

Sl. No. QUESTIONS

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

Passage

In India, the segregation of municipal waste at source is rare. Recycling is mostly with the informal sector. More than three-fourths of the municipal budget goes into collection and transportation, which leaves very little for processing/resource recovery and disposal. Where does waste-to-energy fit into all this? Ideally it fits in the chain after segregation (between wet waste and rest), collection, recycling, and before getting to the landfill. Which technology is most appropriate in converting waste to energy depends on what is in the waste (that is biodegradable versus non-biodegradable component) and its calorific value. The biodegradable component of India's municipal solid waste is a little over 50 per

cent, and biomethanation offers a major solution for processing this.

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

1. Collection, processing and segregation of municipal waste should be with government agencies.

2. Resource recovery and recycling require technological inputs that can be best handled by private sector enterprises.

Which of the assumptions given above is/are correct?

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

2. Which one of the following statements best reflects the crux of the passage?

(a) Generation of energy from municipal solid waste is inexpensive.

(b) Biomethanation is the most ideal way of generating energy from municipal solid waste.

(c) Segregation of municipal solid waste is the first step in ensuring the success of waste-to-energy plants.

(d) The biodegradable component of India's municipal solid waste is not adequate to provide energy from waste efficiently/effectively.

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

Passage

There is a claim that organic farming is inherently safer and healthier. The reality is that because the organic farming industry is still young and not well-regulated in India, farmers and consumers, alike, are not only confused about what products are best for them, but sometimes use products in ways that could harm them as well. For example, since

organic fertilizers are difficult to obtain on a large scale in India, farmers often use farmyard manure, which may contain toxic chemicals and heavy metals. Certain plant sprays, such as Datura flower and leaf spray, have an element called atropine. If it is not applied in the right dose, it can act on the nervous system of the consumer. Unfortunately, how much and when to use it are not well-researched or regulated issues.

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

1. Organic farming is inherently unsafe for both farmers and consumers.
2. Farmers and consumers need to be educated about eco-friendly food.

Which of the assumptions given above is/are correct?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2

(d) Neither 1 nor 2

4. Which one of the following statements best reflects the most logical, rational and practical message conveyed by the author of the passage?

(a) In India, organic farming should not be promoted as a substitute for conventional farming.

(b) There are no safe organic alternatives to chemical fertilizers.

(c) In India, farmers need to be guided and helped to make their organic farming sustainable.

(d) The aim of organic farming should not be to generate huge profits as there is still no global market for its products.

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

Passage

Food consumption patterns have changed substantially in India over

the past few decades. This has resulted in the disappearance of many nutritious foods such as millets. While food grain production has increased over five times since independence, it has not sufficiently addressed the issue of malnutrition. For long, the agriculture sector focused on increasing food production particularly staples, which led to lower production and consumption of indigenous traditional crops/grains, fruits and other vegetables, impacting food and nutrition security in the process. Further, intensive, monoculture agriculture practices can perpetuate the food and nutrition security problem by degrading the quality of land, water and food derived through them.

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

1. To implement the Sustainable Development Goals and to achieve zero-hunger goal, monoculture

agriculture practices are inevitable even if they do not address malnutrition.

2. Dependence on a few crops has negative consequences for human health and the ecosystem.

3. Government policies regarding food planning need to incorporate nutritional security.

4. For the present monoculture agriculture practices, farmers receive subsidies in various ways and government offers remunerative prices for grains and therefore they do not tend to consider crop diversity.

Which of the above assumptions are valid?

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

- 6.** A box contains 14 black balls, 20 blue balls, 26 green balls, 28 yellow balls, 38 red balls and 54 white balls. Consider the following statements:

1. The smallest number n such that any n balls drawn from the box randomly must contain one full group of at least one colour is 175.

2. The smallest number m such that any m balls drawn from the box randomly must contain at least one ball of each colour is 167.

Which of the above statements is/are correct?

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

- 7.** If 'ZERO' is written as 'CHUR', then how is 'PLAYER' written?

- (a) SOCAGT
- (b) SODBGT
- (c) SODBHT
- (d) SODBHU

- 8.** Consider the following statements :

- 1. A is older than B.
- 2. C and D are of the same age.
- 3. E is the youngest.
- 4. F is younger than D.
- 5. F is older than A.

How many statements given above are required to determine the oldest person/persons ?

- (a) Only two
- (b) Only three
- (c) Only four
- (d) All five

Answer: (c)

10. Answer: (d)

All numbers except 91 in above options are prime number. So, this group is different from the others. Hence, option (d) is correct.

Directions for the following 3 (three) item :

- 9.** Consider the following including the Question and the Statements:
There are 5 members A, B, C, D, E in a family.
Question: What is the relation of E to B ?
Statement-1 : A and B are a married couple.

Statement-2 : D is the father of C.

Statement-3 : E is D's son.

Statement-4 : A and C are sisters.

Which one of the following is correct in respect of the above Questions and Statements ?

- (a) Statement-1, Statement-2 and Statement-3 are sufficient to answer the Question.
- (b) Statement-1, Statement-3 and Statement-4 are sufficient to answer the Question.
- (c) All four statement together are sufficient to answer the Question.
- (d) All four statements are not sufficient to answer the Question.

- 10.** Choose the group which is different from the others :

- (a) 17, 37, 47, 97
- (b) 31, 41, 53, 67
- (c) 71, 73, 79, 83
- (d) 83, 89, 91, 97

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

Passage

To tackle the problem of pollution in cities, policy makers think that drastic actions like temporary use of odd-even number scheme for vehicles, closing schools, factories, construction activities, and banning the use of certain type of vehicles are a way forward. Even then the air is not clean. Vehicles more than 15 years old comprise one percent of the total; and taking them off the road will not make any difference. Banning certain fuels and car types arbitrarily is not proper. Diesel engines produce more PM 2.5 and less CO₂ than petrol or CNG engines. On the other hand, both diesel and CNG engines produce more NO_x than petrol engines. No one has measured the amount of NO_x that CNG engines are emitting. Arbitrary bans on vehicles that have passed mandated fitness tests and periodic pollution tests are unfair. What is needed is the scientific and reliable information about the source of pollutants on a continuing basis and the technologies that will work to reduce pollution from them.

Which one of the following statements best reflects the most logical and rational implication conveyed by the passage?

- (a) Arbitrary curbs on vehicles to reduce pollution are difficult to implement.
- (b) Knee-jerk reactions cannot but an evidence-based approach will be more effective.
- (c) A heavy penalty should be enforced on those driving without periodic pollution tests.
- (d) In the absence of laws to deal with the problem of pollution, the administration tends to make arbitrary decisions.

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

Passage

Good corporate governance structures encourage companies to

provide accountability and control. A fundamental reason why corporate governance has moved onto the economic and political agenda worldwide has been the rapid growth in international capital markets. Effective corporate governance enhance access to external financing by firms, leading to greater investment, higher growth and employment. Investors look to place their funds where the standards of disclosure, of timely and accurate financial reporting, and of equal treatment to all stakeholders are met.

Which of the following statements best reflects the logical inference from the passage given above ?

(a) It is an important agenda of the countries around the world to ensure access to good external financing.

(b) Good corporate governance improves the credibility of the firms.

(c) International capital markets ensure that the firms maintain good corporate governance.

(d) Good corporate governance paves the way for robust supply chains.

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

Passage

Elephants are landscape architects, creating clearings in the forest, preventing overgrowth of certain plant species and allowing space for the regeneration of others, which in turn provide sustenance to others, which in turn provide sustenance to other herbivorous animals. Elephants eat plants, fruits and seeds, propagating the seeds when they defecate in other places as they travel. Elephant dung provides nourishment to plants and animals and acts as a breeding ground for insects. In times of drought, they access water by digging holes which benefits other wildlife.

Which one of the following statements best reflects the most logical and rational inference that can be drawn from the passage?

- (a) The home range of elephants needs to be a vast area of rich biodiversity.
- (b) Elephants are the keystone species and they benefit the biodiversity.
- (c) Rich biodiversity cannot be maintained in the forests without the presence of elephants.
- (d) Elephants are capable of regenerating forests with species as per their requirement.
- 14.** If $7 \oplus 9 \oplus 10 = 8$, $9 \oplus 11 \oplus 30 = 5$, $11 \oplus 17 \oplus 21 = 13$, what is the value of $23 \oplus 4 \oplus 15$?
- (a) 6
- (b) 8
- (c) 13
- (d) 15
- 15.** Let x be a positive integer such that $7x + 96$ is divisible by x . How many values of x are possible?
- (a) 10

- (b) 11
- (c) 12
- (d) Infinitely many

- 16.** If p , q , r and s are distinct single digit positive numbers, then what is the greatest value of $(p + q)(r + s)$?
- (a) 230
- (b) 225
- (c) 224
- (d) 221
- 17.** A number N is formed by writing 9 for 99 times. What is the remainder if N is divided by 13?
- (a) 11
- (b) 9
- (c) 7
- (d) 1
- 18.** Each digit of a 9-digit number is 1. It is multiplied by itself. What is the sum of the digits of the resulting number?
- (a) 64
- (b) 80
- (c) 81
- (d) 100

19. What is the sum of all digits which appear in all the integers from 10 to 100?
- (a) 855
(b) 856
(c) 910
(d) 911
20. ABCD is a square. One point on each of AB and CD; and two distinct points on each of BC and DA are chosen. How many distinct triangles can be drawn using any three points as vertices out of these six points ?
- (a) 16
(b) 18
(c) 20
(d) 24
21. Read the following three passages and answer the items that follow the passages. Your answers to these items should be based on the passages only.
- Passage**
- The emissions humans put into the atmosphere now will affect the climate in the middle of the century

and onwards. Technological change, meanwhile, could make a future transition away from fossil fuels cheap or it might not, leaving the world with a terrible choice between sharply reducing emissions at huge cost or suffering through the effects of unabated warming. Businesses that do not hedge against the threat of uncertain outcomes fail. The world cannot afford such recklessness on climate change.

Which one of the following statements best reflects the crucial message conveyed by the author of the passage?

- (a) Businesses that cause emissions may need to close down or pay for pollution in future.
(b) The only solution is technological development related to the issues of climate change.
(c) Waiting to deal with carbon emissions until technology improves is not a wise strategy.
(d) Since future technological change is uncertain, new industries should be based on renewable energy sources.

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

Passage

Environmental problems cause health problems. Substantial changes in lifestyle can reduce environmental or health problems, but this idea appears almost impossible to adopt. With environmental problems, individual efforts can be perceived as having a negligible effect and therefore lead to inertia. With health, on the other hand, individual choices can make the difference between life and death, literally. And yet, barring a few, there seems to be the same collective lethargy towards making their choices.

Which one of the following statements best implies the most rational assumption that can be made from the passage?

- (a) We are likely to spend more money on cure than prevention.
- (b) It is the job of the government to solve our environmental and public health problems.
- (c) Health can be protected even if environmental problems go on unattended.
- (d) Loss of traditional lifestyle and the influence of western values led to some unhealthy way of living.

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

Passage

Many people are not eating the right food. For some, it is simply a decision to stick with food they enjoy but which is not too healthy. This is leading to an increase in non-communicable disease. This in turn leads to major burden on our health-care systems that have the potential to derail the economic progress which is essential for the poor to improve their lives. For

others, it is about limited access to nutritious food or a lack of affordability, leading to monotonous diets that do not provide the daily nutrients for them to develop fully. Part of the reason nutrition is under threat worldwide is that our food systems are not properly responding to nutritional needs. Somewhere along that long road from farm to fork, there are serious detours taking place.

Which one of the following statements best reflects the crux of the passage ?

- (a) The scheme of Universal Basic Income should be implemented worldwide as a way of poverty alleviation.
- (b) We must place food-based nutrition at the centre of our policy debate.
- (c) Nutritional status of food should be improved by creating appropriate genetically modified crops.
- (d) Using modern food processing technologies, we must fortify food items with required nutrient elements.

24. Three of the five positive integers p , q , r , s , t are even and two of them are odd (not necessarily in order). Consider the following:

- 1. $p + q + r - s - t$ is definitely even.
- 2. $2p + q + 2r - 2s + t$ is definitely odd.

Which of the above statements is/are correct?

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

25. Consider the following in respect of prime number p and composite number c .

- 1. $p+c/p-c$ can be even.
- 2. $2p+c$ can be odd.
- 3. pc can be odd.

Which of the statements given above are correct?

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

26. A 3-digit number ABC, on multiplication with D gives 37DD

- where A, B, C and D are different non-zero digits. What is the value of $A+B+C$?
- (a) 18
(b) 16
(c) 15
(d) Cannot be determined due to insufficient data
- 27.** For any choices of values of X,Y and Z, the 6 digit number of the form XYZXYZ is divisible by :
- (a) 7 and 11 only
(b) 11 and 13 only
(c) 7 and 13 only
(d) 7, 11 and 13
- 28.** 125 identical cubes are arranged in the form of cubical block. How many cubes are surrounded by other cubes from each side?
- (a) 27
(b) 25
(c) 21
(d) 18
- 29.** How many distinct 8-digit numbers can be formed by rearranging the digits of the number 11223344 such that odd digits occupy odd positions and even digits occupy even positions ?
- (a) 12
(b) 18
(c) 36
(d) 72
- 30.** A, B, C working independently can do a piece of work in 8, 16 and 12 days respectively. A alone works on Monday, B alone works on Tuesday, C alone works on Wednesday; A alone, again works on Thursday and so on. Consider the following statements :
1. The work will be finished on Thursday.
 2. The work will be finished in 10 days.
- Which of the above statements is/are correct?
- (a) 1 Only
(b) 2 Only
(c) Both 1 and 2
(d) Neither 1 nor 2
- 31.** Read the following three passages and answer the items that follow the passages. Your answers to these

items should be based on the passages only.

Passage –

We often hear about conflicts among different States in India over river waters. Of the 20 major river system, 14 are already water-stressed; 75% of the population lives in water-stressed regions, a third of whom live in water-scarce areas. Climate change, the demands of rising population and the need for agriculture to keep pace, and increased rate of urbanization and industrialization will exacerbate water stress. According to the Constitution of India, water is a State subject and not that of the Union, except for regulation of inter-State rivers. Key to ensuring balance between competing demands of various stakeholders is a basin-based approach to allocate water amongst constituent regions and States. Allocating fair share of water to them requires assessments based on objective criteria, such as specificities of the river basin, size of dependent population, existing water use and demand, efficiency of

use, projected future use, etc. while ensuring the environmental needs of the river and aquifers.

Which one of the following statements best reflects the most rational, practical and immediate action required to ensure fair and equitable allocation of water to different stakeholders?

- (a) A national, pragmatic, legal and policy framework for water allocation should be made.
- (b) All river systems of the country should be linked and huge aquifers created.
- (c) Water channels between regions of water surplus and regions of water deficit should be created.
- (d) To mitigate water crisis, water demand of sectors such as agriculture and industry should be reduced.

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

Passage –

More than half of Indian women and almost a quarter of Indian men of working age suffer from anaemia. According to studies, they are anywhere from 5-15% less productive than they could be, as a result thereof. India also has the largest tuberculosis burden in the world, costing 170 million workdays to the country annually. But what is just as important as lost productivity now is lost potential in the future. It is becoming increasingly clear that on many measures of cognitive ability, malnourished Indian children perform, two or three times worse than their adequately nourished peers. For an economy that will be more dependent on highly skilled workers, this poses a significant challenge. And it is one that really should be addressed given India's demographic outlook.

Which one the following statements best reflects what is implied by the passage?

- (a) Education system must be strengthened in rural areas.
- (b) Large scale and effective implementation of skill development programme is the need of the hour.
- (c) For economic development, health and nutrition of only skilled workers needs special attention.
- (d) For rapid economic growth as envisaged by us, attention should be paid to health and nutrition of the people.

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

Passage

In India, a majority of farmers are marginal and small, less educated and possess low adaptive capabilities to climate change, perhaps because of credit and other constraints. So, one cannot expect autonomous adaptation to climate change. Even if it was possible, it would not be sufficient to offset losses from climate change. To deal with this, adaptation to climate

change is paramount, alongside a fast mitigation response. Another solution is to have a planned or policy-driven adaptation, which would require the government to come up with policy recommendations. Perception is a necessary pre-requisite for adaptation. Whether farmers are adapting agricultural practices to climate change depends on whether they perceive it or not. However, this is not always enough for adaptation. It is important how a farmer perceives the risks associated with climate change. Which one of the following statements best reflects the most logical and rational message conveyed by the author of the passage?

