- 32.** Consider the following statements:
1. Either A and B are of the same age or A is older than B
 2. Either C and D are of the same age or D is older than C
 3. B is older than C
- Which of the following conclusions can be drawn from the above statements?
- (a) A is older than B
(b) B and D are of the same age
(c) D is older than C
(d) A is older than C

- 33.** The monthly average salary paid to all the employees of a company was Rs. 5000. The monthly average salary paid to male and female employees was Rs. 5200 and Rs. 4200 respectively. Then the percentage of males employed in the company is
- (a) 75%
 - (b) 80%
 - (c) 85%
 - (d) 90%
- 34.** Direction for the following items: Consider the given - formation and answer the three items that follow. Six boxes A, B, C, D, E and F have been painted with six different colours viz., violet, indigo, blue, green, yellow and orange and arranged from left to right (not necessarily either kept or painted with the colours in the same order). Each box contains a ball of any one of the following six games: cricket, hockey, tennis, golf, football and volleyball (not necessarily in the same order). The golf ball is in violet box and is not in the box D. The box A which contains tennis ball is orange in colour and is at the extreme right. The hockey ball is neither in box D nor in box E. The box C having

cricket ball is painted green. The hockey ball is neither in the box painted blue nor in the box painted yellow. The box C is fifth from right and next to box B. The box B contains volleyball. The box containing the hockey ball is between the boxes containing golf ball and volleyball.

Which one of the following boxes contains the golf ball?

- (a) F
- (b) E
- (c) D
- (d) None of the above

- 35.** Direction for the following items: Consider the given - formation and answer the three items that follow. Six boxes A, B, C, D, E and F have been painted with six different colours viz., violet, indigo, blue, green, yellow and orange and arranged from left to right (not necessarily either kept or painted with the colours in the same order). Each box contains a ball of any one of the following six games: cricket, hockey, tennis, golf, football and volleyball (not necessarily in the same order). The golf ball is in violet box and is not in the box D. The box A which contains tennis ball is orange in colour



and is at the extreme right. The hockey ball is neither in box D nor in box E. The box C having cricket ball is painted green. The hockey ball is neither in the box painted blue nor in the box painted yellow. The box C is fifth from right and next to box B. The box B contains volleyball. The box containing the hockey ball is between the boxes containing golf ball and volleyball.

Which of the following statements is/are correct?

- (a) D is painted yellow
- (b) F is painted indigo
- (c) B is painted blue
- (d) All of the above

36. Direction for the following items:

Consider the given -formation and answer the three items that follow. Six boxes A, B, C, D, E and F have been painted with six different colours viz., violet, indigo, blue, green, yellow and orange and arranged from left to right (not necessarily either kept or painted with the colours in the same order). Each box contains a ball of any one of the following six games: cricket, hockey, tennis, golf, football and volleyball (not necessarily in the

same order). The golf ball is in violet box and is not in the box D. The box A which contains tennis ball is orange in colour and is at the extreme right. The hockey ball is neither in box D nor in box E. The box C having cricket ball is painted green. The hockey ball is neither in the box painted blue nor in the box painted yellow. The box C is fifth from right and next to box B. The box B contains volleyball. The box containing the hockey ball is between the boxes containing golf ball and volleyball.

The football is in the box of which colour?

- (a) Yellow
- (b) Indigo
- (c) Cannot be determined as data are inadequate
- (d) Blue

37. Two numbers X and Y are respectively 20% and 28% less than a third number Z. By what percentage is the number Y less than the number X ?

- (a) 12%
- (b) 10%
- (c) 9%
- (d) 8%

38. A daily train is to be introduced

between station A and station B starting from each end at 6 AM and the journey is to be completed in 42 hours. What is the number of trains needed in order to maintain the Shuttle Service?

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

39. A piece of tin is in the form of a rectangle having length 12 cm and width 8 cm. This is used to construct a closed cube. The side of the cube is:

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

40. In a question paper there are five questions to be attempted and answer to each question has two choices - True (T) or False (F). It is given that no two candidates have given the answers to the five questions in an identical sequence. For this to happen the maximum number of candidates is:

- (a) 10
- (b) 18
- (c) 26
- (d) 32

41. Read the following eight passages and answer the item that follows each passage. Your answers to these items should be based on the passages only.
Passage-1 By killing transparency and competition, crony capitalism is harmful to free enterprise, opportunity and economic growth. Crony capitalism, where rich and the influential are alleged to have received land and natural resources and various licences in return for payoffs to venal politicians, is now a major issue to be tackled. One of the greatest dangers to growth of developing economies like India is the middle-income where crony capitalism creates oligarchies that slow down the growth.

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

- (a) Launching more welfare schemes and allocating more finances for the current schemes are urgently needed
- (b) Efforts should be made to push up economic growth by other means and provide licences to the poor
- (c) Greater transparency in the

functioning of the government and promoting the financial inclusion are needed at present
(d) We should concentrate more on developing manufacturing sector than service sector

- 42.** Climate adaptation may be rendered ineffective if policies are not designed in the context of other development concerns. For instance, a comprehensive strategy that seeks to improve food security in the context of climate change may include a set of coordinated measures related to agricultural extension, crop diversification, integrated water and pest management and agricultural information series. Some of these measures may have to do with climate changes and others with economic development. What is the most logical and rational inference that can be made from the above passage?
(a) It is difficult to pursue climate adaptation in the developing countries
(b) Improving food security is a far more complex issue than climate adaptation
(c) Every developmental activity is directly or indirectly linked to climate adaptation

(d) Climate adaptation should be examined in tandem with other economic development options

- 43.** Understanding of the role of biodiversity in the hydrological cycle enables better policy-making. The term biodiversity refers to the variety of plants, animals, microorganisms, and the ecosystems in which they occur. Water and biodiversity are interdependent. In reality, the hydrological cycle decides how biodiversity functions. In turn, vegetation and soil drive the movement of water. Every glass of water we drink has, at least in part, passed through fish, trees, bacteria, soil and other organisms. Passing through these ecosystems, it is cleansed and made fit for consumption. The supply of water is a critical service that the environment provides. Which among the following is the most critical inference that can be made from the above passage ?
(a) biodiversity sustains the ability of nature to recycle water
(b) We cannot get potable water without the existence of living organisms

(c) Plants, animals and microorganisms continuously interact among themselves

(d) Living organisms could not have come into existence without hydrological cycle

- 44.** In the last decade, the banking sector has been restructured with a high degree of automation and products that mainly serve middle-class and upper middle-class society. Today there is need for a new agenda for the banking and non-banking financial services that does not exclude the common man

Which one of the following is the message that is essentially implied in the above passage?

- (a) Need for more automation and more products of bank
(b) Need for a radical restructuring of our entire public finance system
(c) Need to integrate banking and non-banking institutions
(d) Need to promote financial inclusion

- 45.** Safe and sustainable sanitation in slums has immeasurable benefits to women and girls in terms of their health, safety, privacy and dignity. However,

women do not feature in most of the schemes and policies on urban sanitation. The fact that even now the manual scavenging exists, ones to show that not enough has been done to promote pour-flush toilets and discontinue the use of dry latrines. A more sustained and rigorous campaign needs to be launched towards the right to sanitation on a very large scale. This should primarily focus on the abolition of manual scavenging.

With reference to the above passage, consider the following statements:

1. Urban sanitation problems can be fully solved by the abolition of manual scavenging only
2. There is a need to promote greater awareness on safe sanitation practices in urban areas

Which of the statements given above is/are correct?

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

- 46.** To understand the nature and quantity of Government proper for man, it is necessary to

attend to his character. As nature created him for social life, she fitted him for the station she intended. In all cases she made his natural wants greater than his individual powers. No one man is capable, without the aid of society, of supplying his own wants; and those wants, acting upon every individual, impel the whole of them into society.

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

- (a) Nature has created a great diversity in human society
- (b) Any given human society is always short of its wants
- (c) Social life is a specific characteristic of man
- (d) Diverse natural wants forced man towards social system

- 47.** The nature of the legal imperatives in any given state corresponds to the effective demands that state encounters, and that these, in their turn, depend, in a general way, upon the manner in which economic power is distributed in the society which the state controls. The statement refers to:
- (a) the antithesis of Politics and

Economics

- (b) the interrelationship of Politics and Economics
- (c) the predominance of Economics over Politics
- (d) the predominance of Politics over Economics

- 48.** About 15 percent of global greenhouse gas emissions come from agricultural practices. This includes nitrous oxide fertilizers; methane from livestock, rice production, and manure storage; and carbon dioxide (CO₂) from burning biomass, but this excludes CO₂ emissions from soil management practices, sayannah burning and deforestation. Foresty and use, and land-use change account for another percent of greenhouse gas emissions each ear, three quarters of which come from tropical deforestation. The remainder is largely from draining and burning tropical peatland. About the same amount of carbon is stored in the world's peatlands as is stored in the Amazon rainforest. Which among the following is the most logical and rational inference that can be made from



the above passage?

(a) Organic farming should immediately replace mechanised and chemical dependant agricultural practices all over the world

(b) It is imperative for us to modify our land use practices in order to mitigate climate change.

(c) There are no technological solutions to the problem of greenhouse gas emissions

(d) Tropical areas are the chief sites of carbon sequestration

49. A person climbs a hill in a straight path from point O on the ground in the direction of north-east and reaches a point A after travelling a distance of 5 km. Then, from the point A he moves to point B in the direction of north-west. Let the distance AB be 12 km. Now, how far is the person away from the starting point O?

- (a) 7 km
- (b) 13 km
- (c) 17 km
- (d) 11 km

50. An agricultural field is in the form of a rectangle having length X_1 meters and breadth X_2 meters (X_1 and X_2 are

variable). If $X_1 + X_2 = 40$ meters, then the area of the agricultural field will not exceed which one of the following values?

- (a) 400 sq m
- (b) 300 sq m
- (c) 200 sq m
- (d) 80 sq m

51. The sum of the ages of 5 members comprising a family, 3 years ago was 80 years. The average age of the family today is the same as it was 3 years ago, because of an addition of a baby during the intervening period. How old is the baby ?

- (a) 6 months
- (b) 1 year
- (c) 2 years
- (d) 2 years and 6 months

52. The total emoluments of two persons are the same, but one gets allowances to the extent of 65% of his basic pay and the other gets allowances to the extent of 80% of his basic pay. The ratio of the basic pay of the former to the basic pay of the latter is:

- (a) 16 : 13
- (b) 5 : 4
- (c) 7 : 5
- (d) 12 : 11



53. A person is standing on the first step from the bottom of a ladder. If he has to climb 4 more steps to reach exactly the middle step, how many steps does the ladder have?

- (a) 8
- (b) 9
- (c) 10
- (d) 11

54. Q.no(54-56)

Consider the given information and answer the three items that follow. When three friends A, B and C met, it was found that each of them wore an outer garment of a different colour. In random order, the garments are: jacket, sweater and tie; and the colours are: blue, white and black. Their surnames in random order are Kumar and Singh. Further, we know that :

1. neither B nor Ribeiro wore a white sweater
2. C wore a tie
3. Singh's garment was not white
4. Kumar does not wear a jacket
5. Ribeiro does not like to wear the black colour
6. Each of the friends wore only one outer garment of only one colour

What is Cs surname ?

- (a) Riberio
- (b) Kumar
- (c) Singh
- (d) Cannot be determined

55. What is the colour of the tie ?

- (a) Black
- (b) Blue
- (c) White
- (d) Cannot be determined

56. Who wore the sweater?

- (a) A
- (b) B
- (c) C
- (d) Cannot be determined

57. AB is a vertical trunk of a huge tree with A being the point where the base of the trunk touches the ground. Due to a cyclone, the trunk has been broken at C which is at a height of 12 meters, broken part is partially attached to the vertical portion of the trunk at C. If the end of the broken part B touches the ground at D which is at a distance of 5 meters from A, then the original height of the trunk is:

- (a) 20 m
- (b) 25 m
- (c) 30 m

- (d) 35 m
- 58.** A person walks 12 km due north, then 15 km due east, after that 19 km due west and then 15 km due south. How far is he from the starting point?
(a) 5 km
(b) 9 km
(c) 37 km
(d) 61 km
- 59.** A cube has all its faces painted with different colours. It is cut into smaller cubes of equal sizes such that the side of the small cube is one-fourth the big cube. The number of small cubes with only one of the sides painted is:
(a) 32
(b) 24
(c) 16
(d) 8
- 60.** Ram and Shyam work on a job together for four days and complete 60% of it. Ram takes leave then and Shyam works for eight more days to complete the job. How long would Ram take to complete the entire job alone?
(a) 6 days
(b) 8 days
(c) 10 days
(d) 11 days
- 61.** A military code writes SYSTEM as SYSMET and NEARER as AENRER. Using the same code, FRACTION can be written as:
(a) CARFTION
(b) FRACNOIT
(c) NOITCARF
(d) CARFNOIT
- 62.** If R and S are different integers both divisible by 5, then which of the following is not necessarily true?
(a) R - S is divisible by 5
(b) R + S is divisible by 10
(c) R x S is divisible by 25
(d) $R^2 + S^2$ is divisible by 5
- 63.** How many numbers are there between 100 and 300 which either begin with or end with 2?
(a) 110
(b) 111
(c) 112
(d) None of the above
- 64.** Read the following passage and answer the item that follow passage. Your answers to these items should be based on the passages only. Passage-1 As we look to 2050, when we will need to feed two billion more people,

the question of which diet is best harten on new urgency. The foods we choose to eat in the coming decades will have dramatic ramifications for the planet. Simply put, a diet that revolves around meat and dairy a way of eating that is on the rise throughout the developing world, will take a greater toll on the world's resources than one that revolves around unrefined grains, nuts, fruits and vegetables.

What is the critical message conveyed by the above passage?

- (a) Our increasing demand for foods sourced from animals puts a greater burden on our natural resources
- (b) Diets based on grains, nuts, fruits and vegetables are best suited for health in developing countries
- (c) Human beings change their food habits from time to time irrespective of the health concerns
- (d) From a global perspective, we still do not know which type of diet is best for us

- 65.** All humans digest mother's milk as infants, but until cattle began being domesticated 10,000 years ago, children once

weaned no longer needed to digest milk. As a result, they stopped making the enzyme lactase, which breaks down the sugar lactose into simple sugars. After humans began herding cattle, it became tremendously advantageous to digest milk, and lactose tolerance evolved independently among cattle herders in Europe, the middle East and Africa. Groups not dependant on cattle, such as the Chinese and Thai, remain lactose intolerant.

Which among the following is the most logical assumption that can be made from the above passage?

- (a) About 10,000 years ago, the domestication of animals took place in some parts of the world
- (b) A permanent change in the food habits of a community can bring about a genetic change in its members
- (c) Lactose tolerant people only are capable of getting simple sugars in their bodies
- (d) People who are not lactose tolerant cannot digest any dairy product

- 66.** "The conceptual difficulties in National Income comparisons between underdeveloped and



industrialised countries are particularly serious because a part of the national output in various underdeveloped countries is produced without passing through the commercial channels."