- (a) Adaptation to climate change and mitigation response are basically the responsibilities of the government.
- (b) Climate change causes a change in government policies regarding land use patterns in the country.

- (c) Risk perceptions of farmers are important for motivating them for taking adaptation decisions.
- (d) Since mitigation is not possible, governments should come up with policies for quick response to climate change.

- 34.** Raj has ten pairs of red, nine pairs of white and eight pairs of black shoes in a box. If he randomly picks shoes one by one (without replacement) from the box to get a red pair of shoes to wear, what is the maximum number of attempts he has to make?
- (a) 27
 - (b) 36
 - (c) 44
 - (d) 45
- 35.** In how many ways can a batsman score exactly 25 runs by scoring single runs, fours and sixes only, irrespective of the sequence of scoring shots?
- (a) 18
 - (b) 19
 - (c) 20

- (d) 21
- 36.** There are four letters and four envelopes and exactly one letter is to be put in exactly one envelope with the correct address. If the letters are randomly inserted into the envelopes, then consider the following statements:
- 1. It is possible that exactly one letter goes into an incorrect envelope.**
- 2. There are only six ways in which only two letters can go into the correct envelopes.**
- 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
- 37. What is the remainder when $85 \times 87 \times 89 \times 91 \times 95 \times 96$ is divided by 100?**
- (a) 0
(b) 1
(c) 2
(d) 4
- 38.** What is the unit digit in the expansion of $(57242)^9 \times 7 \times 5 \times 3 \times 1$?
- (a) 2
(b) 4
(c) 6
(d) 8
- 39.** If ABC and DEF are both 3-digit numbers such that A, B, C, D, E, and F are distinct non-zero digits such that $ABC + DEF = 1111$, then what is the value of $A+B+C+D+E+F$?
- (a) 28
(b) 29
(c) 30
(d) 31
- 40.** D is a 3-digit number such that the ratio of the number to the sum of its digits is least. What is the difference between the digit at the hundred's place and the digit at the unit's place of D?
- (a) 0
(b) 7
(c) 8
(d) 9

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

Passage-1

According to the Food and Agriculture Organization, one-third of food produced for human consumption is lost or wasted globally. Food is lost or wasted throughout the supply chain, from initial agricultural production to final household consumption. The increasing wastage also results in land degradation by about 45%, mainly due to deforestation, in sustainable agricultural practices, and excessive groundwater extraction. The energy spent over wasted food results in about 3.5 billion tonnes of carbon dioxide production every year. Decay also leads to harmful emissions of other gases in the atmosphere. Addressing the loss and wastage of food in forms is critical to complete the cycle of food deficiency and food sustainability.

Which of the following statements best reflect the most logical and rational inferences that can be made from the passage?

1. The current methods of food distribution are solely responsible for the loss and wastage of food.
2. Land productivity is adversely affected by the prevailing trend of food loss and wastage.
3. Reduction in the loss and wastage of food results in lesser carbon footprint.
4. Post-harvest technologies to prevent or reduce the loss and wastage of food are not available.

Select the correct answer using the code given below.

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

- 42.** Based on the above passage, the following assumption have been made:

1. The food distribution mechanism needs to be reimagined and made effective to reduce the loss and wastage of food.
2. Ensuring the reduction of wastage and loss of food is a social and moral responsibility of all citizens.

Which of the assumptions given above is/are valid?

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

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

Passage-2

As inflation rises, even governments previously committed to budget discipline are spending freely to help households. Higher interest rates announced by central banks are supposed to help produce modest fiscal austerity, because to maintain stable debts

while paying more to borrow, governments must cut spending or raise taxes. Without the fiscal backup, monetary policy eventually loses traction. Higher interest rates become inflationary, not disinflationary, because they simply lead governments to borrow more to pay rising debt-service costs. The risk of monetary unmooring is greater when public debt rises, because interest rates become more important to budget deficits.

Which of the following statements best reflect the most logical and rational inference/inferences that can be made from the passage?

1. Central banks cannot bring down inflation without budgetary backing.
2. The effects of monetary policy depend on the fiscal policies pursued by the government.

Select the correct answer using the code given below:

- a) 1 only
- b) 2 only

- c) Both 1 and 2
d) Neither 1 nor 2
- 44. Based on the above passage, the following assumptions have been made:**
1. Fiscal policies of governments are solely responsible for higher prices.
 2. Higher prices do not affect the long-term government bonds.
- Which of the assumptions given above is/are valid?
- a) 1 only
b) 2 only
c) Both 1 and 2
d) Neither 1 nor 2
- 45.** Which is the least possible number of cuts required to cut a cube into 64 identical pieces?
- a) 8
b) 9
c) 12
d) 16
- 46.** In the expression $5 * 4 * 3 * 2 * 1$, * is chosen from +, -, \square each at most two times. Which is the smallest non-negative value of the expression?
- a) 3
b) 2
c) 1
d) 0
- 47.** A certain number of men can complete a piece of work in $6k$ days, where k is a natural number. By what percent should the number of men be increased so that the work can be completed in $5K$ days?
- a) 10%
b) $(50/3)\%$
c) 20%
d) 25%
- 48.** X, Y and Z can complete a piece of work individually in 6 hours, 8 hours and 8 hours respectively. However, only one person at a time can work in each hour and nobody can work for two consecutive hours. All are engaged to finish the work. What is the minimum amount of time that they will take to finish the work?
- a) 6 hours 15 minutes**

- b) 6 hours 30 minutes
- c) 6 hours 45 minutes
- d) 7 hours

49. How many consecutive zeros are there at the end of the integer obtained in the product $1^2 \times 2^4 \times 3^6 \times 4^8 \times \dots \times 25^{50}$?
- a) 50
 - b) 55
 - c) 100
 - d) 200
50. On January 1st, 2023, a person saved Rs. 1. On January 2nd, 2023, he save Rs. 2 more than that on the previous day. On January 3rd, 2023, he saved Rs. 2 more than that on the previous day and so on. At the end of which date was his total savings a perfect square as well a perfect cube?
- a) 7th January 2023
 - b) 8th January, 2023
 - c) 9th January, 2023
 - d) Not possible
51. Read the following two passages and answer the items that follow the passage. Your answer to these

items should be based on the passage only.

Passage-1

Today, if we consider cities such as New York, London and Paris as some of the most iconic cities in the world, it is because plans carrying a heavy systems approach were imposed on their precincts. The backbone of the systems theory is the process of translating social, spatial and cultural desirables into mathematical models using computing, statistics, optimization and an algorithmic way of formulating and solving problems. The early universities of the West which began to train professionals in planning, spawned some of the most ingenious planners, who were experts in these domains. This was because these very subjects were absorbed into the social sciences, geography and architecture. Planning in India, and its education differ from the West.

Which one of the following statements best reflects the most logical and rational inference that

can be made from the above passage?

- a) Curriculum for urban planning courses should have diverse and interdisciplinary approach.
- b) In India, city administration is under bureaucracy which lacks formal training in urban planning and management.
- c) In India, the management of urban areas is a local affair with a chronic problem of insufficient funds.
- d) With high density of population and widespread poverty in our urban areas, planned development in them is very difficult.

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

- 1. India needs a new generation of urban professionals with knowledge relevant to modern urban practice.
- 2. Indian universities at present have no capacity or potential to impart training in systems approach.

Which of the assumptions given above is/are correct?

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

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

Passage-2

Not every voice on the internet commands the same kind of audience. When anonymous private entities with high capital can pay for more space for their opinions, they are effectively buying a louder voice. If political discourse in the digital sphere is a matter of outshining one's opponent till the election is won, then the quality of politics suffers. The focus of social media is restricted to the promotion of content that generates more user engagement, regardless of how inflammatory the content maybe.

Which one of the following statements best reflects the central idea of the above passage?

- a) Constructed as a marketplace of views, social media ensures instant access to information.
- b) Social media are not ideal or moral institutions but the products built by companies to make profits.
- c) Social media have been created to strengthen democracies.
- d) In today's world, social media are inevitable for well-informed social life.

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

- 1. Internet is not inclusive enough.
- 2. Internet can adversely affect the quality of politics in a country.

Which of the assumptions given above is/are valid?

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

55. $222^{333} + 333^{222}$ is divisible by which of the following numbers?

- a) 2 and 3 but not 37
- b) 3 and 37 but not 2
- c) 2 and 37 but not 3
- d) 2, 3 and 37

56. What percent of water must be mixed with honey so as to gain 20% by selling the mixture at the cost price of honey?

- a) 20%
- b) 10%
- c) 5%
- d) 4%

57. What is the rightmost digit preceding the zeros in the value of 3030?

- a) 1
- b) 3
- c) 7
- d) 9

58. 421 and 427, when divided by the same number, leave the same remainder 1. How many numbers can be used as the divisor in order to get the same remainder 1? (a) 1 (b) 2 (c) 3 (d) 4

- a) 1
- b) 2
- c) 3
- d) 4

59. A can X contains 399 liters of petrol and a can Y contains 532 liters of diesel. They are to be bottled in bottles of equal size so that whole of petrol and diesel would be separately bottled. The bottle capacity in terms of liters is an integer.

How many different bottle sizes are possible?

- a) 3
- b) 4
- c) 5
- d) 6

60. Consider the following statements in respect of the sum $S=x+y+z$, where x , y and z are distinct prime numbers each less than 10:

1. The unit digit of S can be 0.
2. The unit digit of S can be 9.
3. The unit digit of S can be 5.

Which of the statements given above are correct?

- a) 1 and 2 only

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

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

Passage-1

By the time children reach class 8, the bulk of them tend to be in the age range of 13 years to 15 years. But in our country, about a quarter of all children in class 8 struggle with reading simple texts and more than half are still unable to do basic arithmetic operations like division. Every year about 25 million young boys and girls from elementary school move into the life that lies for them beyond compulsory schooling. They cannot enter the workforce at least in the organized sector till they are 18. For many families, these children are the first from their families ever to get this far in school. Parents and children expect that such 'graduates' from school will go on to

high school and college. Hardly anyone wants to go back to agriculture. On the other hand, abilities in terms of academic competencies are far lower than they should be even based on curricular expectations of class 8.

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

1. For effective school education, parents have greater role than the governments.
2. School curriculum that conforms to today's requirements and is uniform for the entire country may address the issues brought out

Which of the assumptions given above is/are valid?

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

- 62.** Which one of the following statements best reflects the central idea conveyed by the passage?
- a) Total eradication of poverty in the country will resolve the issue of under-performance of our school-children.
 - b) Monetary incentives to parents and teachers is a strategy to improve the children's academic performance.
 - c) Public policy should ensure that competencies and achievements of young people are aligned with their expectations.
 - d) India is not going to take advantage of the demographic dividend unless some school pass-outs go back to agriculture.

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

Passage-2

We take it for granted now that science has a social responsibility. The idea would not have occurred

to Newton or Galileo. They thought of science as an account of the world as it is, and the only responsibility that they acknowledged was to tell the truth. The idea that science is a social enterprise is modern, and it begins at the industrial revolution. We are surprised that we cannot trace a social sense further back, because we nurse the illusion that the industrial revolution ended golden age.

Which one of the following statements best reflects the thinking of the author about the science?

- a) Science must value the commitment of the scientists.
- b) Science is a product of civilized society and must be used for the promotion of scientific awareness in people.
- c) Industrial revolution was made possible by the advancements in science.
- d) Science must pursue truth but be responsible for social welfare.

- 64.** Consider the sequence A_BCD_BBBCDABC_DABC_D that follows a certain pattern. Which one of the following completes the sequence?
- a) B, A, D, C
 - b) B, A, C, D
 - c) A, A, C, D
 - d) A, A, D, C
- 65.** Two persons P and Q enter into a business. P puts ₹14,000 more than Q, but P has invested for 8 months and Q has invested for 10 months. If P's share is ₹400 more than Q's share out of the total profit of ₹2,000, what is the capital contributed by P?
- a) ₹30,000
 - b) ₹26,000
 - c) ₹24,000
 - d) ₹20,000
- 66.** P's salary is 20% lower than Q's salary which is 20% lower than R's salary. By how much percent is R's salary more than P's salary?
- a) 48.75%
 - b) 56.25%
 - c) 60.50%

- d) 62.25%
- 67.** A number is mistakenly divided by 4 instead of multiplying by 4. What the percentage change in the result due to this mistake?
- a) 25%
c) 72.75%
b) 50%
d) 93.75%
- 68.** In an examination, 80% of students passed in English, 70% of students passed in Hindi and 15% failed in both the subjects. What is the percentage of students who failed in only one subject?
- a) 15%
b) 20%
c) 25%
d) 35%
- 69.** A father said to his son, “n years back I was as old as you are now. My present age is four times your age n years back”. If the sum of the present ages of the father and the son is 130 years, what is the difference of their ages?
- a) 30 years
- b) 32 years
c) 34 years
d) 36 years
- 70.** Consider the following:
- 1. 1000 litres = 1 m³**
 - 2. 1 metric ton 1000 kg**
 - 3. 1-hectare 10000 m²**
- Which of the above are correct?
- a) 1 and 2 only
b) 2 and 3 only
c) 1 and 3 only
d) 1, 2 and 3
- 71.** Read the following two passages and answer the items that follow the passages. Your answers to these items should be based on the passages only.
- Passage – 1**
- The history of science is the real history of mankind. In this striking epigram, a nineteenth-century writer links science with its background. Like most epigrams, its power lies in emphasizing by contrast an aspect of truth which may be easily overlooked. In this case, it is easy to overlook the relations between science and

mankind, and to treat the former as some abstract third party, which can sometimes be praised for its beneficial influences, but frequently and conveniently blamed for the horrors of war. Science and mankind cannot be divorced from time to time at men's convenience. Yet we have seen that, in spite of countless opportunities of improvement, the opening years of the present period of civilization have been dominated by international conflict. Is this the inevitable result of the progress of science or does the fault lie elsewhere?

Which of the following is/are emphatically conveyed by the author of the passage?

Without science, mankind could not have continued to exist till today.

It is the science that will ultimately determine the destiny of mankind. Select the correct answer using the code given below.

- a) 1 only
- b) 2 only

- c) Both 1 and 2
- d) Neither 1 nor 2

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

1. The horrors of modern life are the inevitable result of the progress of science.
2. The aspect of truth likely to be overlooked is that science is what man has made it.

Which of the assumptions given above is/are correct?

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

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

Passage – 2

Only with long experience and opening of his wares on many a beach where his language is not spoken, will the merchant come to

know the worth of what he carries, and what is parochial and what is universal in his choice. Such delicate goods as justice, love and honour, courtesy, and indeed all the things we care for, are valid everywhere but they are variously moulded and often differently handled, and sometimes nearly unrecognizable if you meet them in a foreign land, and the art of learning fundamental common values is perhaps the greatest gain of travel to those who wish to live at ease among their fellows.

When we meet other people while we travel, we learn to differentiate between

- a) imagination and understanding
- b) communities and nationalities
- c) local values and universal values
- d) friends and foes

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

- 1. Travel leads to an understanding of humans.

- 2. Travel helps those who wish to learn fundamental common values.
- 3. A person with long experience in travel can resolve differences amongst people.

Which of the assumptions given above are valid?

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

- 75.** Let X be a two-digit number and Y be another two-digit number formed by interchanging the digits of X. If $(X+Y)$ is the greatest two-digit number, then what is the number of possible values of X?
- a) 2
 - b) 4
 - c) 6
 - d) 8

- 76.** Consider the following:
Weight of 6 boys = Weight of 7 girls = Weight of 3 men = Weight of 4 women

If the average weight of the women is 63 kg, then what is the average weight of the boys?