In the above statement, the author implies that:

- (a) the entire national output produced and consumed in industrialized countries passes through commercial channels
- (b) the existence of a non-commercialized sector in different underdeveloped countries renders the national income comparisons over countries difficult
- (c) no part of national output should be produced and consumed without passing through commercial channels
- (d) a part of the national output being produced and consumed without passing through commercial channels is a sign of underdevelopment

67. An increase in human-made carbon dioxide in the atmosphere could initiate a chain reaction between plant and microorganisms that would unsettle one of the largest carbon reservoirs on the planet

soil In a study, it was found that the soil, which contains twice the amount of carbon present in a plants and Earth's atmosphere combined, could become increasingly volatile people add more carbon dioxide to the atmosphere. This is largely because of increased plant growth. Although a greenhouse gas and a pollutant, carbon dioxide also supports plant growth. As trees and other vegetation flourish in a carbon dioxide-rich future, their roots could stimulate microbial activity in soil that may in turn accelerate the decomposition of soil carbon and its relsase into the atmosphere as carbon dioxide.

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

- (a) Carbon dioxide is essential for the survival of microorganisms and plants
- (b) Humans are solely responsible for the release of carbon dioxide into the atmosphere
- (c) Microorganisms and soil carbon are mainly responsible for the increased plant growth
- (d) Increasing green cover could trigger the release of carbon trapped in soil

68. Historically, the biggest Challenge to world agriculture has been to achieve a balance between demand for and supply of food. At the level of individual countries, the demand-supply balance can be a critical issue for a closed economy, especially if it is a populous economy and its domestic agriculture is not growing sufficiently enough to ensure food supplies, on an enduring basis; it is not so much and not always, of a constraint for an open, and growing economy, which has adequate exchange surpluses to buy food abroad. For the world as a whole, Supply-demand balance is always an inescapable prerequisite for warding off hunger and starvation. However, global availability of adequate supply does not necessarily mean that food would automatically move from countries of surplus to of deficit if the latter lack in purchasing power. The uneven distribution of Income, starvation, under or malnourishment, etc., at the world-level, thus owes itself to the presence of empty-pocked hungry mouths, overwhelmingly confined to the underdeveloped economies.

Inasmuch as 'a two-square meal' is of elemental significance to basic human existence, the issue of worldwide supply of food has been gaining significance, in recent times, both because the quantum and the composition of demand has been undergoing big changes, and because, in recent years, the capabilities individual countries to generate uninterrupted chain of food supplies have come under strain. Food production, marketing and prices, especially price-affordability by the poor in the developing world, have become global issues that need global thinking and global solutions.

According to the above passage, which of the following are the fundamental solutions for the world food security problem?

1. Setting up more agro-based industries
2. Improving the price affordability by the poor
3. Regulating the conditions of marketing
4. Providing food subsidy to one and all

Select the correct answer using the code given below:

- (a) 1 and 2
(b) 2 and 3 only

- (b) 1, 3 and 4 only
(c) 1, 2, and 4

69. Historically, the biggest Challenge to world agriculture has been to achieve a balance between demand for and supply of food. At the level of individual countries, the demand-supply balance can be a critical issue for a closed economy, especially if it is a populous economy and its domestic agriculture is not growing sufficiently enough to ensure food supplies, on an enduring basis; it is not so much and not always, of a constraint for an open, and growing economy, which has adequate exchange surpluses to buy food abroad. For the world as a whole, Supply-demand balance is always an inescapable prerequisite for warding off hunger and starvation. However, global availability of adequate supply does not necessarily mean that food would automatically move from countries of surplus to of deficit if the latter lack in purchasing power. The uneven distribution of Inoger, starvation, under or malnourishment, etc., at the world-level, thus owes itself to

the presence of empty-pock hungry mouths, overwhelmingly confined to the underdeveloped economies. Inasmuch as 'a two-square meal' is of elemental significance to basic human existence, the issue of worldwide supply` of food has been gaining significance, in recent times, both because the quantum and the composition of demand has been undergoing big changes, and because, in recent years, the capailities individual countries to generate uninterrupted chain of food supplies have come under strain. Food production, marketing and prices, especially price-affordability by the poor in the developing world, have become global issues that need global thinking and global solutions.

According to the above passage, which of the following helps/help in reducing hunger and starvation in the developing economies ?

1. Balancing demand and supply of food
2. Increasing imports of food
3. creasing purchasing power of the poor
4. Changing the food consumption patterns and

practices

Select the correct answer using the code given below:

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

- 70.** Historically, the biggest Challenge to world agriculture has been to achieve a balance between demand for and supply of food. At the level of individual countries, the demand-supply balance can be a critical issue for a closed economy, especially if it is a populous economy and its domestic agriculture is not growing sufficiently enough to ensure food supplies, on an enduring basis; it is not so much and not always, of a constraint for an open, and growing economy, which has adequate exchange surpluses to buy food abroad. For the world as a whole, Supply-demand balance is always an inescapable prerequisite for warding off hunger and starvation. However, global availability of adequate supply does not necessarily mean that food would automatically move from countries of surplus to of deficit if the latter lack in

purchasing power. The uneven distribution of Inoger, starvation, under or malnourishment, etc., at the world-level, thus owes itself to the presence of empty-pock hungry mouths, overwhelmingly confined to the underdeveloped economies. Inasmuch as 'a two-square meal' is of elemental significance to basic human existence, the issue of worldwide supply` of food has been gaining significance, in recent times, both because the quantum and the composition of demand has been undergoing big changes, and because, in recent years, the capailities individual countries to generate uninterrupted chain of food supplies have come under strain. Food production, marketing and prices, especially price-affordability by the poor in the developing world, have become global issues that need global thinking and global solutions.

The issue of worldwide supply of food has gained importance mainly because of:

1. overgrowth of the population worldwide
2. sharp decline in the area of food production

3. limitation in the capabilities for sustained supply of food
Select the correct answer using the code given below:

- (a) 1 and 2 only
- (b) 3 only
- (c) 2 and 3 only
- (d) 1, 2 and 3

71. A person allows 10% discount for cash payment from the marked price of a toy and still he makes a 10% gain. What is the cost price of the toy which is marked Rs. 770?

- (a) Rs. 610
- (b) Rs. 620
- (c) Rs. 630
- (d) Rs. 640

72. Historically, the biggest Challenge to world agriculture has been to achieve a balance between demand for and supply of food. At the level of individual countries, the demand-supply balance can be a critical issue for a closed economy, especially if it is a populous economy and its domestic agriculture is not growing sufficiently enough to ensure food supplies, on an enduring basis; it is not so much and not always, of a constraint for an open, and

growing economy, which has adequate exchange surpluses to buy food abroad. For the world as a whole, Supply-demand balance is always an inescapable prerequisite for warding off hunger and starvation. However, global availability of adequate supply does not necessarily mean that food would automatically move from countries of surplus to deficit if the latter lack in purchasing power. The uneven distribution of Income, starvation, under or malnourishment, etc., at the world-level, thus owes itself to the presence of empty hungry mouths, overwhelmingly confined to the underdeveloped economies. Inasmuch as 'a two-square meal' is of elemental significance to basic human existence, the issue of worldwide supply of food has been gaining significance, in recent times, both because the quantum and the composition of demand has been undergoing big changes, and because, in recent years, the capabilities individual countries to generate uninterrupted chain of food supplies have come under strain. Food production,



marketing and prices, especially price-affordability by the poor in the developing world, have become global issues that need global thinking and global solutions.

According to the above passage, the biggest challenge to world agriculture is:

- (a) to find sufficient land for agriculture and to expand food processing industries
- (b) to eradicate hunger in underdeveloped countries
- (c) to achieve a balance between the production of food and non-food items
- (d) to achieve a balance between demand for and supply of food

- 73.** Four-digit numbers are to be formed using the digits 1, 2, 3 and 4; and none of these four digits are repeated in any manner. Further,
- 1. 2 and 3 are not to immediately follow each other
 - 2. 1 is not to be immediately followed by 3
 - 3. 4 is not to appear at the last place
 - 4. 1 is not to appear at the first place
- How many different numbers can be formed?
- (a) 6

- (b) 8
- (c) 9
- (d) None of the above

- 74.** A cylindrical overhead tank of radius 2 m and height 7 m is to be filled from an underground tank of size 5.5m x 4m x 6m. How much portion of the underground tank is still filled with water after filling the overhead tank completely?
- (a) $1/3$
 - (b) $1/2$
 - (c) $1/4$
 - (d) $1/6$
- 75.** In a class of 60 students, where the number of girls is twice that of boys, Kamal, a boy, ranked seventeenth from the top. If there are 9 girls ahead of Kamal, the number of boys in rank after him is:
- (a) 13
 - (b) 12
 - (c) 7
 - (d) 3
- 76.** A and B walk around a circular park. They start at 8 a.m. from the same point in the opposite directions. A and B walk at a speed of 2 rounds per hour and 3 rounds per hour respectively.

How many times shall they cross each other after 8 00 a.m. and before 9.30. a.m.?

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

77. W can do 25% of a work-in 30 days, X can do $\frac{1}{4}$ of the work in 10 days, Y can do 40% of the work in 40 days and Z can do $\frac{1}{3}$ of the work in 13 days. Who will complete the work first?

- (a) W
- (b) X
- (c) Y
- (d) Z

78. The average monthly income of a person in a certain family of 5 is Rs. 10,000. What will be the average monthly income of a person in the same family if the income of one person increased by Rs. 1,20,000 per year?

- (a) Rs. 12,000
- (b) Rs. 16,000
- (c) Rs. 20,000
- (d) Rs. 34,000

79. In a race, a competitor has to collect 6 apples which are kept

in a straight line On a track and a bucket is placed at the beginning of the track which is a starting point. The condition is that the competitor can pick only one apple at a time, run back with it and drop it in the bucket. If he has to drop all the apples in the bucket, how much total distance he has to run if the bucket is 5 meters from the first apple and all other apples are placed 3 meters apart ?

- (a) 40 m
- (b) 50 m
- (c) 75 m
- (d) 150 m

80. A round archery target of diameter 1 m is marked with four scoring regions from the centre outwards as red, blue, yellow and white. The radius of the red band is 0.20 m. The width of all the remaining bands is equal. If archers throw arrows towards the target, what is the probability, that the arrows fall in the red region of the archery target?

- (a) 0.40
- (b) 0.20
- (c) 0.16
- (d) 0.04

| | | |
|----|---|---|
| 1. | c | <p>According to the passage, the constitution has not been able to define the boundary between internal and external accountability which has led to inefficient performance of civil services in respect of larger public interest. At the same time, the institution of civil services itself has been unable to strike a balance between internal and external accountability on its own. Therefore, the two factors combined have led to adverse consequences for governance and public administration.</p> |
| 2. | a | <p>Assumption 1 states that political executive hinders the working of civil services and its role in public interest. This is correct because the emphasis is on internal accountability to the political leaders and the larger public interest is undermined.</p> <p>Assumption 2 states that the political executive is no longer accountable to society. This is incorrect because the political executive is at the forefront of government accountability to the public.</p> |
| 3. | d | <p>The passage argues that there is no clear-cut demarcation and definition of internal and external accountability of civil servants. This leads to negative consequences for governance and public administration</p> |
| 4. | d | <p>In the passage, it has been provided that there is a need to ensure accountability of civil services</p> <p>However, enhanced participation by people in decision making process has not been linked to the accountability of civil servants in the passage. Therefore, seeking accountability to enhance participation by people in decision making process is not a means of enhancing accountability of civil services according to the passage.</p> |
| 5. | a | <p>In the passage, it has been argued that religious tradition led to the conception of our rights and duties in relation to one another. This is the basis for the formation of human relationships. Therefore, assumption 1 is correct.</p> <p>Assumption 2 states that human beings can be duty-bound only if they believe in god. This statement is incorrect because an understanding of rights and duties is required to be dutiful.</p> <p>Assumption 3 is incorrect because to practice and understand justice,</p> |

| | | |
|------------|----------|--|
| | | understanding of rights and duties is required as well as the solidarity (community and communion) that the duties and rights lead to. |
| 6. | c | The other options given are components of the crux of the passage and help in establishing the main message. Option 1 reiterates the sentence in the passage that religious traditions stress our duty to god which in turn leads to the conception of our duty to one another. Option 2 is irrelevant because the passage does not consider the goodness of relationship to divine principle. Therefore, the correct answer is a balance between rights and duties is crucial to the delivery of justice in society. |
| 7. | d | A → Grapes and Pineapple B → Grapes and Oranges C → Oranges, Pineapple, and Apple D → Grapes, Apple, and Pineapple As only B and C fell sick, implies, we need to identify the fruit that only B and C ate. Clearly, only B and C ate Oranges. Therefore, Oranges was the cause of sickness for B and C. Hence, option 4 is the correct answer. |
| 8. | d | It is clear from the given statements that the rate of population growth is increasing in the country. Rural urban migration does not lead to population increase directly as the overall population of the country remains the same in this case. The rate of population growth is increasing due to a faster decline in the death rate than in the birth rate. It expresses the complete logic properly. Hence, option 4 is the correct answer. |
| 9. | b | Clearly, the person will have to go 3 km towards the east then 1 km towards the north to reach his starting point. |
| 10. | d | Option 4 negates both - Going for picnic as well as going for trekking. Therefore, "We do not go either for picnic or for trekking", if true, would falsify the statement given in the question. Hence, option 4 is the correct answer. |
| 11. | d | Number of male members = 30 Number of female members = 20 Number of male members who knew music = 0 Number of female members who knew music = uncertain Conclusions: |

| | | |
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| | | <ol style="list-style-type: none"> 1. The party comprised male faculty members only → Not all female members understand music therefore, they can also be among the six-member group. Hence, it is false 2. The party comprised only those female faculty members who could not give renderings in music → It is not definite as there could be male members as well in the six-member group. Hence, it is false. 3. The party comprised both male and female faculty members → It is possible but not definite, hence false. 4. Nothing can be said about the gender composition of the party → True as no data is given about members who knew music . Therefore, we cannot say anything about the gender composition of the six-member group. Hence, option 4 is the correct answer. |
| 12. | b | Five people A, B, C, D, and E are seated around the round table. Every chair is spaced equidistant from adjacent chairs. C is seated next to A A is seated two seats from D; B is not seated next to A (I) D is seated next to B (True, D is two seats from A and B can't sit next to A, So D must be seated next to B.) (II) E is seated next to A (True, among B, C, D, and E, B and D can't sit next to A. Hence only C and E will be next to A) Hence, both I and II are true. |
| 13. | d | Five hobby clubs - photography, yachting, chess, electronics and gardening. The gardening group meets every second day, the electronics group meets every third day, the chess group meets every fourth day, the yachting group meets every fifth day and the photography group meets every sixth day. L.C.M of 2, 3, 4, 5 and 6 is 60. Therefore, number of times do all the five groups meet on the same day within 180 days = $180 \div 60 = 3$ times Hence, '3' is the correct answer |
| 14. | c | If one bee lands on each flower than one bee will be left out. This means that the number of bees is one more than the number of flowers. So. let the number of flowers be F and the number of bees be B. Then, $F + 1 = B$ Also, if two bees land on each flower then one flower will be left out. $B \div 2 = F - 1 \Rightarrow B = 2F - 2$ On combining both the equations, we get: $F = 3$ and $B = 4$ Hence, there are three flowers and four bees. Alternate approach: There is only one option in which the number of bees is one more than the number of flowers i.e. 3 and 4. |