- a) 40 kg
- b) 42 kg
- c) 45 kg
- d) 63 kg

77. How many times the hour hand and the minute hand coincide in a clock between 10:00 a.m. and 2:00 p.m. (same day)?

- a) 3 times
- b) 4 times
- c) 5 times
- d) 6 times

78. **The calendar for the year 2025 is same for**

- a) 2029
- b) 2030
- c) 2031
- d) 2033

79. Let p, q, r and s be distinct positive integers. Let p, q be odd and r, s be even. Consider the following statements:

1. $(p - r)^2 (qs)$ is even.
2. $(q - s) q^2 s$ is even.

3. $(q + r)^2 (p + s)$ is odd.

Which of the statements given above are correct?

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

80. What is the angle between the minute hand and hour hand when the clock shows 4:25 hours?

- a) 12.5°
- b) 15°
- c) 17.5°
- d) 20°

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

Passage-1

Conventional classrooms, by emphasizing fixed duration over learning effectiveness, resign themselves to variable outcomes. The tyranny of the classroom is that every learner is subjected to the same set of lectures in the same way for the same duration. In

the end, a few learners shine, some survive, and the rest are left behind. After the fixed duration, the classroom model moves on, with not a thought spared for those left behind. This is how we end up with 10 percent employability in our graduates after a decade and half of formal education. Repeating the same ineffectual script in the realm of skill education will not produce different results.

Which of the following statements best reflects/reflect the most logical and rational inference/inferences that can be made from the passage?

1. In conventional classroom learning, the central goal is duration of Learning rather than attainment of competency.
2. Conventional classrooms encourage one-size-fits-all approach and stamp out all differentiation.

Select the correct answer using the code given below.

a) 1 only

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

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

As a large number of workers in our country are employed in unorganized sector, India does not need change to its present conventional classroom system of education.

Even with its present conventional classroom system of education, India produces sufficient number of skilled workers to fully realize the benefits of demographic dividend.

Which of the assumptions given above is/are valid?

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

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

Passage-2

When a child reaches adolescence, there is apt to be a conflict between the parents and the child, since the latter considers himself to be by now quite capable of managing his own affairs, while the former are filled with parental solicitude, which is often a disguise for love of power. Parents consider, usually, that the various moral problems which arise in adolescence are peculiarly their province. The options they express, however, are so dogmatic that the young seldom confide in them, and usually go their own way in secret.

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

1. The adolescent does not feel comfortable with his parents because they tend to be dominating and assertive.
2. The adolescent of modern times does not have much respect for parents.

Which of the assumptions given above is/are valid?

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

- 84.** Which one of the following statements best reflects the central idea of the above passage?
- a) Parents in general may not be of much help when children are on their way to becoming adults.
 - b) When children reach adolescence, involvement of parents in their lives is unnecessary.
 - c) Modern-day nuclear families are not capable of bringing up children properly.
 - d) In modern societies, adolescents tend to be Stubborn, disobedient and careless.
- 85.** What is the number of fives used in numbering a 260-page book?
- a) 55
 - b) 56
 - c) 57
 - d) 60
- 86.** What is the sum of the first 28 terms in the following sequence?

- 1, 1, 2, 1, 3, 2, 1, 4, 3, 2, 1, 5, 4, 3, 2, ..
- a) 83
b) 84
c) 85
d) 86
- 87.** A person buys three articles P, Q and R for ₹ 3,330. If P costs 25% more than R and R costs 20% more than Q, then what is the cost of P?
a) ₹ 1,000
c) ₹ 1,250
b) ₹ 1,200
d) ₹ 1,350
- 88.** If the sum of the two-digit numbers AB and CD is the three-digit number 1CE, where the letters A, B, C, D, E denote distinct digits, then what is the value of A?
a) 9
b) 8
c) 7
d) Cannot be determined due to insufficient data
- 89.** Three numbers x, y, z are selected from the set of the first seven natural numbers such that $x > 2y >$
- 3z. How many such distinct triplets (x, y, z) are possible?
a) One triplet
b) Two triplets
c) Three triplets
d) Four triplets
- 90.** The total cost of 4 oranges, 6 mangoes and 8 apples is equal to twice the total cost of 1 orange, 2 mangoes and 5 apples. Consider the following statements:
1. The total cost of 3 oranges, 5 mangoes and 9 apples is equal to the total cost of 4 oranges, 6 mangoes and 8 apples.
 2. The total cost of one orange and one mango is equal to the cost of one apple.
- 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
- 91.** Read the following three passages and answer the items that follow the passages. Your answers to

these items should be based on the passages only.

Passage-1

When an international team of scientists pumped a carbon dioxide and water mix into underground basalt rocks, basic chemistry took over. The acidic mixture dissolved rocks' calcium and magnesium and formed limestone. Basically, carbon dioxide is converted into stone, exclaimed the scientists.

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

- a) It is a cheap and practical method to produce limestone at commercial level for building purposes.
- b) This can be used as one of the methods of carbon sequestration.
- c) Basalt rock can be made a good source of calcium and magnesium minerals by this method.
- d) Good rock-dissolving acid can be produced by mixing carbon dioxide and water.

92. Passage-2

Geographers analyzed 175 satellite images of ocean colour, which is an indicator of phytoplankton productivity at the ocean's surface, and found that giant icebergs are responsible for storing up to 20 percent of carbon in the Southern Ocean. The researchers discovered that melting water from giant icebergs which contains iron and other nutrients, supports hitherto unexpectedly high levels of phytoplankton growth.

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

- 1. Giant icebergs have a bearing on primary productivity and food chains of the Southern Ocean.
- 2. Melting of giant icebergs can produce climate change effects and impact world fisheries.

Which of the assumptions given above is/are valid?

- a) 1 only
- b) 2 only

- c) Both 1 and 2
- d) Neither 1 nor 2

93. Passage-3

Evolution has endowed caterpillars that feed on corn with a unique ability, they can induce the plant to turn off its defence against insect predators. This helps caterpillars to eat more and grow faster. The agent that causes this effect is the caterpillar's faeces or frass. The find could throw new light on compounds associated with plant response to pathogens like fungi or bacteria.

Which one of the following statements best reflects the most logical, rational and practical message conveyed by the passage?

- a) Farmers can use caterpillars to feed on weeds in their crop fields/ plantations.
- b) This finding can help in the development of clinically useful antimicrobial compounds.
- c) This finding can help in the development of organic, ecologically sustainable pesticides.

d) Caterpillars can be genetically modified to be predators of the other plant pests.

94. $32^5 + 2^{27}$ is divisible by

- a) 3
- b) 7
- c) 10
- d) 11

95. Let p and q be positive integers satisfying p

- a) 3
- b) 4
- c) 5
- d) 6

96. A person walks 100 m straight from his house, turns left and walks 100 m, again turns left and walks 300 m, then turns right and walks 100 m to reach his office. In which direction does he walk initially from his house if his office is exactly in the North-East direction?

- a) North-West
- b) West
- c) South
- d) South-West

- 97.** A person walks 100 m Westward, then turns left and walks 100 m. He then takes 225° turn clockwise. In which direction is he walking now?
- South-West
 - South-East
 - North-West
 - North-East
- 98.** A Statement is given followed by two Conclusions numbered I and II. Consider the Statement and the Conclusions.
Statement:
India is the world's largest producer of milk.
Conclusion-I:
India is the world's largest exporter of milk.
Conclusion-II:
India does not import milk.
Which one of the following is correct?
- Only Conclusion-I follows
 - Only Conclusion-II follows
 - Both Conclusion-I and Conclusion-II follow
 - Neither Conclusion-I nor Conclusion-II follows
- 99.** A Question is given followed by two Statements I and II. Consider the Question and the Statements.
Question: What are the values of m and n where m and n are natural numbers?
Statement-I: $m+n > mn$ and $m > n$.
Statement-II: The product of m and n is 24.
Which one of the following is correct in respect of the above Question and the Statements?
- The Question can be answered by using one of the Statements alone, but cannot be answered using the other Statement alone
 - The Question can be answered by using either Statement alone
 - The Question can be answered by using both the Statements together, but cannot be answered using either Statement alone
 - The Question cannot be answered even by using both the Statements together
- 100.** A Question is given followed by two Statements I and II.

Consider the Question and the Statements.

Question: What is the time required to download the software?

Statement-I: The size of the software is 12 megabytes.

Statement-II: The transfer rate is 2-4 kilobytes per second.

Which one of the following is correct in respect of the above Question and the Statements?

- a) The Question can be answered by using one of the Statements alone, but cannot be answered using the other Statement alone
- b) The Question can be answered by using either Statement alone
- c) The Question can be answered by using both the Statements together, but cannot be answered using either Statement alone
- d) The Question cannot be answered even by using both the Statements together.

101. Read the following passages and answer the items that follow the passages. Your answers to these

items should be based on the passages only.

Passage-1

In a robust democracy, reality, howsoever inconvenient it may be, finds its expression both in the speech of political leaders and the other social forms of assertion. The existence of the real has to be transparent, both through its circulation in and by the media as well as its argumentative articulation in deliberative democracy. A normatively responsible media through its communication effect has the responsibility to circulate the content of reality without distortion.

Which one of the following statements best reflects the crux of the above passage?

- a) Responsible media should not distort the real in an ideal democracy.
- b) Fake news seems inherent in the life of an ideal democracy.

- c) There should not be any kind of restrictions on the freedom of expression in an ideal democracy.
- d) Irresponsible media and political leaders cannot be effectively controlled in an ideal democracy.

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

Passage-2

Now-a-days there is a growing trend to use interconnected home devices. As consumers, their homes, the increasingly network connected home device manufacturers and service providers will seek to overcome “thin profit margins by gathering more of our personal data-with or without our agreement- turning the home into a corporate storefront”. have powerful Corporate marketers will incentives to observe consumer behaviour to understand the buying needs and preferences of the device owners.

Which one of the following statements best reflects the most logical, rational and practical message implied by the passage?

- a) Knowledge of consumer behaviour leads to more capital expenditure in manufacturing sector.
- b) Knowledge of consumer behaviour stimulates the growth of commerce and trade and thus helps in the overall economic development of the country.
- c) Interconnected devices give a lot of comfort to home users and improve the overall quality of life.
- d) Interconnected devices can be at security risk and home users may have privacy risk.

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

Passage-3

Green growth involves rethinking growth strategies with regard to the impacts on environmental

sustainability and the environmental resources available to poor and vulnerable groups. In rethinking growth, we need to focus on the current reality of world. Resource resource-constrained intensive and, in particular energy intensive processes will need to make way for more efficient and resource frugal development strategies if we are to avoid an economic dead end or a world in which only a small elite is able to enjoy affluence in the midst of a sea of poverty.

Which one of the following statements best reflects the crux of the above passage?

- a) Environmental sustainability is inimical to our objective of achieving a high rate of GDP growth.
- b) Poverty eradication is not possible without a rapid economic growth and the consequent environmental degradation.
- c) Maintaining high environmental standards is now a prerequisite for

achieving a steady, sufficient and inclusive growth.

d) With large populations, rampant poverty and limited resources of today's world, environmental degradation cannot be prevented and inequalities are inevitable.

- 104.** A Question is given followed by two Statements I and II.

Consider the Question and the Statements.

Question: What are the unique values of x and y , where x, y are distinct natural numbers?

Statement-I: x / y is odd.

Statement-II: $xy = 12$

Which one of the following is correct in respect of the above Question and the Statements?

- a) The Question can be answered by using one of the Statements alone, but cannot be answered using the other Statement alone.
- b) The Question can be answered by using either Statement alone.
- c) The Question can be answered by using both the Statements

together, but cannot be answered using either Statement alone.

d) The Question cannot be answered even by using both the Statements together.

- 105.** A Question is given followed by two Statements I and II.

Consider the Question and the Statements.

A certain amount was distributed among X, Y and Z.

Question: Who received the least amount?

Statement-1: X received $\frac{4}{5}$ of what Y and Z together received.

Statement-II: Y received $\frac{2}{7}$ of what X and Z together received.

Which one of the following is correct in respect of the above Question and the Statements?

- a) The Question can be answered by using one of the Statements alone, but cannot be answered using the other Statement alone.
- b) The Question can be answered by using either Statement alone.
- c) The Question can be answered by using both the Statements

together, but cannot be answered using either Statement alone.

d) The Question cannot be answered even by using both the Statements together.

- 106.** A Question is given followed by two Statements I and II.

Consider the Question and the Statements.

Question: If the average marks in a class are 60, then what is the number of students in the class?

Statement-I: The highest marks in the class are 70 and the lowest marks are 50.

Statement-II: Exclusion of highest and lowest marks from the class does not change the average.

Which one of the following is correct in respect of the above Question and the Statements?

- a) The Question can be answered by using one of the Statements alone, but cannot be answered using the other Statement alone.
- b) The Question can be answered by using either Statement alone.

c) The Question can be answered by both the Statements together, but cannot be answered using either Statement alone.

d) The Question cannot be answered even by using both the Statements together

107. A Question is given followed by two Statements I and II.

Consider the Question and the Statements.

There are three distinct prime numbers whose sum is a prime number.

Question: What are those three numbers?

Statement-1: Their sum is less than 23.

Statement-II: One of the numbers is 5.

Which one of the following is correct in respect of the above Question and the Statements?

- a) The Question can be answered by using one of the Statements alone, but cannot be answered using the other Statement alone.
- b) The Question can be answered by using either Statement alone.

c) The Question can be answered by using both the Statements together, but cannot be answered using either Statement alone.

d) The Question cannot be answered even by using both the Statements together.

108. A Question is given followed by two Statements I and II.

Consider the Question and the Statements.

Question: Is $(x + y)$ an integer?

Statement-I: $(2x+y)$ is an integer.

Statement-II: $(x+2y)$ is an integer.

Which one of the following is correct in respect of the above Question and the Statements?

- a) The Question can be answered by using one of the Statements alone, but cannot be answered using the other Statement alone
- b) The Question can be answered by using either Statement alone
- c) The Question can be answered by using both Statements together, but cannot be answered using either Statement alone

d) The Question cannot be answered even by using both the Statements together.

- 109.** A Question is given followed by two Statements I and II. Consider the Question and the Statements.
A person buys three articles p, q and r for 50. The price of the article q is 16 which is the least.
Question: What is the price of the article p?
Statement-I: The cost of p is not more than that of r.
Statement-II: The cost of r is not more than that of p.
Which one of the following is correct in respect of the above Question and the Statements?
a) The Question can be answered by using one of the Statements alone, but cannot be answered using the other Statement alone
b) The Question can be answered by using either Statement alone
c) The Question can be answered by the Statements using both together, but cannot be answered using either Statement alone

d) The Question cannot be answered even by using both the Statements together

- 110.** A Question is given followed by two Statements I and II. Consider the Question and the Statements.
P, Q, R and S appeared in a test.
Question: Has P scored more marks than Q?
Statement-I: The sum of the marks scored by P and Q is equal to the sum of the marks scored by R and S.
Statement-II: The sum of the marks scored by P and S is more than the sum of the marks scored by Q and R.
Which one of the following is correct in respect of the above Question and the Statements?
a) The Question can be answered by using one of the Statements alone, but cannot be answered using the other Statement alone
b) The Question can be answered by using either Statement alone
c) The Question can be answered by using both the Statements

together, but cannot be answered using either Statement alone
d) The Question cannot be answered even by using both the Statements together.

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

Passage-1

Unlike religion and science, poetry does not posit or expect any belief in absolute truths. Those forces or individuals who claim to have absolute truths in their grasp tend to turn dictatorial and tyrannical. Truth usually does not admit any contradictions or imperfections. It is unitarian. It is, therefore, not of much use for poetry. Poetry abides by the plurality of life and existence. Perhaps poetry follows reality which is plural, anachronistic, full of Contradictions. Against the tyranny of truth, poetry remains a partisan of democratic reality. Against the arrogance of power, wealth and

hierarchy, poetry proposes both humility and defiance.

Which one of the following statements best reflects the most logical and rational message conveyed by the above passage?

- a) It is the poetry, not science or religion, which recognizes and accepts imperfections in humans.
- b) Truth is revealed through science or religion and poetry is anathema to truth.
- c) Poetry is romantic, imaginary and is about feeling whereas science and religion are about truth.
- d) In a world of violence, tyranny and bigotry, poetry is a form of dynamic resistance.