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| 15. | a | <p>P and S are unmarried students. It means that Q, R, and T are doctor, lawyer, and artist but not necessarily in the same order.</p> <ol style="list-style-type: none"> 1. T is a man married to one of the group members. Implies, T is married to either Q or R because P and S are unmarried. 2. Q is the brother of P and is neither doctor nor an artist. As Q is a male, implies, R is the wife of T. Also, Q is a lawyer as he is neither an artist not a doctor. 3. R is not a doctor. Now, that we know that Q is a lawyer. Thus, R and T are doctor and artist. Also, as R is not a doctor, implies, R is an artist and T is a doctor. |
| 16. | c | <p>P and S are unmarried students. It means that Q, R, and T are doctor, lawyer, and artist but not necessarily in the same order.</p> <ol style="list-style-type: none"> 1. T is a man married to one of the group members. Implies, T is married to either Q or R because P and S are unmarried. 2. Q is the brother of P and is neither doctor nor an artist. As Q is a male, implies, R is the wife of T. Also, Q is a lawyer as he is neither an artist not a doctor. 3. R is not a doctor. Now, that we know that Q is a lawyer. Thus, R and T are doctor and artist. Also, as R is not a doctor, implies, R is an artist and T is a doctor. |
| 17. | b | <p>P and S are unmarried students. It means that Q, R, and T are doctor, lawyer, and artist but not necessarily in the same order.</p> <ol style="list-style-type: none"> 1. T is a man married to one of the group members. Implies, T is married to either Q or R because P and S are unmarried. 2. Q is the brother of P and is neither doctor nor an artist. As Q is a male, implies, R is the wife of T. Also, Q is a lawyer as he is neither an artist not a doctor. 3. R is not a doctor. Now, that we know that Q is a lawyer. Thus, R and T are doctor and artist. Also, as R is not a doctor, implies, R is an artist and T is a doctor. |
| 18. | b | <p>P and S are unmarried students. It means that Q, R, and T are doctor, lawyer, and artist but not necessarily in the same order.</p> <ol style="list-style-type: none"> 1. T is a man married to one of the group members. Implies, T is |

| | | |
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| | | <p>married to either Q or R because P and S are unmarried.</p> <p>2. Q is the brother of P and is neither doctor nor an artist. As Q is a male, implies, R is the wife of T. Also, Q is a lawyer as he is neither an artist not a doctor.</p> <p>3. R is not a doctor. Now, that we know that Q is a lawyer. Thus, R and T are doctor and artist. Also, as R is not a doctor, implies, R is an artist and T is a doctor.</p> |
| 19. | c | <p>P and S are unmarried students. It means that Q, R, and T are doctor, lawyer, and artist but not necessarily in the same order.</p> <p>1. T is a man married to one of the group members. Implies, T is married to either Q or R because P and S are unmarried.</p> <p>2. Q is the brother of P and is neither doctor nor an artist. As Q is a male, implies, R is the wife of T. Also, Q is a lawyer as he is neither an artist not a doctor.</p> <p>3. R is not a doctor. Now, that we know that Q is a lawyer. Thus, R and T are doctor and artist. Also, as R is not a doctor, implies, R is an artist and T is a doctor.</p> |
| 20. | c | <p>Quantity of product to be completed = 19000 Firm production per day = 1000 – 5% of 1000 = 950 Firm production in 19 days = 19000 – 5% of 1900 So firm needs one extra day other than 19 days to complete the order. Firm will complete the order in 20 days.</p> |
| 21. | d | <p>In the passage, the author has argued that deriving energy from biomass requires a sustainable supply of biomass to the energy production plant. Also, a high focus on biomass production may lead to neglect of food crop production. Apart from this, some liquid biofuels such as corn-based ethanol may lead to more carbon emission on a life cycle basis. Therefore, the constraints in using biomass as a fuel for power generation are lack of sustainable supply of biomass, competing for biomass and food production, carbon emission issue.</p> |
| 22. | b | <p>According to the passage, biomass production competes with food production. Therefore, promoting the cultivation of energy crops in neglect of food crops may lead to food security problem.</p> |

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| 23. | c | Let us examine the given statements. Statement 1 argues that biomass fuel power generation can meet all the energy requirements. This is not possible given the technology at present. Statement 2 propounds that sustainable bio-fuel production will not disrupt food and forest resources. This is correct because sustainable development balances environmental and economic requirements. Statement 3 propounds that bio-fuel will help in achieving negative emissions. This is a characteristic of sustainable development, therefore, this is correct. |
| 24. | a | Let us examine the given assumptions. Assumption 1 states that a few climate-energy models for biofuel production may help in mitigating carbon emissions This is incorrect because the exploration of renewable energy is an important part of sustainable development. |
| 25. | d | In the passage, the author has argued that the green revolution is a mixed blessing. This is because it made possible mono-cropping in vast fields due to high-yielding variety, genetically modified seeds. This led to the availability of food surplus. However, due to the extensive focus on mono-cropping, a large number of local varieties became extinct. This poses a threat to food security in the long run. This is because high-yielding varieties are genetically weaker crops and any unfavourable situation may lead to the destruction of the whole crop. This will pose a threat to food security. Therefore, the most logical and critical inference is that the green revolution can pose a threat to biodiversity in food supply and food security in the long run |
| 26. | a | Time gap between 11:00 AM to 2:27 PM = 3 hours 27 minutes = $(3 \times 60) + 27$ minutes = 207 minutes Four periods of equal duration are held during, a rest of 5 minutes is given to the students. So, total gap of 15 minutes is given to students. Total duration of four classes = $(207 - 15)$ minutes = 192 minutes Exact duration of each period = $(192 \div 4)$ minutes = 48 minutes Hence, '48 minutes' is the correct answer |
| 27. | a | Friends Time taken to cross bridge A 1 minute B 2 minutes C 8 minutes D 11 minutes A pair must walk together at the speed of the person who walks slowly. As A takes the shortest time, so each friend will walk with |