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

Passage-2

The flower was not invented to please us. It flaunted its petals and spread its perfume to attract an

insect. The insect carries the pollen from flower to flower so that pollen is not carried away by wind and thus not wasted. What we call a flower's beauty is merely a by-product and a human invention. The perfume is not there to please us, it pleases us because it is there and we have been conditioned to it.

Based on the above passage, The following assumptions have been made:

1. The author of the passage believes that flowers are creations of Nature's luxury.
2. The author of the passage does not believe in the usefulness of flowers except as things of beauty.

Which of the assumptions given above is/are valid?

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

113. A Question is given followed by two Statements I and II. Consider the Question and the Statements.

Age of each of P and Q is less than 100 years but more than 10 years. If you interchange the digits of the age of P, the number represents the age of Q.

Question: What is the difference of their ages?

Statement-I: The age of P is greater than the age of Q.

Statement-II: The sum of their ages is $11/6$ times their difference.

Which one of the following is correct in respect of the above Question and the Statements?

- a) The Question can be answered by using one of the Statements alone, but cannot be answered using the other Statement alone
- b) The Question can be answered by using either Statement alone
- c) The Question can be answered by both the Statements using together, but cannot be answered using either Statement alone
- d) The Question cannot be answered even by using both the Statements together

114. A Main Statement is followed by four Statements labelled P, Q, R

and S. Choose the ordered pair of the Statements where the first Statement implies the second, and the two Statements are logically consistent with the Main Statement.

Main Statement: Pradeep becomes either a Director or a Producer.

Statement P: Pradeep is a Director

Statement Q: Pradeep is a Producer.

Statement R: Pradeep is not a Director.

Statement S: Pradeep is not a Producer.

Select the correct answer.

- a) SP only
- b) RQ only
- c) Both SP and RQ
- d) Neither SP nor RQ

- 115.** If $a+b$ means $a-b$; $a-b$ means axb ; axb means $a+b$; $a+b$ means $a+b$, then what is the value of $10+30-100 \times 50 \div 25$? (Operations are to be replaced simultaneously)
- a) 15
 - b) 0
 - c) -15
 - d) -25

- 116.** If P means 'greater than (>)'; Q means less than (<); R means 'not greater than (>)'; S means 'not less than (<)' and T means 'equal to (=)', then consider the following statements:

1. If $2x(S)3y$ and $3x(T)4z$, then $9y(P)8z$.
2. If $x(Q)2y$ and $y(R)z$, then $x(R)z$.

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

- 117.** If in a certain code, 'ABCD' is written as 24 and 'EFGH' is written as 1680, then how is 'IJKL' written in that code?
- a) 11880
 - b) 11240
 - c) 7920
 - d) 5940

- 118.** If in a certain code, 'POT' is written as ATOP and 'TRAP' is written as

APART, then how is 'ARENA'
written in that code?

- a) AARENA
- b) AANREA
- c) AANEAR
- d) AANERA

- 119.** What will come in place of * in the sequence 3, 14, 39, 84, *, 258?
- a) 150
 - b) 155
 - c) 160
 - d) 176

- 120.** In some code, letters P, Q, R, S, T represent numbers 4, 5, 10, 12, 15. It is not known which letter represents which number. If $Q-S=2S$ and $T=R+S+3$, then what is the value of $P+R-T$?
- a) 1
 - b) 2
 - c) 3
 - d) Cannot be determined due to insufficient data

Sl.no.	Ans	EXPLANATION
1.	D	<p>Statement 1 is an incorrect assumption. We can apply negation test to see that the negated statement does not challenge the premise of the passage at all. So, this is an incorrect assumption. Another way of solving - The assumption is the missing link between the premise and conclusion. Think of it like the linchpin holding the whole thing together. Now, the passage is not about comparison of Private and Government sector, so we can rule out both these statements as valid assumptions.</p> <p>Hence, Statement 2 is an incorrect assumption. We can also apply negation test to verify this.</p>
2.	C	<p>Crux is the most important or difficult part of a problem i.e. main point of the passage that is explicitly stated by the author. Option (a) is incorrect as it beyond the scope of the passage, expenses are not discussed.</p> <p>Option (b) is incorrect: The usage of "most ideal" is a red flag and so we check whether author puts it so explicitly and also if this is the main point. As the passage mentions "major" solution and not "most ideal", we can rule this out.</p> <p>Option (c) is correct: The passage begins with premise that "In India, the segregation of municipal waste at source is rare." Further, the conclusion which advocates biomethanation necessitates segregation. Hence we see that this given statement ties the passage together and captures the main idea.</p> <p>Option (d) is incorrect as again, this statement is beyond the scope of the passage.</p>

<p>3.</p>	<p>B</p>	<p>Statement 1 is an incorrect assumption: The premise of the passage is that organic farming is new & unregulated. Conclusion is that due to this it is not necessary that organic is definitely better in all cases. Therefore, by both Negation & general test as seen in question 1, we can see that it is not a valid assumption.</p> <p>Statement 2 is correct as we know that assumptions are most often general statements, not specific statements. Further, valid assumptions strengthen or support the conclusion, which we can see by author's concern in the passage "...farmers and consumers, alike, are not only confused about what products are best for them, but sometimes use products in ways that could harm them as well.."</p>
<p>4.</p>	<p>C</p>	<p>Option (a) is incorrect as conventional farming is not being promoted by the author or being compared to organic farming. So, it can be ruled out as most logical & rational message.</p> <p>Option (b) is incorrect as it is an extreme statement. Passage mentions only a few issues with organic alternatives like datura spray which cannot be extrapolated to say that no safe organic alternatives to chemical fertilizers.</p> <p>Option (c) is correct: The conclusion of the passage mentions, "The reality is that because the organic farming industry is still young and not well-regulated in India, farmers and consumers, alike, are not only confused about what products are best for them, but sometimes use products in ways that could harm them as well." The passage explains this through example as well. Therefore, we can infer that In India, farmers need to be guided and helped to make their organic farming sustainable. (conclusion is more specific statement, while an inference is a more generic statement drawn from the given statement/s.)</p> <p>Option (d) is incorrect as this is beyond the scope of the passage.</p>

5.	C	<p>The premise of the passage is "malnutrition due to changed consumption pattern" while conclusion "monoculture has led to changed consumption pattern and malnutrition". Now, any statement that links these two and strengthens the conclusion can be taken as a valid assumption. Also, you can test using "Negation Test".</p> <p>Statement 1 is an incorrect assumption: The passage does not make any reference to Sustainable Development Goals or zero-hunger goal. It only mentions how the change in consumption patterns and focus on stable crops have affected nutrition security. Therefore, this option is beyond the scope of this passage.</p> <p>Statement 2 is a correct assumption: this statement effectively links the premise and conclusion.</p> <p>Statement 3 is a correct assumption: The passage mentions, “disappearance of many nutritious foods such as millets”, “food grain production has increased over five times since independence, it has not sufficiently addressed the issue of malnutrition”.</p> <p>Statement 4 is an incorrect assumption: It fails the negation test and also beyond the scope of the passage.</p>
6.	C	<p>To find out the minimum possible number of balls that should be drawn from the box such that the balls drawn must contain one full group of at least one colour, find the maximum number of balls that we can draw without selecting a full group of any colour.</p> <p>ie we draw one less from each colour, 13 black balls + 19 blue balls + 25 green balls + 27 yellow balls + 37 red balls + 53 white balls = 174 balls in total.</p> <p>Now, if we pick any one more ball (of any colour) that group will be complete. So, the value of $n = 174 + 1 = 175$.</p>

		<p>To find out the minimum possible number of balls that should be drawn from the box such that the balls drawn must contain at least one ball of each colour, we must maximise number of balls without any balls of a particular colour.</p> <p>As the number of black balls is the least, we can maximise possible number of balls without selecting a black ball. So, we have 20 blue balls + 26 green balls + 28 yellow balls + 38 red balls + 54 white balls = 166 balls in total.</p> <p>Since now only black balls are left, adding any black ball fulfills our need = $166 + 1 = 167$</p>
<p>7.</p>	<p>D</p>	<p>ZERO is written as CHUR.</p> <p>$Z + 3 = C$ $E + 3 = H$ $R + 3 = U$ $O + 3 = R$</p> <p>Therefore, for PLAYER -</p> <p>$P + 3 = S$ $L + 3 = O$ $A + 3 = D$ $Y + 3 = B$ $E + 3 = H$ $R + 3 = U$</p> <p>Hence, option (d) is correct.</p> <p>Easier way to solve - in ZERO, $R = U$. In PLAYER, Last letter is also R, therefore last letter of answer = U, hence only option (d) can be correct.</p>

8.	D	We need to find relationship between all 6 persons with respect to each other. Statement 1 and 2, give us relationship between A & B and C & D respectively. Statement 4 and 5 are needed to establish relationship between these two groups and F. Including statement 3, we have complete information. Hence, all statements are needed and option (d) is correct.
9.	C	<p>Statements 1, 2 and 3 alone are not sufficient, as we cannot find a link between B and E in these statements.</p> <p>Statements 1, 3 and 4 alone are not sufficient, as we cannot find a link between B and E in these statements.</p> <p>Now we are left with 2 choices, we try to find a solution, if we can, (c) is correct.</p> <p>By statement 2 and 4, we know D is male and father of two females A & C.</p> <p>By statement 3, we know D also has a son E</p> <p>By statement 1, we know relationship of B with all members of this known family ie E is the brother-in-law of B. Hence, option (c) is correct.</p>

<p>10.</p>	<p>D</p>	<p>All numbers except 91 in above options are prime number. So, this group is different from the others. Hence, option (d) is correct.</p>
<p>11.</p>	<p>B</p>	<p>Imply means to “to indicate or suggest something without actually stating it.”. Imply and infer are opposites, like a throw and a catch. To imply is to hint at something, but to infer is to make an educated guess. The speaker does the implying, and the listener does the inferring.</p> <p>Option (a) is incorrect as author does not hint at implementation difficulty.</p> <p>Option (b) is correct: Author mentions "arbitrariness" and gives several examples hinting at the "knee-jerk" reactions and the last line of passage (which is also conclusion) makes this implication amply clear from the author.</p> <p>Option (c) is incorrect as the author leaves no hint to suggest heavy fines etc.</p> <p>Option (d) is incorrect as the author is not hinting at absence of laws.</p>

<p>12.</p>	<p>C</p>	<p>Option (a) is incorrect as this is too far fetched. Passage merely hints at this.</p> <p>Option (b) is incorrect: The passage mentions “Investors look to place their funds where the standards of disclosure, of timely and accurate financial reporting” i.e. credibility. Therefore, this line is mere restatement of the passage and An inference is not a restatement of any of the information/statements. So, this is not a suitable choice.</p> <p>Option (c) is correct: This line can be inferred from the passage's line "why corporate governance has moved onto the economic and political agenda worldwide has been the rapid growth in international capital markets".</p> <p>Option (d) is incorrect: There is no direct mention of supply chains in the passage ie outside the scope of the passage.</p>
<p>13.</p>	<p>B</p>	<p>Option (a) is incorrect as this statement is beyond the scope of the passage.</p> <p>Option (b) is correct as this line can be inferred from the passage and represents the crux of the passage as well.</p> <p>Option (c) is incorrect as the statement is framed like a definitive statement and we cannot be sure whether rich biodiversity is not possible at all without elephants. It can be ruled out as extreme statement.</p> <p>Option (d) is incorrect because of the mention of "as per their requirement" which cannot be deduced from the passage.</p>
<p>14.</p>	<p>A</p>	<p>$7 + 9 + 10 = 26$ Sum of digits $2 + 6 = 8$ $9 + 11 + 30 = 50$ Sum of digits $5 + 0 = 5$ $11 + 17 + 21 = 49$ Sum of digits $4 + 9 = 13$</p>

		<p>$23 + 4 + 15 = 42$ Sum of digits $4 + 2 = 6$</p> <p>Hence (a) is correct.</p>
15.	C	<p>Answer: (c)</p> <p>If $7x + 96$ is divisible by x, It means that $96/x$ is a whole number</p> <p>So, x is a factor of 96 ie 1, 2, 3, 4, 6, 8, 12, 16, 24, 32, 48, and $96 = 12$ possible values. Hence (c) is correct.</p>
16.	B	<p>To maximize the value of $(p + q)(r + s)$, we pick 4 biggest digits - 6, 7, 8, and 9.</p> <p>Now either try all combinations or directly pick combination where two numbers are most similar/closest. So, the required answer = $(6 + 9)(7 + 8) = 15 \times 15 = 225$. Hence, answer is (b).</p>
17.	A	<p>In remainder questions, we can check the pattern of remainders to arrive at required answer.</p> <p>Remainder 1 $(9/13) = 9$</p> <p>Remainder 2 $(99/13) = 8$</p> <p>Remainder 3 $(999/13) = 11$</p> <p>Remainder 4 $(9999/13) = 2$</p> <p>Remainder 5 $(99999/13) = 3$</p> <p>Remainder 6 $(999999/13) = 0$</p> <p>Remainder 7 $(9999999/13) = 9$</p> <p>Therefore, after this, the pattern repeats.</p> <p>Remainder 99 = 11 (as per pattern)</p> <p>Hence, answer is option (a).</p>

18.	C	<p>The Number is 111111111 - It is divisible by 9 (by divisibility rule)</p> <p>Sum of digits of 111111111x111111111 will also be divisible by 9, therefore, answer will be the option which is a multiple of 9, i.e. 81. So, answer is option (c).</p>
19.	B	<p>There are total 91 numbers and 9 groups of 0 to 9 (in singles digits) and 10 groups of 1 to 9 each (in doubles digits) and 100.</p> <p>We know that sum of first n natural numbers = $n(n + 1) / 2$</p> <p>So, sum of 1 to 9 = $9 \times 10 / 2 = 45$</p> <p>Sum = $19 \times 45 = 855$</p> <p>Adding 1 from 100, we get answer as 856.</p>
20.	C	<p>As none of the 3 points are collinear, the number of distinct triangles can be found using the formula = $6C3 = (6 \times 5 \times 4) / (3 \times 2 \times 1) = 20$</p>
21.	C	<p>Option (a) is incorrect. Passage says “Businesses that do not hedge against the threat of uncertain outcomes fail.” This line cannot be extrapolated to say that businesses would need to close down or pay for pollution in future.</p> <p>Option (b) is incorrect: the statement is using extreme terms (“only solution”) which cannot be inferred from the passage.</p> <p>Option (c) is correct: The passage says, “Technological change, meanwhile, could make a future transition away from fossil fuels cheap or it might not...” This is the main message of the author wherein he prods us to act faster and not wait.</p> <p>Option (d) is incorrect: This statement is too specific and we know that inference is a more generic statement drawn from the given statement/s.</p>

22.	A	<p>As mentioned earlier in this doc, Imply means to “to indicate or suggest something without actually stating it,” and infer commonly means “to guess or use reasoning to come to a conclusion based on what has been suggested.</p> <p>Option (a) is correct. This option is not directly addressed but hinted in the passage. The passage discusses the difficulty in adopting substantial changes in lifestyle to reduce environmental or health problems, ie people avoiding prevention.</p> <p>Option (b) is incorrect as government job or role is not hinted in the passage.</p> <p>Statement (c) is incorrect. Author hints that going after health should be logical than environmental problems but the given statement means entirely different thing which is not hinted/suggested.</p> <p>Statement (d) is incorrect as too far fetched.</p>
23.	B	<p>Crux is the most important or difficult part of a problem i.e. main point of the passage that is explicitly stated by the author.</p> <p>Option (a) is incorrect. Although this can be inferred from the passage, it is not explicitly stated by the author. Hence, we can rule this option out.</p> <p>Option (b) is correct as passage discusses lack of nutrition and various reasons surrounding it. When author talks about farm to fork, he is suggesting policy level course correction.</p> <p>Option (c) and Option (d) are incorrect as they discuss ideas which are beyond the scope of the passage</p>
24.	A	<p>When we add or subtract even number of odd numbers, (ex - 5-3 or 3+7) we always get even number as answer. Also, doing addition & subtraction on even numbers always yields even</p>

		<p>number, so $p + q + r - s - t$ will always be even.</p> <p>Now, the problem with Statement 2 ($2p + q + 2r - 2s + t$) is that we don't know how many of the two odd numbers are converted to even numbers by multiplying with 2. So, the resulting expression can be odd if there is only 1 odd number left. (You can put values to verify this and check)</p> <p>So, statement 2 is incorrect. Hence, option (a) is the correct answer.</p>
<p>25.</p>	<p>D</p>	<p>Prime numbers are always odd (except 2) and here p could be 2. Composite number can be odd or even.</p> <p>In this question, "can be" is used, so even if one possibility exists, statements are true. So, one way is to find just one legit solution for each and mark the answer as (d).</p> <ol style="list-style-type: none"> 1. $p+c$ and $p-c$ can both be even, so the answer can be odd 2. $2p$ is even c can be odd, so the answer can be odd 3. p and c can both be odd, so the answer can be odd <p>Answer: (d)</p>
<p>26.</p>	<p>A</p>	<p>$37DD$ can be written as $3700 + 10D + D = 3700 + 11D$</p> <p>Now, $ABC \times D = 3700 + 11D$</p> <p>or $ABC = 3700/D + 11 \dots(i)$</p> <p>Now, $3700/D$ should be a whole number. So, possible values of D are 1, 2, 4, and 5.</p> <p>Now put these 4 values and check ABC value.</p>

		<p>If $D = 4$, $ABC = 925 + 11 = 936$. (Rest all are rejected as they violate conditions given)</p> <p>So, $A + B + C = 9 + 3 + 6 = 18$</p>
27.	D	<p>$XYZXYZ = XYZ \times 1000 + XYZ = XYZ(1000 + 1) = XYZ \times 1001$</p> <p>As, $1001 = 7 \times 11 \times 13$</p> <p>So, this must be divisible by 7, 11 and 13.</p> <p>(note - numbers like 101, 111, 1001, 1111, 10001, 11111 are exam favourites, practice these)</p>
28.	A	<p>Length, breadth and height all have 5 cubes. Now outer 2 cubes will be exposed to air, so the inner/protected cube has Length, breadth and height as 3 cubes. So, total number of cubes = $3 \times 3 \times 3 = 27$</p>
29.	C	<p>We have 4 odd and 4 even positions and there are 4 odd numbers (1, 1, 3, 3) and 4 even numbers (2, 2, 4, 4).</p> <p>Number of ways these 4 odd numbers can be arranged in 4 positions = $4! / (2 \times 2) = 6$ (2 pairs of similar numbers hence extra 2 in denominator as permutations are halved)</p> <p>Therefore, Number of ways 4 even numbers (2, 2, 4, 4) can be arranged is also 6</p> <p>So, total ways = $6 \times 6 = 36$</p> <p>Hence, option (c) is the correct answer.</p>
30.	A	<p>A, B, C working independently can do a piece of work in 8, 16 and 12 days respectively ie in 1 day, $1/8$, $1/16$ and $1/12$ of total work.</p> <p>Now, $1/8 + 1/16 + 1/12 = 13/48$</p> <p>So, in 9 days, $39/48$ work done.</p> <p>On 10th day, A works. so, $39/48 + 1/8 = 45/48$</p>

		<p>so, work not finished on 10th day and gets finished by 11th day which is a Thursday (Assuming First day is Monday and work started by A)</p> <p>Hence, option (a) is the correct answer.</p>
31.	A	<p>Option (a) is correct and best choice as passage mentions water being state subject, need for policy of basin based approach with assessment.</p> <p>Options (b) and (c) are incorrect as interlinking etc are beyond the scope of passage.</p> <p>Option (d) is incorrect as question is asking action required to ensure fair and equitable allocation of water specifically.</p>
32.	D	<p>Options (a) and (b) are incorrect as the focus of the passage seems to be nutrition and not education or skills.</p> <p>Option (c) is incorrect. The word "only" is a red flag and when we check the statement, it comes to be extreme and unfounded as per the passage.</p> <p>Option (d) is correct as the author hints at the impact of health issues like anemia and tuberculosis on productivity, the effect of malnutrition on cognitive abilities in children, etc.</p>
33.	C	<p>Option (a) is incorrect. While the passage suggests that government involvement could be beneficial, it does not state outright that these are exclusively the government's responsibilities. The farmers' perception and adaptation practices are also considered important.</p> <p>Option (b) is incorrect. The passage doesn't provide information regarding climate change causing changes in government policies specifically about land use patterns. The author's focus is on the</p>

		<p>adaptation to climate change and potential policy intervention to support that adaptation.</p> <p>Option (c) is correct This option aligns well with the passage. The author discusses that the farmers' perception of the risks associated with climate change is important for adaptation. However, the author also states that perception alone is not enough for adaptation. However, it's worth noting that the author emphasizes that perception alone is not sufficient for adaptation and suggests that there may be a need for planned or policy-driven adaptation strategies by the government.</p> <p>Option (d) is incorrect. The passage does not state that mitigation is not possible. It talks about the necessity of adaptation alongside a fast mitigation response. Hence, this Option does not correctly reflect the author's message.</p>
34.	D	<p>Raj has ten pairs of red, nine pairs of white and eight pairs of black shoes in a box. So, he has 20 red shoes, 18 white shoes, and 16 black shoes.</p> <p>To find the maximum number of attempts we need to visualize the worst-case scenario. Let Raj draw all white and black shoes, which amounts to $18 + 16 = 34$ shoes.</p> <p>Now, if he picks any two shoes, they are certainly going to be red. However, we also need to ensure that the red shoes picked by him make a pair, i.e. there should be one red shoe for left foot and one red shoe for right foot. For this to happen we need to pick 11 red shoes.</p> <p>So, maximum number of attempts to get a red pair of shoes = $34 + 11 = 45$ Hence, option (d) is correct.</p>

35.	B	<p>Let the singles taken and the fours and the sixes scored by the batsman be x, y and z respectively. So, as per the question: $x + 4y + 6z = 25$, wherein $x, y, z \geq 0$</p> <p>If no six has been hit, i.e. $z = 0$ $x + 4y = 25$ So, the possible values of (x, y) may be $(1, 6), (5, 5), (9, 4), (13, 3), (17, 2), (21, 1), (25, 0)$, i.e. 7 possible ways.</p> <p>If one six has been hit, i.e. $z = 1$ $x + 4y = 19$ So, the possible values of (x, y) may be $(3, 4), (7, 3), (11, 2), (15, 1), (19, 0)$, i.e. 5 possible ways.</p> <p>If two sixes have been hit, i.e. $z = 2$ $x + 4y = 13$ So, the possible values of (x, y) may be $(1, 3), (5, 2), (9, 1), (13, 0)$, i.e. 4 possible ways.</p> <p>If three sixes have been hit, i.e. $z = 3$ $x + 4y = 7$ So, the possible values of (x, y) may be $(3, 1), (7, 0)$, i.e. 2 possible ways.</p> <p>If four sixes have been hit, i.e. $z = 4$ $x + 4y = 1$ So, the possible values of (x, y) may be $(1, 0)$, i.e. 1 possible way.</p> <p>So, total number of possible ways = $7 + 5 + 4 + 2 + 1 = 19$ Hence, option (b) is correct.</p>
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<p>36.</p>	<p>B</p>	<p>Statement 1:</p> <p>If one letter is placed in an incorrect envelop, then the letter that belonged to that envelop must have also been placed in an incorrect envelop. So, it's not possible that only one letter gets placed in an incorrect envelop. Either no letter will get misplaced, or at least two letters will get misplaced.</p> <p>So, Statement 1 is incorrect.</p> <p>Statement 2:</p> <p>We need to place two letters in correct envelopes and two in incorrect envelopes.</p> <p>We can choose the two letters to be placed in correct envelopes in $4C_2$ ways, i.e. 6 ways. The remaining two letters will automatically get chosen to get placed in each other's envelopes (i.e. incorrect envelopes).</p> <p>So, Statement 2 is correct. Hence, option (b) is correct.</p>
<p>37.</p>	<p>A</p>	<p>In $85 \times 87 \times 89 \times 91 \times 95 \times 96$ there are two 5's (in 85 and 95) and a 4 (in 96).</p> <p>We know that, $5 \times 5 \times 4 = 100$</p> <p>So, the given expression is completely divisible by 100. So, remainder will be zero. Hence, option (a) is correct.</p>
<p>38.</p>	<p>A</p>	<p>$(57242)9 \times 7 \times 5 \times 3 \times 1 = (57242)945$</p> <p>The unit digit of the resultant number only depends on the unit digit of the given number 57242, i.e. 2. Now, we know that:</p> <p>$2^1 = 2$</p> <p>$2^2 = 4$</p> <p>$2^3 = 8$</p> <p>$2^4 = 16$ (unit digit 6)</p> <p>$2^5 = 32$ (unit digit 2)</p>

		<p>.</p> <p>.</p> <p>.</p> <p>And so on.</p> <p>So, 2 has a cyclicity of 4. Exponent of any number ending in 2 will produce a number that will end in 2, 4, 8, or 6.</p> <p>Now, $945 = 944 + 1$</p> <p>944 is divisible by 4. So, the last digit of $(57242)^{945}$ will be the same as that of $(57242)^1$, which is 2. Hence, option (a) is correct.</p>
39.	D	<p>ABC + DEF = 1111, wherein A, B, C, D, E, and F are distinct non-zero digits. We may get a resultant of 1111 if:</p> <p>$C + F = 11$, say $2 + 9 = 11$</p> <p>$B + E = 10$, say $3 + 7 = 10$</p> <p>$A + D = 10$, say $4 + 6 = 10$</p> <p>We can double check this by adding $432 + 679 = 1111$ So, $A + B + C + D + E + F = 4 + 3 + 2 + 6 + 7 + 9 = 31$</p> <p>Hence, option (d) is correct.</p>
40.	C	<p>Let the three-digit number be XYZ.</p> <p>This number is such that $(100X + 10Y + Z) / (X + Y + Z)$ is the least possible.</p> <p>For 100, this ratio is $100/1 = 100$ For 101, this ratio is $101/2 = 50.5$</p> <p>For 109, this ratio is $109/10 = 10.9$ For 110, this ratio is $110/2 = 55$</p> <p>For 119, this ratio is $119/11 = 10.81$ For 129, this ratio is $129/12 = 10.75$</p>

		<p>So, we can see that in 100-199 range, this ratio will be the least for 199, which is $199/19 = 10.47$ Similarly, in 200-299 range, this ratio will be the least for 299, which is $299/20 = 14.95$ Similarly, in 300-399 range, this ratio will be the least for 399, which is $399/21 = 19$ We can see this ratio is slowly increasing. For 999, it would be $999/27 = 37$ So, this ratio is the least for 199.</p> <p>The difference between the digit at the hundred's place and the digit at the unit's place = $9 - 1 = 8$</p> <p>Hence, option (c) is correct.</p>
<p>41.</p>	<p>B</p>	<p>Statement 1 is incorrect. The passage states that food loss and wastage occur throughout the supply chain, not solely due to current methods of food distribution. It involves various stages from initial agricultural production to final household consumption, indicating a broader scope beyond distribution.</p> <p>Statement 2 is correct. The passage mentions that food loss and wastage contribute to land degradation by about 45%, which adversely affects land productivity. This aligns with the statement that land productivity is affected by food loss and wastage.</p> <p>Statement 3 is correct. According to the passage, reducing food loss and wastage would result in a lesser carbon footprint. It mentions that the energy spent over wasted food leads to significant carbon dioxide production annually, along with harmful emissions from decay.</p> <p>Statement 4 is incorrect. The passage does not suggest that post-harvest technologies to prevent or reduce the loss and wastage of food are unavailable. On the contrary, it emphasizes the critical need for addressing food loss and wastage, which typically involves employing such technologies.</p> <p>Hence , option b) 2 and 3 only is the correct answer</p>

<p>42.</p>		<p>Assumption 1 is valid : The passage highlights that one-third of food produced is lost or wasted globally due to inefficiencies across the supply chain. Addressing this issue would indeed require reimagining and enhancing the food distribution mechanism to minimize wastage. Assumption 2 is invalid: The passage emphasizes that food loss and wastage lead to significant environmental impacts, including carbon dioxide production and degradation of land. It implies that reducing food wastage is not just an economic or environmental issue but it doesn't necessarily imply is also a social and moral responsibility for all citizens.</p> <p>Hence , option (a) is the correct answer</p>
<p>43.</p>	<p>C</p>	<p>Statement 1 is correct because the passage suggests that central banks alone cannot effectively bring down inflation without support from fiscal policies. While central banks can increase interest rates to curb inflation, the effectiveness of this measure depends on governments implementing fiscal discipline by cutting spending or increasing taxes to stabilize debts. Without such fiscal backing, monetary policy might not achieve its intended inflation-reducing goals.</p> <p>Statement 2 is correct as well because the passage emphasizes that the impact of monetary policy on inflation is intertwined with the fiscal policies pursued by governments. Higher interest rates are intended to promote fiscal austerity by encouraging responsible debt management. However, if governments fail to adjust fiscal policies accordingly (e.g., by continuing to borrow excessively), the intended disinflationary effects of monetary policy could be undermined, potentially leading to higher inflation instead.</p> <p>Hence, option C is the correct answer, as both statements 1 and 2 accurately reflect the logical inferences drawn from the passage</p>

		regarding the relationship between monetary policy, fiscal policy, and inflation control.
44.	D	<p>Assumption 1 is invalid because the passage does not attribute higher prices (inflation) solely to fiscal policies of governments. It acknowledges that fiscal policies, along with monetary policies like higher interest rates, play a role in managing inflationary pressures. Therefore, assuming fiscal policies alone are responsible is an oversimplification of the factors influencing inflation.</p> <p>Assumption 2 is invalid because the passage suggests that higher prices (inflation) do impact the management of long-term government bonds. It mentions that rising public debt increases the importance of interest rates in managing budget deficits, indicating a direct link between inflation and the costs associated with government bonds. Hence, option d, Neither 1 nor 2, is the correct answer as both assumptions do not accurately reflect the insights provided in the passage.</p>
45.	B	<p>For all 64 identical pieces, the cube has to be cut in $4 \times 4 \times 4$ as shown in the figure given below.</p> <p>The least number of cuts for each 3 perpendicular faces are :-</p> <p>Number of cuts (top to bottom) on top/bottom face = 3</p> <p>Number of cuts (left to right) on left/right face = 3</p> <p>Number of cuts (front to back) on front/back face = 3</p> <p>So, least possible number of cuts required to cut a cube into 64 identical spaces = $3 + 3 + 3 = 9$</p>
46.	D	If we choose the symbols in the expression in the given manner,

		$5 - 4 - 3 + 2 \times 1 = 5 - 7 + 2 = 0$ The smallest Nonnegative value of the expression is 0. Hence option d is the correct answer.
47.	C	Let initially, the number of workers be N_1 and finally the number of workers be N_2 . As, the number of workers and number of days vary inversely so their product remains constant. Number of days \times number of workers = constant (same in both cases) $6k \times N_1 = 5K \times N_2$ $N_2 = \frac{6}{5} N_1$ % increase in the number of workers $= \frac{(N_2 - N_1)}{N_1} \times 100$ $= (\frac{6}{5} - 1) \times 100 = 20 \%$ Hence option c is the correct answer.
48.	C	X, Y and Z complete the work in 6 hours, 8 hours and 8 hours respectively. Now, applying total work and efficiency method on the given problem; Total work = LCM of (6,8,8) = 24 Efficiency of X = $\frac{24}{6} = 4$ Efficiency of Y = $\frac{24}{8} = 3$ Efficiency of Z = $\frac{24}{8} = 3$ As only 1 person can work at a time, they will work one after the other in alternating manner. As X has the highest efficiency and Y and Z have the same efficiency, so for minimum time, we start with X for the first hour, Y/Z will work in the second hour. Similarly, X will work in the upcoming odd hours and Y/Z will work in the even hours until the work is finished.

Hour	Worker	Work finished(Total work = 24)
1	X	4
2	Y/Z	4+3 = 7
3	X	7+4 = 11
4	Y/Z	11+3 = 14
5	X	14+4 = 18
6	Y/Z	18+3=21

After 6 hours in the 7th hour, 3 units of work are left and X is working with an efficiency of 4 units per hour.