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| | | A. Time taken: A crossing the bridge with B and then retuning = $1 + 2$ minutes = 3 minutes A crossing the bridge with C and then retuning = $1 + 8$ minutes = 9 minutes A crossing the bridge with D = 11 minutes A won't return as none of the friend is left. So, the minimum time required to cross the bridge by all the four people = $(3 + 9 + 11)$ minute |
| 28. | d | Given Vessel A, sugar = 30 g, water = 180 ml Vessel B, sugar = 40 g, Water = 280 ml Vessel C, Sugar = 20g , water = 100 ml Calculation \Rightarrow Concentration of sugar in vessel A = $30/180 = 1/6$ g/ml \Rightarrow Concentration of sugar in vessel B = $40/280 = 1/7$ g/ml \Rightarrow Concentration of sugar in vessel C = $20/100 = 1/5$ g/ml \Rightarrow the more concentration of sugar means more sweetness of solution \Rightarrow vessel C > vessel A > vessel B \therefore the solution of B is less sweet than solution C |
| 29. | b | Given Total collection after addition Rs 2 = 443 Calculation \Rightarrow Let the number of student be N \Rightarrow Earlier, each student will give Rs. N \Rightarrow Earlier total collection was = number of student \times each contribution $\Rightarrow (N) \times (N) = N^2 \Rightarrow$ Now, one student's contribution is increased by 2, so \Rightarrow So, total collection now = $N \times N + 2 = 443 \Rightarrow N^2$ |
| 30. | b | Given Total Questions = 70 Formula Used Percentage = $(\text{Actual}/\text{Total}) \times 100$ Calculation Question correctly by anita as follow: \Rightarrow Airthmetic = 70% of 10 = 7 \Rightarrow Algebra = 40% of 30 = 12 \Rightarrow Geometry = 60% of 30 = 18 \Rightarrow Total correct Question by anita = 37 \Rightarrow For pass no. of Question should be correct = 60% of 70 = 42 \Rightarrow Number of more questions she would have to answer correctly to earn a 60% passing marks = $42 - 37 = 5 \therefore$ Number of more questions she would have to answer correctly to earn a 60% passing marks is 5. |
| 31. | b | Given No. of boys who are very tall = 18 Calculation Let the number of boys be x. $\Rightarrow (3/4)x = 18 \Rightarrow x = 18 \times (4/3) = 24. \Rightarrow$ If total number of students is y, $\Rightarrow (2/3)y = 24 \Rightarrow y = 24 \times (3/2) = 36. \Rightarrow$ Number of girls in the class = $(36 - 24) = 12. \therefore$ The number of girls in the class is 12 |
| 32. | d | <ol style="list-style-type: none"> 1. Either A and B are of the same age or A is older than B. $A = B$ or $A > B$ 2. Either C and D are of the same age or D is older than C. $C = D$ or |

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| | | <p>$D > C$</p> <p>3. B is older than C. $B > C$ Case 1(a) : $A = B$ and $C = D$; then $A = B > C = D$ This case provides only one possible answer. Case1(b) : $A = B$ and $D > C$; then $D > A = B > C$ or $A = B = D > C$ or $A = B > D > C$ This case provides three possible answers. Case 2(a) $A > B$ and $C = D$; then $A > B > C = D$ This case provides only one possible answer. Case 2(b) $A > B$ and $D > C$ $D > A > B > C$ or $A > B = D > C$ or $A > D > B > C$ or $A > B > D > C$</p> <p>4. B and D are of the same age. → False (as it is a possibility but not definite)</p> <p>5. D is older than C. → False (as this is not a possibility in case 1(a) and case 2(a))</p> <p>6. A is older than C. → True (as in each case and each possible answer this can be definitely concluded) Hence, "A is older than C" is the correct answer.</p> |
| 33. | b | <p>Given The average salary of all employees = Rs 5000 Formula Used Percentage = (actual/total) × 100 Calculation ⇒ Let no. of employees be 100 ⇒ total salary of all employees = $5000 \times 100 = 500000$ ⇒ let no. of men be x ⇒ then no. of females will be $(100-x)$ ⇒ $5200x + 4200(100 - x) = 500000$ ⇒ $1000x = 80000$ ⇒ $x = 80$ ⇒ Percentage of males employed in the company = $(80/100) \times 100 = 80\%$ ∴ the percentage of males employed in the company is 80%</p> |
| 34. | b | |
| 35. | b | <ol style="list-style-type: none"> Box A which contains tennis ball is orange in colour and is at the extreme right. Box C having cricket ball is painted green. Box C is fifth from right and next to box B. The hockey ball is neither in box D nor in box E. Box B contains volleyball. The golf ball is in the violet box and is not in the box D. According to these two statements, the hockey ball is not in box D, E, or B. Implies, the hockey ball is in box F as it is the only possibility. Also, now only two balls are left i.e. golf ball and football. As the golf ball is not in box D, implies, the golf ball is in box E and the |

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| | | <p>football is in box D.</p> <p>7. The box containing the hockey ball is between the boxes containing the golf ball and volleyball. Implies, box F is between boxes B and E. It is only possible if we place box B to the immediate right of box C and box F and E to the immediate right of box B in the same order.</p> <p>8. The hockey ball is neither in the box painted blue nor in the box painted yellow. Implies, the hockey ball is in the indigo box as it is the only possibility. Also, now only box D is left to be placed with only one seat left. Hence, we can place box D on the leftmost seat.</p> |
| 36. | c | |
| 37. | b | <p>Given: Two numbers X and Y are respectively 20% and 28% less than a third number Z. Calculation: Let the value of Z be 100 X is 20% less than the third number $\Rightarrow 100 \times (100 - 20)/100 \Rightarrow 80$ Y is 28% less than the third number $\Rightarrow 100 (100 - 28)/100 \Rightarrow 72$ According to the question, $\Rightarrow \{(X - Y)/X\} \times 100 \Rightarrow \{(80 - 72)/80\} \times 100 \Rightarrow 10\%$</p> |
| 38. | c | <p>\Rightarrow Train A leaves station A on the 1st day at 6 am \Rightarrow Train B leaves the station B on the 1st day at 6 am \Rightarrow In fact after 24 hours or 1 day, both train can't complete their journey \Rightarrow to complete the journey both trains required 42 hours \therefore 4 trains are needed in order to maintain the shuttle service</p> |
| 39. | c | <p>Given Length of rectangle = 12 cm Width of rectangle = 8 cm Formula used Area of rectangle = length \times breadth Total surface area of cube = $6(\text{side})^2$ Calculation \Rightarrow Area of rectangle = surface area of cube $\Rightarrow 12 \times 8 = 6 \times \text{side}^2 \Rightarrow \text{side of cube} = 4 \text{ cm} \therefore$ the side of the cube is 4 cm</p> |
| 40. | d | <p>Given Total number of Question = 5 Formula Used total number of ways = (no. of ways)no. of times Calculation \Rightarrow maximum number of candidates = $(2)^5 \Rightarrow 2 \times 2 \times 2 \times 2 \times 2 = 32 \therefore$ The maximum number of candidates is 32</p> |
| 41. | c | <p>In the passage, the author argues that the rich and influential are tied in a nexus with corrupt politicians. Due to this, they acquire land and other natural resources as well as licenses to explore the resources, in a</p> |

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| | | <p>corrupt manner. This influences the functioning of government as well as excludes the middle class from taking active part in economic growth and reaping benefits thereof. Therefore, for inclusive economic growth, there is a need for transparency in the functioning of government and inclusion of all the sections of society in economic development. Hence, the most logical corollary to the above passage is that greater transparency in the functioning of the Government and promoting the financial inclusion are needed at present.</p> |
| 42. | d | <p>In the passage, the author argues that climate adaptation policies are ineffective if they are not designed keeping in mind other development concerns. For example, in agriculture focus has not to be only on food security in mitigating climate change but also other measures like water and pest management, agriculture extension, etc. so that there can be simultaneous economic development and environmental protection. Climate adaptation has to go hand-in-hand with economic development. Thus, the logical inference is that climate adaptation should be examined in tandem with other economic development options.</p> |
| 43. | a | <p>In the passage, the author has talked about the role of biodiversity in the maintenance of the hydrological cycle. The water we drink passes through a number of biotic and abiotic components of the ecosystem. By passing through them, the water is cleansed and made fit for human consumption. This is also a part of water recycling. Therefore, biodiversity helps in the recycling of water. Therefore, the most critical inference is that biodiversity sustains the ability of nature to recycle water</p> |
| 44. | d | <p>The passage states that reforms in the banking sector have led to automation and products that serve the needs of middle class and upper class. However, the common man, that is, the lower middle class and poor, have been excluded from the purview of these new reforms. Therefore, there is a need to promote products and reforms that serve the needs of common man. This refers to the phenomenon of financial inclusion. Thus, the passage implies that there is a need to promote financial inclusion.</p> |