So, time taken after 6 hours = $\frac{3}{4}$ hours = 45 minutes.

So, total time taken = 6 hours 45 minutes.

Hence, c is the correct answer.

- 49. D** The number of zeros at end represents number of times it is divisible by 10.
 As, $10 = 2 \times 5$
 A ten is formed by multiplying 2 and 5.
 So, number of 10s is equal to the number of 2s or 5s (whichever is lesser)
 Base Number where 5 is a factor = 5, 10, 15, 20, 25
 Number of 5's in $5^{10} = 10$
 Number of 5's in $10^{20} = 20$
 Number of 5's in $15^{30} = 30$
 Number of 5's in $20^{40} = 40$
 Number of 5's in $25^{50} = 50 \times 2 = 100$
 Total number of 5s = $10 + 20 + 30 + 40 + 100 = 200$
 Numbers of 2s will far more than numbers of 5s

		<p>As $2^4 \times 4^8 \times 8^{16}$ has $4 \times 16 \times 48 = 3072$</p> <p>There are more 2s</p> <p>So, lesser of 2s and 5s is 5s which 200</p> <p>So there are 200 zeros at the end.</p> <p>Hence option d is the correct answer.</p>
50.	B	<p>Savings on day 1 = 1</p> <p>Saving on day 2 = 3</p> <p>Savings on day 3 = 5</p> <p>So, savings on individual days follow the pattern 1,3,5,7,9...</p> <p>So, total savings follow the pattern 1,4,9,16,25...</p> <p>Hence, we can see that total savings are always a perfect square.</p> <p>As per the question, the total savings has to be both a perfect square and a perfect cube</p> <p>First such perfect square to be perfect cube = 64</p> <p>For savings to be 64, we need to add savings till 8 days i.e.</p> <p>$1+3+5+7+9+11+13+15 = 64$</p> <p>So, total savings will be a perfect square and perfect cube after 8 days i.e. 8 January 2023</p> <p>Hence, option b is the correct answer.</p>
51.	A	<p>Ans) a</p> <p>Option a is correct. The passage discusses the influence of systematic planning approaches in cities like New York, London, and Paris, emphasizing the role of diverse and interdisciplinary approaches in urban planning education. It suggests that such cities benefited from comprehensive training that integrated various disciplines like computing, statistics, and optimization into planning curricula.</p> <p>– Option b is incorrect. The passage does not explicitly address the administrative structure of city management in India, nor does it</p>

		<p>mention bureaucracy lacking formal training in urban planning and management. It primarily focuses on the educational aspects of planning disciplines.</p> <p>– Option c is incorrect. The passage does not delve into the specific financial constraints of urban management in India or any chronic issues related to insufficient funds.</p> <p>– Option d is incorrect. While the passage discusses challenges in urban planning, such as high population density and poverty, it does not explicitly state that these factors make planned development in urban areas very difficult.</p> <p>Therefore, based on the content of the passage, option (a) is the correct choice.</p>
52.	D	<p>Based on the passage:</p> <p>– Assumption 1 is incorrect. The passage discusses the differences in planning education between India and the West but does not directly state that India needs a new generation of urban professionals with modern knowledge.</p> <p>– Assumption 2 is incorrect. The passage does not explicitly state that Indian universities currently lack the capacity or potential to impart training in the systems approach. It primarily discusses the historical development of planning education in the West and its impact.</p>
53.	B	<p>The central idea of the passage revolves around the impact of social media on political discourse and the promotion of content based on its ability to generate user engagement, even if it is inflammatory.</p> <p>Option a is incorrect. While social media can function as a marketplace of views and provide instant access to information, the passage emphasizes more on how paid entities with high capital can</p>

		<p>dominate the discourse rather than ensuring instant access to information.</p> <p>Option b is correct. This statement reflects the idea that social media platforms prioritize profit-making through the promotion of content that generates user engagement, regardless of its moral implications or impact on political discourse. This aligns with the passage's focus on how paid entities can amplify their voices on social media.</p> <p>Option c is incorrect. The passage does not explicitly mention that social media platforms were created to strengthen democracies. Its primary focus is on the mechanics of content promotion and the influence of capital in political discourse.</p> <p>Option d is incorrect. While social media are indeed prevalent in today's world and contribute to social life, the passage does not specifically address their role in facilitating well-informed social life but rather their impact on political discourse and content promotion. Therefore, the correct answer is option (b)</p>
<p>54.</p>	<p>C</p>	<p>Assumption 1 is valid. : The passage indicates that not all voices on the internet command the same audience, and that entities with more capital can effectively buy a louder voice. This suggests that the internet does not provide an equal platform for everyone, implying a lack of inclusiveness.</p> <p>Assumption 2 is valid : The passage discusses how political discourse in the digital sphere can become a matter of outshining one's opponent, leading to a decline in the quality of politics. This is due to the focus on promoting content that generates engagement, regardless of its nature.</p> <p>Hence, the correct answer is (c) Both 1 and 2.</p>

<p>55.</p>	<p>B</p>	<p> $222^{333} + 33^{3222}$ $= (2 \times 111)^{333} + (3 \times 111)^{222}$ $= 111^{222} \times (2^{333} \times 111^{111} + 3^{222})$ As, $111 = 3 \times 37$ So, the number is divisible by 3 and 37. https://www.youtube.com/shorts/LSYr4X4qfTY ALTERNATE METHOD When we divide number by 2, $2^{333} \times 111^{111}$ is divisible but 3^{222} is an odd number and not divisible (Even+Odd=Odd) So, the number is an odd number and not divisible by 2. Hence option b is the correct answer. </p>
<p>56.</p>	<p>A</p>	<p> Let cost price of 1 ml honey = Rs 1 Then cost price 100 ml honey is Rs. 100. Now x ml water is mixed with 100 ml honey Mixture= 100 + x ml Selling price calculated on same rate as cost price = (100 + x) x 1 = 100 + x For 20 % profit SP = 100 x 1.2 = 120 So, 100 + x = 120 So, x = 20 So, 20 ml water is mixed with 100 ml honey. Percent water mixed = 20 / 100 x 100 = 20 % Hence option a is the correct answer. </p>

57.	D	<p>$3030 = (3 \times 10)^{30} = 3^{30} \times 10^{30}$</p> <p>As, powers of 10 will give only zeros at the end so digit before zeros is given by unit digit of 3^{30}.</p> <p>Unit digit in powers of 3 repeat in cycles of 4 ie 3, 9, 7, 1</p> <p>We divide $30/4$ remainder = 2</p> <p>Unit digit = 9</p> <p>Hence the rightmost digit preceding the zeros = 9</p> <p>Hence option d is the correct answer.</p>
58.	C	<p>As, remainder is 1 in all cases</p> <p>So, $421 - 1 = 420$ and $427 - 1 = 426$ are divisible by all such divisors</p> <p>For the numbers 420 and 426 both to be multiples of any number, number has to equal or smaller than 6.</p> <p>So, the common divisors of 420 and 426 equal and less than 6 are 2, 3 and 6</p> <p>All these divisors will leave remainder 1 when they divide 421 or 427.</p> <p>Hence option c is the correct answer.</p>
59.	B	<p>As, both are to be kept in bottle of same size.</p> <p>The bottle size is a common factor of 399 and 532.</p> <p>Now,</p> <p>$399 = 3 \times 7 \times 19$</p> <p>$532 = 2 \times 2 \times 7 \times 19$</p> <p>So, the common factors are</p> <p>1, 7, 19, 133</p> <p>So, there are 4 sizes possible for the bottle.</p> <p>Hence option b is the correct answer.</p>
60.	C	<p>Prime numbers less than 10 are 2, 3, 5, 7</p>

		<p>So x, y, z are any three numbers out of 2, 3, 5, 7</p> <p>So, $S = x + y + z$</p> <p>The possible values of S are 10, 12, 14, 15</p> <p>The unit digit of S can be 0, 2, 4 and 5</p> <p>Hence statement 1 and 3 are correct and statement 2 is incorrect.</p> <p>Hence option c is the correct answer.</p>
61.	D	<p>Assumption 1 is invalid: The passage does not explicitly state that effective school education relies more on parents than on governments. While it discusses the challenges within the education system and the aspirations of parents and children, it does not compare the roles of parents and governments in ensuring effective school education.</p> <p>Assumption 2 is invalid: The passage does not suggest that a uniform school curriculum conforming to today's requirements is the solution to the educational issues highlighted. It mentions the challenges students face with basic academic competencies but does not propose a specific solution involving uniform curriculum reforms. Therefore, this assumption cannot be inferred from the passage.</p>
62.	C	<p>Option a is incorrect because while eradicating poverty can have positive effects on various societal issues, including education, the passage does not explicitly suggest that total eradication of poverty alone will resolve the issue of under-performance of school children. The passage primarily focuses on the educational challenges faced by school children and the alignment of competencies with expectations through public policy.</p> <p>Option b is incorrect because although monetary incentives for parents and teachers can be a strategy to improve academic</p>

		<p>performance, the passage does not advocate this as a primary solution to address the under-performance of school children. It instead highlights broader systemic issues within the education system and the need for policy interventions.</p> <p>Option c is correct because it reflects the central idea conveyed by the passage. The passage emphasizes the importance of public policy ensuring that the competencies and achievements of young people align with their expectations. This is crucial for addressing the issues of under-performance among school children highlighted in the passage.</p> <p>Option d is incorrect because the passage does not explicitly state that India cannot harness its demographic dividend unless some school pass-outs return to agriculture. This option introduces a specific condition not directly related to the central theme of aligning competencies and achievements with expectations through public policy.</p> <p>Hence, option c is the correct answer.</p>
<p>63.</p>	<p>D</p>	<p>Option a is incorrect because the passage focuses on the historical perspectives of scientists like Newton and Galileo, who viewed science as solely about discovering truths without considering societal responsibilities. It contrasts their approach with the modern notion that science should also be socially responsible.</p> <p>– Option b is incorrect because it suggests that science must be used for promoting scientific awareness among people, which is not the primary theme of the passage. The passage discusses the historical shift during the industrial revolution regarding the social responsibility of science, rather than its role in promoting scientific literacy.</p>

		<p>– Option c is incorrect because it simplifies the relationship between the industrial revolution and scientific advancements. While the passage acknowledges the impact of scientific progress during that time, it also recognizes broader societal and technological changes contributing to the industrial revolution.</p> <p>– Option d is correct because it aligns with the passage’s central theme. The passage discusses how early scientists focused solely on discovering truths, while the modern view includes a responsibility for science to pursue truth while considering its societal impact and contributing to social welfare.</p> <p>Therefore, option (d) best reflects the author’s perspective that science must pursue truth while also being responsible for social welfare, as discussed in the passage.</p>
64.	C	<p>The pattern used in the question is AABCD, ABBCD, ABCCD, ABCDD</p> <p>By filling the appropriate letters in the gaps given in the question from the above pattern</p> <p>We get the required letters are A, A, C, D</p> <p>Hence option c is the correct answer.</p>
65.	A	<p>Let P’s share in profit be X Then Q’s share in profit = X-400 Given, total profit = 2000 $X + X - 400 = 2000$ $X = 1200$ So, P’s profit is 1200 Q’s profit is 800 Let P’s investment be P</p>

		<p>Q's investment is P-14000 (Given in the question)</p> <p>Profit is directly proportional to investment x time</p> <p>P's profit/ Q's profit = $(Px8) / (Qx10)$</p> <p>$1200/800 = (Px8) / ((P-14000)x10)$</p> <p>Solving for P, we get P = 30000</p> <p>Hence, option a is the correct answer.</p>
66.	B	<p>Let R's salary be 100x.</p> <p>As Q's salary is 20% less than R's salary</p> <p>So, Q's salary = $(1-20/100) \times 100x = 80x$</p> <p>As P's salary is 20% less than Q's salary</p> <p>So, P's salary = $(1-20/100) \times 80x = 64x$</p> <p>Now, R's salary difference from P's salary = $100-64x = 36x$</p> <p>Percentage = $(R's\ salary - P's\ salary) / P's\ salary \times 100$</p> <p>$36x / 64x \times 100 = 56.25\%$</p> <p>Hence, option b is the correct option.</p>
67.	D	<p>Let the number before operation be n</p> <p>Number calculated by mistake is $n/4$</p> <p>The actual number to be calculated = 4n</p> <p>Change = $4n - n/4$</p> <p>Percentage change = $(4n-n/4) / 4n \times 100$</p> <p>$15/16 \times 100 = 93.75\%$</p> <p>Hence, option d is the correct option.</p>
68.	B	<p>Percentage of students who have failed in both subjects = 15%</p> <p>So the percentage of students who have passed in at least one subject = $100-15 = 85\%$</p> <p>Let X percentage of students have passed in both the subjects</p>

		<p>Students who have passed only in English = $80-x$ %</p> <p>Students who have passed only in Hindi = $70-x$ %</p> <p>The total number of students who have passed in at least one subject</p> $= 80-x + 70-x + x$ $= 150-x$ <p>So, $150-x = 85$</p> <p>$X = 65\%$</p> <p>So, number of students who have passed only in 1 subject = $85-65 = 20\%$</p> <p>So, number of students who have failed in 1 subject = 20%</p> <p>Hence, option b is the correct answer.</p>
69.	A	<p>Let the present age of son be x</p> <p>n years back father's age was x, so present age of father = $x+n$</p> <p>Now, given conditions</p> $x+n = 4(x-n) \dots \text{eq 1}$ $x+n+x = 130 \dots \text{eq 2}$ <p>Solving eq 1 and eq 2 to get the value of x and n we get,</p> <p>$x = 50$ and $n = 30$</p> <p>Difference of their ages = $x + n - x = n = 30$ years</p> <p>Hence, option a is the correct answer.</p>
70.	D	<p>As, we know</p> <p>$1 \text{ m}^3 = 1000$ liters</p> <p>1 metric ton = 1000 kg</p> <p>1 hectare = 10000 m^2</p> <p>So, all the 3 statements are correct relations between different units</p>
71.	D	<p>Statement 1 is incorrect: The passage discusses the relationship between science and mankind, emphasizing their intertwined history.</p>

		<p>However, it does not explicitly state that without science, mankind could not have continued to exist until today. Therefore, statement 1 is not supported by the passage.</p> <p>Statement 2 is incorrect: The passage does not suggest that science will ultimately determine the destiny of mankind. While it acknowledges the significant role of science in history, it does not predict or emphasize that science will decide mankind's future. Therefore, statement 2 is not supported by the passage either.</p> <p>Based on the passage provided, neither statement 1 nor statement 2 accurately reflects the emphases conveyed by the author regarding the role and impact of science on mankind's existence and destiny. Therefore, option (d) is the correct answer as both statements are incorrect according to the passage's content.</p>
<p>72.</p>	<p>B</p>	<p>Assumption 1 is incorrect. The passage suggests that blaming science for the horrors of modern life may be convenient but not entirely accurate. It questions whether international conflicts are truly the inevitable result of scientific progress or if other factors are to blame. Assumption 2 is correct. The passage emphasizes that science is not an abstract entity but rather a product of human actions and decisions. It suggests that overlooking this aspect of science is a common mistake.</p> <p>Therefore, the correct answer is: Option (b) 2 only</p>
<p>73.</p>	<p>C</p>	<p>Option a is incorrect: The passage does not discuss the differentiation between imagination and understanding in the context of encountering different cultures and values during travel. It focuses</p>

		<p>more on the universal validity and varying interpretations of values rather than on this distinction.</p> <ul style="list-style-type: none"> - Option b is incorrect: While the passage mentions encountering different cultures (“opening of his wares on many a beach where his language is not spoken”), it does not directly address the differentiation between communities and nationalities as a primary focus. - Option c is correct: The passage emphasizes that delicate goods like justice, love, honor, and courtesy are universally valid but can be perceived differently across cultures (“variously molded and often differently handled”). It highlights the importance of discerning what is universal and what is parochial (local) when encountering these values in foreign lands. - Option d is incorrect: The passage does not discuss the differentiation between friends and foes in the context of encountering different cultures and values during travel. It primarily emphasizes learning fundamental common values and understanding their universal applicability. <p>Therefore, option C is the correct answer because it aligns with the central idea conveyed by the passage about distinguishing between local values and universal values when encountering different cultures.</p>
<p>74.</p>	<p>D</p>	<p>Assumption 1 is valid: The passage suggests that travel leads to an understanding of humans because it exposes individuals to different cultures and values, helping them appreciate universal aspects of justice, love, honour, and courtesy.</p> <p>Assumption 2 is valid: The passage explicitly states that travel helps those who wish to learn fundamental common values by exposing</p>

		<p>them to various manifestations of justice, love, honour, and courtesy across different cultures.</p> <p>Therefore, all three assumptions are supported by the ideas presented in the passage, making option (d) the correct answer.</p>
75.	D	<p>Let X be ab, where a, b are the 2 digits</p> <p>Then Y = ba</p> <p>$X = 10a + b$ and $Y = 10b + a$</p> <p>So, $X + Y = 11a + 11b$</p> <p>Greatest 2 digit number = 99</p> <p>So, $X + Y = 11a + 11b = 99$</p> <p>This implies, $a + b = 99/11 = 9$</p> <p>So, the sum of the 2 digits of the number X should be 9</p> <p>Possible values of X are 18, 81, 27, 72, 36, 63, 45, 54</p> <p>Hence, there are 8 possible values of X.</p> <p>Hence, option d is the correct answer.</p>
76.	B	<p>The average weight of women = 63 kg</p> <p>Total weight of 4 women = $63 \times 4 = 252$ kg</p> <p>So, the total weight of 6 boys = 252 kg (given in question)</p> <p>So the average weight of boys = $252/6 = 42$ kg</p> <p>Hence, option b is the correct answer.</p>
77.	A	<p>Between 10 AM to 11 AM, hour hand crosses the minute hand once between 10:50 and 10:55</p> <p>Between 11 AM to 1 PM, hour hand crosses the minute hand once at 12:00 PM</p>

		<p>Between 1 PM to 2 PM, hour hand crosses the minute hand once between 1:05 and 1:10.</p> <p>So, the hour hand crosses the minute hand total 3 times.</p> <p>Hence, option a is the correct answer.</p>
78.	C	<p>Shift in calendar = 1 day for non-leap year and 2 days for leap year</p> <p>After 2025,</p> <p>2026= 1 day shift</p> <p>2027= 2 days shift</p> <p>2028= 2+2= 4 days shift as 2028 is a leap year</p> <p>2029= 4+1= 5 days shift</p> <p>2030= 5+1= 6 days shift</p> <p>2031= 6+1= 7 days shift</p> <p>As 7 days shift brings us to the same calendar, when both the years in reference are non-leap years,</p> <p>Hence, 2025 will have the same calendar as 2031.</p> <p>Hence, option c is the correct answer.</p>
79.	D	<p>Given p, q are odd and r,s are even</p> <p>Statement 1:</p> <p>$p-r = \text{odd} - \text{even} = \text{odd}$</p> <p>$(p-r)2 \times q \times s = \text{odd} \times \text{odd} \times \text{even} = \text{even}$</p> <p>So, statement 1 is correct.</p> <p>Statement 2:</p> <p>Similarly, as s which is an even number is multiplied in the expression, the whole number will become even</p> <p>So, statement 2 is correct.</p> <p>Statement 3:</p> <p>$q+r = \text{odd} + \text{even} = \text{odd}$</p>

		<p>$p+s = \text{odd} + \text{even} = \text{odd}$</p> <p>Now, $(q+r)^2 \times (p+s) = \text{odd} \times \text{odd} \times \text{odd} = \text{odd}$</p> <p>So, statement 3 is also correct.</p> <p>Hence, option d is the correct answer.</p>
80.	C	<p>As we know,</p> <p>Minute hand moves 6 degrees in 1 minute</p> <p>Hour hand moves 0.5 degrees in 1 minute</p> <p>At 4:25 pm,</p> <p>Minute hand is 5 minutes ahead of sharp 4 = $5 \times 6 = 30$ degrees ahead of 4</p> <p>Hour hand is 25 minutes ahead of sharp 4 = $0.5 \times 25 = 12.5$ degrees head of 4</p> <p>So the angle between minute hand and hour hand = $30 - 12.5 = 17.5$ degrees</p> <p>Hence, option c is the correct answer.</p>
81.	C	<p>Statement 1 is correct: In the passage, it is argued that conventional classrooms prioritize fixed duration of learning over the attainment of competency. The passage criticizes this approach, stating that the central goal becomes completing a set amount of time rather than ensuring all learners achieve proficiency. This focus on duration contributes to variable outcomes, where only a few students excel, and many are left behind, leading to low employability rates among graduates.</p> <p>Statement 2 is correct: The passage also critiques conventional classrooms for promoting a one-size-fits-all approach. It suggests that the same set of lectures and teaching methods are applied uniformly to all students, disregarding individual differences in learning styles</p>

		<p>and abilities. This lack of differentiation can hinder effective learning and contribute to disparities in educational outcomes.</p> <p>Therefore, the correct answer is option (c) Both 1 and 2</p>
82.	D	<p>Assumption 1 is invalid. The passage does not discuss the adequacy or inadequacy of India's education system based on the number of workers in the unorganized sector. Instead, it critiques the conventional classroom system for focusing more on the duration of learning rather than ensuring competency. It argues that this approach leads to variable outcomes, where only a few students excel, and many are left behind, resulting in low employability rates among graduates.</p> <p>– Assumption 2 is invalid. The passage implies the opposite by critiquing the conventional classroom system for its inefficiencies in producing skilled workers. It argues that the current system leads to variable outcomes and does not adequately prepare enough skilled workers to fully harness the demographic dividend. Therefore, assuming that the current system is sufficient contradicts the passage's argument.</p> <p>Therefore, option (d) is the correct answer.</p>
83.	A	<p>Assumption 1 is valid: The passage suggests that adolescents may not feel comfortable with their parents because the parents tend to be dominating and assertive. It mentions that parental solicitude can often be a disguise for love of power, and the options parents express are described as dogmatic. This causes adolescents to avoid confiding in their parents and instead, they tend to go their own way in secret.</p> <p>– Assumption 2 is invalid: The passage does not explicitly discuss the level of respect adolescents have for their parents. It focuses more on the conflict arising from parental authority and adolescents' secretive</p>

		<p>behavior rather than disrespect. Therefore, Assumption 2 cannot be validated based on the information provided in the passage.</p> <p>Therefore, option (a) is the correct answer.</p>
84.	A	<p>Option a is correct: Option a aligns with the central idea of the passage that adolescents often perceive their parents as dominating and assertive, leading them to avoid confiding in their parents and instead navigate their own paths independently. The passage discusses how parental solicitude can be seen as a disguise for power, causing adolescents to keep their thoughts to themselves.</p> <p>– Option b is incorrect: Option b suggests that parental involvement becomes unnecessary when children reach adolescence, which is too extreme and does not reflect the nuanced relationship described in the passage. The passage acknowledges conflict and independence-seeking behavior but does not suggest complete lack of need for parental involvement.</p> <p>– Option c is incorrect: Option c makes a broad statement about modern-day nuclear families' capability to bring up children, which goes beyond the scope of the passage. The passage focuses on the dynamics between parents and adolescents rather than making a sweeping judgment about family structures.</p> <p>– Option d is incorrect: Option d attributes certain characteristics (stubbornness, disobedience, carelessness) to adolescents in modern societies, which is not the central idea conveyed in the passage. The passage focuses more on the perception of parental dominance and adolescents' secretive behavior rather than general characteristics of adolescents.</p> <p>Therefore, based on the central idea of the passage as discussed, option a is the correct answer because it aligns most closely with the</p>

		dynamics described regarding adolescents' perceptions of their parents.
85.	B	<p>For single digit page numbers 5 is used only 1 time.</p> <p>For double digit page numbers Case 1: 5 at unit's place 15, 25, 35... 95= 9 times Case 2: 5 at tenth place 50,51,52...59= 10 times</p> <p>For triple digit page numbers Case 1: 5 at unit's place 105,115,125...195= 10 times 205, 215...255= 6 times Case 2: 5 at tenth place 150,151,152...159= 10 times 250,251...259= 10 times</p> <p>Adding all cases, 5 is used = 1+9+10+10+6+10+10 = 56 Hence, option b is the correct answer.</p>
86.	B	<p>The sequence follows a pattern, where after 2 terms there are sets of natural numbers in revered order. 1, 1, 2 terms (2,1), 3 terms (3,2,1), 4 terms, 5 terms, 6 terms, 7 terms ...</p> <p>For 28 terms = 2 + 2 + 3 + 4 + 5 + 6 + 6 terms The last set of 6 terms contains 7, 6, 5, 4, 3, 2, Sum = 1 + 1 + 3 + 6 + 10 + 15 + 21 + 27 = 84 Hence option b is the correct answer.</p>

87.	D	<p>Let q be = x</p> <p>Now as r= 20% more than q</p> $r = (1 + 20/100)q = 1.2q$ <p>Now, as p costs 25% more than r</p> $p = (1 + 25/100)r = 1.25r = 1.25 \times 1.2q$ <p>Adding the values of p,q,r</p> $p + q + r = 3330 \text{ (given)}$ $1.25 \times 1.2q + 1.2q + q = 3330$ <p>This implies, $q = 900$</p> <p>Which implies, $r = 1.25 \times 1.2q = 1350$</p> <p>Hence, option d is the correct answer.</p>												
88.	A	<p>When the 2-digit number AB and CD are added to get 1CE as shown below in the following addition</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td></td> <td align="center">A</td> <td align="center">B</td> </tr> <tr> <td align="right">+</td> <td align="center">C</td> <td align="center">D</td> </tr> <tr> <td></td> <td></td> <td></td> </tr> <tr> <td align="right">1</td> <td align="center">C</td> <td align="center">E</td> </tr> </table> <p>For B+D is either equal to E or 1E</p> <p>If B+D= E then A+C= 1C</p> <p>Now as A+C cannot be equal to C as A is a non-zero digit</p> <p>So A+C= 1C this implies A+C= 10+C which implies A=10</p> <p>This is not possible as A is a digit</p> <p>So, B+D= 1E</p> <p>A+C+1= 10+C (1 is taken as carry)</p> <p>This implies A= 10-1=9</p>		A	B	+	C	D				1	C	E
	A	B												
+	C	D												
1	C	E												

		Hence, option a is the correct answer.
89.	D	<p>$1 \leq x, y, z \leq 7$</p> <p>As, $x > 2y > 3z$</p> <p>Only value possible for $z = 1$</p> <p>As, if $z = 2$ $3z = 6$, no two distinct values greater than 6 are left for y and x.</p> <p>Possible triplets of x, y, z are</p> <p>7, 2, 1</p> <p>7, 3, 1</p> <p>6, 2, 1</p> <p>5, 2, 1</p> <p>So, four triplets are possible.</p> <p>Hence option d is the correct answer.</p>
90.	C	<p>Let O denote the cost of orange, M denote the cost of mango and A denote cost of apple</p> <p>From the given information,</p> <p>$4O + 6M + 8A = 2(10 + 2M + 5A)$,</p> <p>$4O + 6M + 8A = 2O + 4M + 10A$,</p> <p>$2O + 2M = 2A$,</p> <p>$O + M = A$</p> <p>Statement 1: $3O + 5M + 9A = 4O + 6M + 8A$</p> <p>Simplifying, this gives $A = O + M$</p> <p>So, this statement is correct as per the information given.</p> <p>Statement 2: $1O + 1M = 1A$</p> <p>This statement is also correct as per the information given.</p> <p>So, both the statements are correct.</p> <p>Hence, option c is the correct answer.</p>

91.	B	<p>Option a is incorrect because while the process converts carbon dioxide into limestone, the primary implication is not about producing limestone commercially for building purposes but rather about its role in carbon sequestration.</p> <p>Option b aligns with the practical implication suggested by the passage. The passage discusses a method where carbon dioxide is pumped into underground basalt rocks, which leads to the formation of limestone through a chemical reaction. This process effectively sequesters carbon dioxide underground in the form of stable limestone, thereby mitigating its release into the atmosphere and contributing to efforts in carbon sequestration.</p> <p>Option c is incorrect because the passage does not focus on using basalt rock as a source of calcium and magnesium minerals but rather on the chemical reaction involving carbon dioxide and water leading to the formation of limestone.</p> <p>Option d is incorrect because the passage does not discuss the production of a rock-dissolving acid but rather the chemical process where carbon dioxide and water interact with basalt rocks to form limestone.</p> <p>Therefore, option (b) provides the most logical and practical suggestion implied by the passage, focusing on the method's potential application in carbon sequestration efforts.</p>
92.	A	<p>Assumption 1 is valid.</p> <p>The passage states that giant icebergs store significant amounts of carbon in the Southern Ocean and release nutrients like iron through melting water, which supports high levels of phytoplankton growth. Phytoplankton are essential in marine food chains, indicating that giant icebergs indeed have a bearing on primary productivity and food chains in the Southern Ocean.</p>

		<p>Assumption 2 is invalid.</p> <p>The passage does not explicitly mention climate change effects resulting from melting giant icebergs, nor does it discuss impacts on world fisheries. While iceberg melting affects local ecosystems and carbon storage, the passage does not extend to global climate impacts or fisheries. Ans) a</p> <p>Therefore, the correct answer is option (a) 1 only</p>
<p>93.</p>	<p>C</p>	<p>Option a is incorrect. The passage does not discuss using caterpillars to feed on weeds in crop fields. Instead, it focuses on how caterpillars induce plants to turn off their defenses against predators and the implications of this interaction for plant responses to pathogens. Therefore, option (a) is not supported by the passage.</p> <p>Option b is incorrect. The passage does not suggest that this finding can lead to the development of clinically useful antimicrobial compounds. While the passage mentions compounds associated with plant responses to pathogens, it does not extend the implications to clinical applications. Thus, option (b) is not directly relevant to the passage.</p> <p>Option c is correct. The passage discusses how caterpillars influence plants to deactivate their defenses against predators, potentially leading to insights for developing organic and ecologically sustainable pesticides. Understanding this mechanism could help in developing pest control methods that are environmentally friendly and effective, aligning closely with the passage's focus on plant defenses and ecological implications.</p> <p>Option d is incorrect. The passage does not address genetically modifying caterpillars to become predators of other plant pests.</p>

		<p>Instead, it centers on the interaction between caterpillars and plant defenses, particularly how this interaction influences plant responses to predators. Therefore, option (d) is not supported by the passage's content.</p> <p>In conclusion, option (c) accurately reflects the practical message conveyed by the passage, focusing on the potential development of sustainable pesticides based on the insights gained from caterpillar-plant interactions.</p>
94.	C	<p>Simplifying the given expression,</p> $325 + 227 = (25)5 + 227 = 225 + 227$ $= 225 (1 + 22) = 225 \times 5 = 224 \times 10$ <p>So, the above number is divisible by 10.</p> <p>Hence option c is the correct answer.</p>
95.	C	<p>For not determining p and q uniquely, there must be multiple possible values of p and q.</p> <p>Given conditions, $p < q$ and $p + q = k$</p> <p>If $k = 3$</p> <p>Only possible values are $q = 2$, $p = 1$</p> <p>If $k = 4$</p> <p>Only possible values are $q = 3$, $p = 1$</p> <p>If $k = 5$</p> <p>Possible values are $q = 3$, $p = 2$</p> <p>Or, $q = 4$, $p = 1$</p> <p>So, smallest k for which it is not possible to uniquely determine p and q is 5.</p> <p>Hence option c is the correct answer.</p>

96.	C	
97.	D	
98.	D	<p>Conclusion-I: India is the world's largest exporter of milk. Being the largest producer of milk does not necessarily imply being the largest exporter. Production and export are different aspects; a country might produce a lot of milk but also consume most of it domestically. Therefore, this conclusion does not follow from the statement.</p> <p>Conclusion-II: India does not import milk. Similarly, being the largest producer of milk does not mean that the country does not import milk. It is possible for a country to be a major producer but still import certain types of milk or dairy products to meet specific demands. Therefore, this conclusion also does not follow from the statement.</p> <p>Hence, the correct answer is: (d) Neither Conclusion-I nor Conclusion-II follows.</p>
99.	C	<p>From statement 1, $m + n > mn$ \Rightarrow for this atleast one of m/n has to equal to 1. As $m > n$ So $n = 1$ from statement 1. But this statement alone is not sufficient to answer the question.</p> <p>From statement 2 $M \times n = 24$ M, n can be 3, 8 / 4,6 / 12,2 / 24,1 So, this statement alone is not sufficient to answer the question.</p> <p>Combining the two statements</p>