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| 45. | b | A safe and hygienic urban environment has multidimensional health and welfare benefits. However, the existence of dry latrines and unhygienic sanitation practices point that there is not enough awareness among slum dwellers around the idea of hygiene. Therefore, it is important to create greater awareness on safe sanitation practices in urban areas, especially in slums. Hence, the correct option is 2 only. |
| 46. | d | According to the passage, the natural wants of an individual are more than what he can fulfill alone. Therefore, to fulfill the individual wants of human beings, they created social system so that the needs of all can be fulfilled in collectivity. Hence, the most logical and rational inference that can be made is that diverse natural wants forced man towards social system. |
| 47. | b | In the passage, the term legal imperative refers to the laws and regulations which belong to the sphere of politics. The passage further states that laws and regulations depend upon the distribution of economic power in society. It means that politics is related to economics. There is no mention of the dominance of any one entity over another. Hence, the statement refers to the interrelationship of politics and economics. |
| 48. | b | Carbon dioxide is a greenhouse gas and a large amount of CO ₂ emissions come from soil management practices such as savannah burning and deforestation. Land use changes leading to deforestation lead to a large amount of greenhouse gas emissions. Therefore, in order to mitigate climate change, it is important that land use practices be modified. Thus, the logical inference that can be drawn from the above passage is that it is imperative for us to modify our land use practices in order to mitigate climate change. |
| 49. | b | OA = 5 km AB = 12 km It is a right-angled triangle. Thus, using the Pythagoras Theorem, we get: OB = 13 Hence, the distance between the starting and the final point is 13 km |
| 50. | a | Given length of rectangle = X1 Breadth of rectangle = X2 Formula Used |

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| | | <p>Area of rectangle = Length \times Breadth Calculation $\Rightarrow X1$</p> <ul style="list-style-type: none"> $X2 = 40 \Rightarrow$ We know that, all the rectangle, a square has largest area \Rightarrow For given rectangle to be square $X1 = X2 \Rightarrow X1 = X2 = 20$ (for maximum area) \Rightarrow so Maximum Area = $20 \times 20 = 400$ sq m |
| 51. | b | <p>Given The sum of ages of 5 member 3 years ago = 80 years Formula Used Average = sum of observation/No. of observation Calculation \Rightarrow Present age of 5 member = $80 + 3 \times 5 = 95$ years \Rightarrow Average age of 5 member 3 years ago = $80/5 = 16$ years</p> <p>\Rightarrow according to Question \Rightarrow the average age of 6 member at present is same as average age of 5 member 3 years ago \Rightarrow so sum of 6 member (including baby) at present = $16 \times 6 = 96$ years \Rightarrow age of baby = $96 - 95 = 1$ year \therefore the age of baby is 1 year</p> |
| 52. | d | <p>Given Allowances for 1st person = 65% of his basic Allowances for 2nd person = 80% of his basic Formula Used Total emolument = basic pay + allowances Calculation Let the basic pay of 1st person and 2nd person be x and y \Rightarrow Total emoluments of both person are same $\Rightarrow x + 65\%$ of x = $y + 80\%$ of y $\Rightarrow 1.65x = 1.80y \Rightarrow x : y = 12 : 11 \therefore$ The ratio of the basic pay of the former to the basic pay of the letter is 12 : 11</p> |
| 53. | b | <p>When the person will climb 4 more steps, he will reach the 5th step. As 5th step is the middle step, implies, there will be 4 steps below it and 4 steps above it. Total number of steps = $4 + 1 + 4 = 9$ steps. Hence, there are 9 steps in the ladder</p> |
| 54. | a | |
| 55. | b | |
| 56. | a | |
| 57. | b | <p>The distance between broken part of tree on surface and trunk of the tree = 5 cm Formula Used Hypotnuese² = perpendicular²</p> <ul style="list-style-type: none"> base² Calculation \Rightarrow In $\Delta ACD \Rightarrow$ Using pythagoras th'm $\Rightarrow CD^2 = AC^2$ $AD^2 \Rightarrow CD = \sqrt{(122$ $52)} = 13$ |

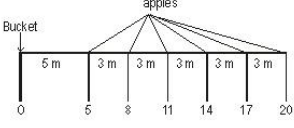
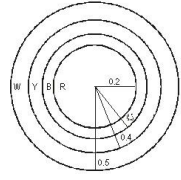
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| 58. | a | The vertical distance between the final and initial point = 3 km The horizontal distance between the final and initial point = 4 km Using the Pythagoras Theorem, the distance between the initial and final point is = $\sqrt{(3^2 + 4^2)} = \sqrt{25} \text{ km} = 5 \text{ km}$ Hence, the distance between the initial and final points is 5 km |
| 59. | b | On each face, the smaller cubes which don't lie on the edges of bigger cube will have only one side painted. As shown in the figure above, there are four cubes which has only one face painted. Accordingly, there will be 6 such faces of bigger cube. So, total 24 small cubes have one painted face. Hence, 24 is the correct answer. |
| 60. | c | Given Ram and Shyam complete 60% of the work = 4 days Formula used Work = time \times efficiency Calculation Let the work be x \Rightarrow the efficiency of Ram and Shyam be R and S \Rightarrow Ram and Shyam can complete the whole work = $4 \times (10/6) = 6(2/3)$ days \Rightarrow remaining work after 4 days $\Rightarrow (R + S) \times 8/3 = S \times 8 \Rightarrow R : S = 2 : 1 \Rightarrow$ Ram can complete the whole work = $(3 \times 20/3)/2 = 10$ days \therefore Ram takes to complete the entire job alone in 10 days |
| 61. | d | |
| 62. | b | Divisibility rule of 5 = A number has unit digit is 0 or 5 , that number divisible by 5 Calculation Let the numbers be R=5m and S=5n, m, n being integers. Then I.) $R - S = 5m - 5n = 5(m - n)$ Which is divisible by 5. II.) $R + S = 5m + 5n = 5(m + n)$ Which is divisible by 5 not divisible by 10. So option second is false III.) $R \times S = 5m \times 5n = 25mn$ Which is divisible by 25. IV.) R^2 <ul style="list-style-type: none"> • $S^2 = 25n^2$ • $25n^2 = 25(m^2$ • $n^2)$Which is divisible by 5 \therefore From the above explanations option number 2 is correct answer. |
| 63. | a | Given range: 100 - 300 Numbers to find: That begins or ends with 2 |

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| | | <p>Calculation: From 100 to 199, numbers that begin or end with 2 \Rightarrow 102, 112, 122, ..., 192 = 10 numbers From 200 to 300, numbers that begin or end with 2 \Rightarrow 202, 212, 222, ..., 292 = 10 numbers Total = 10 + 10 = 20 \therefore There are 20 numbers between 100 and 300 that begin or end with 2</p> |
| 64. | a | <p>In the passage, the author has argued that a diet based on meat and dairy is on rise throughout the developing world. Production of meat and dairy consumes a lot of natural resources like the requirement of a large quantity of water for producing meat. Also, there is a requirement for a large amount of water and pasture land for feeding animals. Therefore, it puts an additional burden on our natural resources which is not the case in a diet based on fruits vegetables and grains. Therefore, the critical message conveyed by the above passage is our increasing demand for food source from animals put a greater burden on our natural resources.</p> |
| 65. | b | <p>In the passage, the author states that before cattle were herded, humans did not depend on any other milk but mothers. Mother's milk was digested by the enzyme lactase. When the children stopped taking their mother's milk, that lactase will not be produced. However, when humans begin herding cattle, they became dependent on dairy products and slowly they developed lactose tolerance. On the other hand, the groups which were not dependent on cattle remained lactose intolerant. The author has assumed that since Chinese and Thai groups did not use cattle products their body was not adapted to lactose after the initial feeding period. Hence, the assumption is that a permanent change in the food habits of a community can bring about a genetic change in its members.</p> |
| 66. | b | <p>In the passage, the author argues that in underdeveloped countries, a fraction of national output does not pass through commercial channels. It means that it is not recognized explicitly in national income accounting or may even go unrecognized. For example, work by women for MNCs. On the other hand, in industrialized countries, most of the work is done through formalized channels. There, the national output passes through commercial channels, therefore, taking it into account while calculating national income. That means that the comparison of the national income</p> |

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| | | of underdeveloped in industrialized countries is flawed. Therefore the author implies that the existence of a non-commercialized sector in different under developed countries renders the national income comparison over countries difficult. |
| 67. | d | Corollary refers to a proposition that follows from one that is already proved. According to the passage, carbon dioxide is required for plant growth. Plants use carbon dioxide not only from the atmosphere but also from the soil making the soil carbon more volatile and releasing it in the atmosphere. Let us look at the options given. Option 1 is true but it is not a corollary to the above passage because the passage itself establishes that carbon dioxide is essential for survival of microorganisms and plants. Option 2 is incorrect because there are many other factors responsible for release of carbon dioxide in the atmosphere. Option 3 is incorrect because alongside microorganisms and soil carbon, presence of sunlight is the major factor responsible for plant growth. Option 4 is the correct corollary because an increased green cover good utilize more carbon from the soil for their growth which, in turn, would release the carbon in the atmosphere. |
| 68. | b | The given passage talks about the problems in ensuring food security in the world. According to the author, the problem behind the existence of hunger, starvation and malnutrition around the world is lack of purchasing power by the poor in developing Therefore, the food security problem of the world can be solved by improving the price affordability of the poor and regulating the conditions of marketing, so that the food can be supplied from food surplus regions to food-deficit regions. |
| 69. | c | According to the passage, the major reason for hunger and starvation in the developing economy is the non-affordability of the food by the poor. It is also the non-availability of food in poor countries because of either poor purchasing power of the country or mismatch in supply of food from food surplus regions to food deficit reasons. Therefore, balancing the demand and supply of food and increasing purchasing power of the poor will help in reducing hunger and starvation in developing economies. |

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| 70. | b | <p>The answer to the given question can be found in the following lines: “The capabilities of individual countries to generate uninterrupted chain of food supplies have come under strain.” According to the passage, developing economies are not in a position to ensure food supplies on an enduring basis consistently. In developed countries also, are not able to sustain food supplies on a standalone basis. Therefore, with the changes in quantum and composition of demand as well as the limited capability of countries to sustain food supply the issue of the worldwide supply of food has gained</p> <p>The phenomenon of overgrowth of the population worldwide has not been hinted at in the passage. Even if there was an overgrowth of population and the countries were able to sustain their food supplies individually, then there would have been no issue of worldwide food supply.</p> |
| 71. | a | |
| 72. | d | <p>Theme - Global food production, supply, demand & poverty - Options (a) and (c) can be ruled out right away. Option (b) mentions a fact that is not a challenge to world agriculture, but to its management. Option (d) is the key idea.</p> |
| 73. | a | <p>From the given conditions, for the four positions available :</p> <p>1 cannot come at the first place. So 2, 3 and 4 can appear there. 4 cannot come at the last place. So 1, 2 and 3 can appear there. 2 and 3 cannot immediately follow each other. So 23 and 32 is not allowed. 1 cannot be immediately followed by 3. So 13 is not allowed.</p> <p>Let us list the possible numbers now -</p> <p>2431 --- possible, does not violate any condition 2143 --- possible, does not violate any condition 3142 --- possible, does not violate any condition 3412 --- possible, does not violate any condition 3421 --- possible, does not violate any condition 4312 --- possible, does not violate any condition</p> <p>Hence, answer is (a). Total 6 numbers are possible.</p> |

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| 74. | a | <p>Volume of underground tank = $5.5 \times 4 \times 6 = 132 \text{ m}^3$</p> <p>Volume of cylindrical overhead tank = $\pi r^2 h = \frac{22}{7} \times 2^2 \times 7 = 88 \text{ m}^3$</p> <p>Volume left after filling overhead tank = $132 - 88 = 44$</p> <p>Ratio of portion left to that of Original will be = $\frac{44}{132} = \frac{1}{3}$</p> |
| 75. | b | <p>The number of girls is twice that of boys in a class of 60 students. Hence number of girls is 40 and boys is 20.</p> <p>Now, Kamal is seventeenth from the top. Therefore there are 16 students ahead of Kamal out of which 9 girls, and so 7 are boys ($16 - 9 = 7$).</p> <p>Therefore $20 - 7 - 1$ (himself) = 12 boys will be ranked after Kamal. Hence option (b) is the correct answer.</p> |
| 76. | a | <p>Let the length of track by D.</p> <p>A walks at a speed of 2 rounds per hour. So, one round is covered in 30 min. Distance = D. So, Speed of A = Distance / Time = $D / 30$</p> <p>B walks at a speed of 3 rounds per hour. So, one round is covered in 20 min. Distance = D. So, Speed of B = Distance / Time = $D / 20$</p> <p>Since they are moving opposite to each other, Relative Speed = Speed of A + Speed of B Hence, they will cross each other after together they have made one full round of D distance. Time = Distance / Relative Speed</p> <p>Hence, they will cross each other after = $\left(\frac{D}{\frac{D}{30} + \frac{D}{20}}\right)$ mins. = $\frac{20 \times 30 \times D}{200 + 300} = \frac{20 \times 30 \times D}{500} = 12$ mins.</p> <p>Between 8 to 9 : 30 AM, i.e. in 90 mins they will cross each other $\frac{90}{12}$ times, i.e. 7.5 (7 times)</p> |
| 77. | d | <p>W can do 25% work in 30 days. So, W will do whole work in $30 \times 4 = 120$ days (25% = 1/4)</p> <p>Similarly, X will do whole work in $10 \times 4 = 40$ days.</p> <p>Y can do 40% work in 40 days. So Y will do the whole work in = $40 \times \frac{100}{40} = 100$ days.</p> <p>Z can do $\frac{1}{3}$ of work in 13 days. \therefore Z will do whole work in = $13 \times 3 = 39$ days \therefore Z will complete the work first. Ans (d)</p> |
| 78. | a | <p>Average monthly income = Rs.10,000 So, total monthly income of the family of 5 = Rs.50,000 If one person's income increases by Rs.1,20,000 per year, his/her monthly income increases by Rs.10,000. So, total monthly income now becomes = Rs.60,000 So, average monthly income now becomes $60/5 = \text{Rs.}12,000$. Hence, answer is (a).</p> |

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| 79. | d |  <p>To pick and drop each apple, competitor has to travel double its distance from bucket. Hence, total distance travelled will be $= 2 (5 + 8 + 11 + 14 + 17 + 20)$ $= 2 \times 75 = 150 \text{ m.}$</p> |
| 80. | c | <p>Total area of archery target = $\pi r^2 = \pi (0.5)^2 = 0.25 \pi$ Area of red band = $\pi (0.2)^2 = 0.04 \pi$ Probability that the arrows fall in red region = $\frac{\text{Area of red band}}{\text{Total area}} = \frac{0.04\pi}{0.25\pi} = \frac{4}{25} = \frac{16}{100} = 0.16$</p>  |