		<p>As, $n = 1$ so, $m = 24$.</p> <p>Hence both the statements together are sufficient to answer the question.</p> <p>Hence option c is the correct answer.</p>
100.	C	<p>As statement 1 provides the size of the software, Statement 2 provides the transfer rate per second Time required= size / transfer rate So, both statements are necessary and sufficient to answer the question. Hence, option c is the correct answer.</p>
101.	A	<p>Option a is correct: This option best reflects the crux of the passage. The passage emphasizes the importance of a normatively responsible media in a robust democracy, where reality must be transparently circulated and articulated without distortion. The media's role in ensuring that the content of reality is communicated accurately and responsibly is central to the passage's message.</p> <p>Option b is incorrect. This option suggests that fake news is inherent in an ideal democracy, which contradicts the passage's emphasis on the importance of accurately circulating reality. The passage argues for responsible media that avoids distortion, not that fake news is an unavoidable part of democracy.</p> <p>Option c is incorrect. While freedom of expression is an important aspect of democracy, the passage specifically focuses on the role of responsible media in ensuring that reality is communicated without distortion. It does not argue against restrictions on freedom of</p>

		<p>expression, but rather for the ethical responsibility of media in conveying reality accurately.</p> <p>Option d is incorrect. This option implies a focus on the inability to control irresponsible media and political leaders, which is not the main point of the passage. The passage emphasizes the need for media responsibility in circulating reality, rather than addressing the control of irresponsibility within media and political leadership.</p>
<p>102.</p>	<p>D</p>	<p>Exp) option d is the correct answer.</p> <p>Option a is incorrect because the passage primarily focuses on the implications of gathering personal data and marketing strategies, rather than discussing increased capital expenditure in the manufacturing sector.</p> <p>Option b is incorrect because while understanding consumer behavior can indeed stimulate economic growth, the passage does not explicitly discuss this as the central theme related to economic development. Instead, it focuses more on data collection and marketing implications.</p> <p>Option c is incorrect because although interconnected devices may enhance comfort and quality of life for users, the passage does not emphasize this aspect as a central theme. It primarily discusses data gathering and corporate incentives related to consumer behavior.</p> <p>Option d is the correct answer because the passage mentions the potential risks associated with interconnected devices, such as security risks and privacy concerns for home users. It discusses how manufacturers and service providers may collect personal data without full consumer agreement, which can lead to these risks.</p> <p>In conclusion, based on the passage provided, option D best reflects the implied message about the risks associated with interconnected</p>

		home devices and the potential privacy and security concerns for users.
103.	C	<p>Option a is incorrect because it wrongly suggests that environmental sustainability conflicts with achieving high GDP growth. However, the passage advocates for rethinking growth strategies to integrate environmental sustainability, not to oppose economic growth.</p> <p>Option b is incorrect because it asserts that poverty eradication necessitates rapid economic growth even at the cost of environmental degradation. This contradicts the passage's emphasis on green growth, which seeks to achieve both poverty reduction and environmental sustainability simultaneously.</p> <p>Option c is correct as it best reflects the crux of the passage. The passage discusses the importance of maintaining high environmental standards as a prerequisite for achieving sustainable, inclusive growth. It emphasizes the need to rethink growth strategies to ensure they are environmentally sustainable while addressing the needs of poor and vulnerable groups.</p> <p>Option d is incorrect because it fatalistically argues that environmental degradation and inequalities are unavoidable due to current global conditions. However, the passage suggests the opposite, advocating for proactive measures like green growth to mitigate these issues.</p> <p>Therefore, option (c) provides the most accurate reflection of the passage's central message.</p>
104.	C	<p>From statement 1</p> $x/y = \text{odd}$ <p>Many such values of x and y are possible.</p> <p>So, this statement alone is not sufficient to answer the question</p>

		<p>From statement 2</p> $Xy = 12$ <p>Possible values are 6,2 / 2,6 / 3,4 / 4,3 / 12,1 / 1,12</p> <p>So, this statement alone is not sufficient to answer the question</p> <p>Combining the two statements</p> <p>Only possible values are $x = 6$ and $y = 2$</p> <p>Hence the question can be answered definitely with both the statements.</p> <p>Hence option c is the correct answer.</p>
105.	C	<p>From statement 1</p> $X = \frac{4}{5} (Y + Z)$ <p>So, this statement alone is not sufficient to answer the question</p> <p>From statement 2</p> $Y = \frac{2}{7} (X + Z)$ <p>So, this statement alone is not sufficient to answer the question</p> <p>Combining the two statements</p> <p>As there are two equations, three variables</p> <p>We can Solve both equations to get X and Y in terms of Z.</p> <p>As all three can be obtained in terms of Z, they can be easily compared to get who is the least.</p> <p>Hence the question can be answered definitely with both the statements.</p> <p>Hence option c is the correct answer.</p>
106.	D	<p>Question: if average = 60, how many students</p> <p>Number of students = total marks/average</p> <p>From statement 1</p> <p>Highest marks = 70, lowest marks = 50</p>

		<p>This doesn't not determine the total marks. So, this statement alone is not sufficient to answer the question From statement 2 Exclusion of highest and lowest marks, average remains same. This implies highest and lowest are at equal distance from average ie 60. This doesn't not determine the total marks. So, this statement alone is not sufficient to answer the question Combining both statements Still we cannot determine the total marks of students. So, number of students cannot be determined even using both statements Hence option d is the correct answer.</p>
107.	A	<p>a From statement 1 Sum of three prime numbers = 23 Only possible values of three prime numbers are 5, 7 , 11 So statement 1 is sufficient to answer the question. From statement 2 If one number = 5 Without any other condition there are multiple values possible for three numbers from sum to be prime Eg 5, 7, 11 and 5, 7, 17 So, this statement is not sufficient to answer the question. Hence option a is the correct answer.</p>
108.	D	<p>From statement 1 $2x + y$ is integer</p>

		<p>$X + y$ can be/ cannot be an integer.</p> <p>So, this statement alone is not sufficient to answer the question</p> <p>From statement 2</p> <p>$X + 2y$ is integer</p> <p>$X + y$ can be/ cannot be an integer.</p> <p>So, this statement alone is not sufficient to answer the question</p> <p>Combining the two statements</p> <p>Adding both equations</p> <p>We get,</p> <p>$3x + 3y = \text{integer}$</p> <p>$X + y = \text{integer}/3$</p> <p>Which may or may not be an integer.</p> <p>Hence the question can be answered definitely with both the statements.</p> <p>We can take examples also</p> <p>$X = 7/3$ and $y = 10/3$</p> <p>These values satisfies both statements, but $x + y$ is not an integer.</p> <p>So it is not possible to determine definitely if $x + y$ is integer or not.</p> <p>Hence option d is the correct answer.</p>
109.	B	<p>Given information,</p> <p>$p+q+r= 50$</p> <p>$q= 16$, this implies $p+r = 50-16= 34$</p> <p>$p,r > q=16$ this implies both p and r are at least 17</p> <p>Question- what is the price of article p?</p> <p>Statement 1: Cost of p is not more than r</p> <p>$p \leq r$</p> <p>p,r can only be 17,17 which is valid as per this case</p> <p>So, statement 1 is sufficient to answer the question.</p>

		<p>Statement 2: Cost of r is not more than p</p> $r \leq p$ <p>p,r can only be 17,17 which is valid as per this case</p> <p>So, statement 2 is sufficient to answer the question.</p> <p>Hence the question can be answered using either statement alone.</p> <p>Hence option b is the correct answer.</p>
110.	D	<p>Question- If P is greater than Q</p> <p>Statement 1: The sum of marks scored by P and Q is equal to marks scored by R and S.</p> $P+Q = R+S \dots \text{eq 1}$ <p>So statement 1 is not sufficient to answer the question.</p> <p>Statement 2: The sum of marks scored by P and S is more than sum of marks scored by Q and R</p> $P+S > Q+R \dots \text{eq 2}$ <p>So statement 2 is also not sufficient to answer the question.</p> <p>Combining both statements,</p> <p>Adding both equations,</p> $P+Q+P+S > R+S+Q+R$ $2P > 2R$ $P > R$ <p>But this does not determine if P is greater than Q or not.</p> <p>Hence, the question cannot be answered using both statements.</p>
111.	A	<p>Option a is correct. This option accurately captures the essence of the passage. The passage emphasizes that poetry does not rely on absolute truths, which are often unitarian and intolerant of contradictions or imperfections. Instead, poetry embraces the plurality of life and the existence of contradictions, thereby recognizing and accepting human imperfections.</p>

		<p>Option b is incorrect. The passage does not suggest that poetry is anathema to truth. Rather, it argues that poetry does not concern itself with absolute truths, which are typically rigid and dictatorial. The passage highlights the difference in how poetry and absolute truths (as found in science and religion) approach reality, but it does not position poetry as opposed to truth itself.</p> <p>Option c is incorrect. This option simplifies the distinction by focusing on the emotional and imaginative aspects of poetry, contrasting them with the truth claims of science and religion. However, the passage specifically emphasizes poetry’s acceptance of the complexities and contradictions of life, and its opposition to the unitarian nature of absolute truths. Thus, this option misses the deeper message about poetry’s role in embracing plurality and imperfections.</p> <p>Option d is incorrect. While the passage does mention that poetry opposes the tyranny associated with absolute truths, its primary focus is on poetry’s acceptance of plurality and contradictions. The passage does not explicitly frame poetry as a form of dynamic resistance against violence, tyranny, and bigotry, but rather as a medium that thrives on the diversity and complexity of life, standing in contrast to the rigidity of absolute truths.</p>
112.	D	<p>Assumption 1 is incorrect.</p> <p>The passage does not imply that flowers are creations of Nature’s luxury. Instead, it highlights that flowers have evolved to attract insects for the purpose of pollination. This suggests that their beauty and fragrance are functional traits developed through natural selection to ensure reproductive success, not as a luxurious creation without purpose.</p> <p>Assumption 2 is incorrect.</p>

		<p>The passage clearly states that the primary role of flowers is to attract insects, which aids in pollination and prevents pollen from being wasted. This indicates that flowers have an essential biological function beyond their aesthetic appeal to humans. The author acknowledges the utilitarian aspect of flowers in the ecosystem, rather than viewing them solely as objects of beauty.</p> <p>Hence, option (d) Neither 1 nor 2 is the correct answer.</p>
113.	A	<p>Let the ages be ab and ba where a, b are the digits of a 2-digit number</p> <p>Question= Difference of their ages</p> <p>Statement 1: Age of P is greater than the age of Q</p> <p>Let age of P = ab and Q = ba</p> <p>then, $ab > ba$</p> <p>This means, $10a+b > 10b+a$</p> <p>Which implies $9a > 9b$</p> <p>-> $a > b$</p> <p>But this is not sufficient to tell the difference of age</p> <p>Hence, the question cannot be answered only using statement 1.</p> <p>Statement 2: The sum of their ages is $11/6$ times their difference</p> <p>Let ab be the larger number.</p> $10a+b+10b+a = \frac{11}{6}(10a+b-10b-a)$ <p>This implies, $11a+11b = \frac{11}{6}(9a-9b)$</p> <p>This implies, $a+b = \frac{3}{2}(a-b)$</p> <p>Thus, $a=5b$</p> <p>The only possible values are $a=5, b=1$</p> <p>So, $ab = 51$</p> <p>$ba=15,$</p> <p>Difference of their age can be easily determined using this statement alone.</p>

		Hence, option a is the correct answer.
114.	C	<p>Exp) Option c is the correct answer.</p> <p>Main Statement:</p> <p>Pradeep becomes either a Director or a Producer.</p> <p>This implies that Pradeep can be one or the other, but not necessarily both, and not neither. Let's analyze the pairs:</p> <p>Statement P: Pradeep is a Director.</p> <p>Statement Q: Pradeep is a Producer.</p> <p>Statement R: Pradeep is not a Director.</p> <p>Statement S: Pradeep is not a Producer.</p> <p>Pair Analysis:</p> <p>1.SP:</p> <ul style="list-style-type: none"> • Statement S: Pradeep is not a Producer. • Statement P: Pradeep is a Director. <p>If Pradeep is not a Producer (S), he can still be a Director (P), which is logically consistent with the main statement.</p> <p>2.RQ:</p> <ul style="list-style-type: none"> • Statement R: Pradeep is not a Director. • Statement Q: Pradeep is a Producer. <p>If Pradeep is not a Director (R), he can still be a Producer (Q), which is also logically consistent with the main statement.</p> <p>Both SP and RQ:</p> <p>As analyzed above, both pairs SP and RQ are consistent with the main statement.</p> <p>Neither SP nor RQ:</p> <p>This option would imply that none of the pairs are consistent with the main statement, which is not the case here.</p>

		<p>Based on the analysis, the pairs SP and RQ both follow logically and are consistent with the main statement.</p> <p>The correct answer is: Ans) c</p> <p>(c) Both SP and RQ</p>
115.	D	<p>As,</p> <p>$a+b$ means $a-b$,</p> <p>$a-b$ means axb,</p> <p>axb means a/b,</p> <p>a/b means $a+b$,</p> <p>So, $10+30-100 \times 50/25$ is equivalent to</p> <p>$10-30 \times 100/50+25= 10-30 \times 2+25= 10-60+25= -25$</p> <p>Hence, option d is the correct answer.</p>
116.	D	<p>Statement 1:</p> <p>$2x(S)3y \rightarrow 2x \geq 3y$ which implies $6x \geq 9y$</p> <p>$3x(T)4z \rightarrow 3x = 4z$ which implies $6x = 8z$</p> <p>So, $8z \geq 9y$</p> <p>This means, $9y$ can be equal to $8z$</p> <p>So, $9y(P)8z$, which means $9y > 8z$ is incorrect</p> <p>Statement 2:</p> <p>$x(Q)2y \rightarrow x < 2y$</p> <p>$y(R)z \rightarrow y \leq z$</p> <p>As x which is smaller than $2y$, can be greater than z</p> <p>So, $x(R)z$ which means x is not greater than z is incorrect.</p> <p>Hence, both statements are incorrect.</p> <p>Hence, option d is the correct answer.</p>

117.	A	<p>Exp) option a is the correct answer.</p> <p>As $A= 1, B=2, C=3, D=4$</p> <p>$ABCD= 1 \times 2 \times 3 \times 4= 24$</p> <p>Similarly, for EFGH,</p> <p>$EFGH= 5 \times 6 \times 7 \times 8 = 1680$</p> <p>Now, for IJKL,</p> <p>$IJKL= 9 \times 10 \times 11 \times 12= 11880$</p> <p>Hence, option a is the correct answer.</p>
118.	D	<p>As POT is written as ATOP,</p> <p>And TRAP is written is APART,</p> <p>The pattern is to add an A in the beginning of the word and then reversing the word</p> <p>So, for ARENA</p> <p>The code will be AANERA</p> <p>Hence, option d is the correct answer.</p>
119.	B	<p>The given sequence is 3,14,39,84,x, 258</p> <p>The difference between is 11,25,45,x-84,258-x</p> <p>The difference of this difference is 14, 20, x-129, 342-2x</p> <p>The difference of difference follows a gap of 6 after starting from 14</p> <p>Pattern for difference of difference is 14,20,26,32</p> <p>Hence, $x-129= 26$</p> <p>$x= 155$</p> <p>Hence, option b is the correct answer.</p>
120.	B	<p>As $Q-S= 2S,$</p> <p>$Q= 3S.$</p> <p>Possible values of $Q= 12,15$</p>

Possible values for $S = 4, 5$

Now, as $T = R + S + 3$,

So, $T = 15$,

R, S belong to $(4, 5)$

As $T = 15$, so $Q = 12$, which implies $S = 4$, which implies $R = 5$

So, $P = 10$ (only remaining number from the list)

So $P + R - T = 10 + 5 - 15 = 0$