

SI QUESTIONS

1. Average temperature of Tuesday to Thursday was 38-degree Celsius and that Wednesday to Friday was 37-degree Celsius. If the temperature on Friday was 39-degree Celsius. The temperature on Tuesday was?

(a) 38-degree Celsius
(b) 36-degree Celsius
(c) 42-degree Celsius
(d) 39-degree Celsius
2. Once a group of 500 people were attending a seminar. Suddenly the speaker stopped and decided to do a group activity. He started giving each person a balloon. Each person was then asked to write their name on it using a marker pen. Then all the balloons were collected and put in another room. The people were then let into that room and asked to find the balloon which had their name written on it within 5 minutes. Everyone was frantically searching for their name, colliding with each other, pushing around others and there was utter chaos. At the end of 5 minutes no one could find their own balloon. Then, the speaker asked each person to randomly collect a balloon and give it to the person whose name was written on

it. Within minutes everyone had their own balloon. The speaker then began, "this is happening in our lives. Everyone is frantically looking for happiness all around, not knowing where it is. Our happiness lies in the happiness of other people. Give them their happiness; you will get your own happiness. And this is the purpose of human life...the pursuit of happiness."

According to the passage, which is the most suitable way of life style?

Living a self-centred life with absolute focus on self-progress and materialistic improvements.

Promoting the culture of sustainable happiness and inclusive growth

Enhanced focus on social life along with personal monetary gains

Select the correct answer using the codes below:

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

3. Once a group of 500 people were attending a seminar. Suddenly the speaker stopped and decided to do a group activity. He started giving

April 2024

RajasirIAS.com

each person a balloon. Each person was then asked to write their name on it using a marker pen. Then all the balloons were collected and put in another room. The people were then let into that room and asked to find the balloon which had their name written on it within 5 minutes. Everyone was frantically searching for their name, colliding with each other, pushing around others and there was utter chaos. At the end of 5 minutes no one could find their own balloon. Then, the speaker asked each person to randomly collect a balloon and give it to the person whose name was written on it. Within minutes everyone had their own balloon. The speaker then began, "this is happening in our lives. Everyone is frantically looking for happiness all around, not knowing where it is. Our happiness lies in the happiness of other people. Give them their happiness; you will get your own happiness. And this is the purpose of human life...the pursuit of happiness."

Which of the following is the most suited topic for the seminar?

- (a) Life and sustainable happiness
- (b) Path to personal prosperity

- (c) Personal growth is all that matters
- (d) Happiness is a nothing but a myth

4. The average age of P, Q, and R is 5yr more than R's age. If the total ages of P and Q together is 39yr. Then, R's age is

- (a) 16yr
- (b) 14yr
- (c) 12yr
- (d) 24yr

5. A and B can do a job together in 12 days. A is 2 times as efficient as B. In how many days can B alone complete the work?

- (a) 36
- (b) 12
- (c) 18
- (d) 9

6. One-fifth of the light switches produced by a certain factory are defective. Four-fifths of the defective switches are rejected and 1 / 20 of the non-defective switches are rejected by mistake. If all the switches not rejected are sold, what percent of the switches sold by the factory are defective?

- (a) 4%
- (b) 5%
- (c) 6.25%

April 2024

RajasirIAS.com

- (d) 11%
7. Exactly 14% of the reporters for a certain wire service cover local politics in Country X. If 30% of the reporters who cover politics for the wire service do not cover local politics in Country X, what percent of the reporters for the wire service do not cover politics?
- (a) 20%
(b) 42%
(c) 44%
(d) 80%
8. The greatest danger to a democracy is the increasing bureaucratization of the ruling process. As the bureaucracy takes control of virtually everything in the governance, it becomes less accountable to both the ruling party and the legislature. There is a chance that democracy will become technocracy.
If the above statement is true, which among the given alternatives can be inferred from the statement?
- (a) Democracy may turn into autocracy if bureaucrats are not controlled.
(b) Bureaucracy should be controlled to ensure its accountability to both the ruling party and the legislature.
- (c) Technocracy is not better than democracy.
(d) The accountability to both the ruling party and the legislature is key to democracy.
9. The ages of Bhakti and Neil are in the ratio of 8: 7 respectively. After 6 years, the ratio of their ages will be 19:17. What is the difference in their ages?
- (a) 4 years
(b) 8 years
(c) 10 years
(d) None of these
10. 20% of Anuj's annual salary is equal to 75% of Raj's annual salary. Raj's monthly salary is 60% of Ravi's monthly salary. If Ravi's annual salary is Rs.1.44 Lakh. What is Anuj's monthly salary?
- (a) Rs.270000
(b) Rs.27000
(c) Rs.324000
(d) Rs.5400
11. Left pan of a faulty weighs 100 gram more than its right pan. A shopkeeper keeps the weight measure in the left pan while buying his goods but keeps it in the right pan while selling his goods. He uses only 1 kg weight measure. If he sells his goods at the listed cost price, what is his gain?
- (a) $(200/11)\%$

- (b) $(100/11)\%$
 (c) $(100/9)\%$
 (d) $(200/9)\%$
12. Mathematics allows us to expand our consciousness. Mathematics tells us about economic trend patterns of disease and the growth of populations. Mathematics is good at exposing the truth but it can also perpetuate misunderstandings and untruths. Figures have the power to mislead people
This paragraph best supports the statement that
 (a) the study of Mathematics is dangerous
 (b) words are more truthful than figures
 (c) the study of Mathematics is more important than other disciplines
 (d) figures are sometimes used to deceive people
13. A TV consumes 4 units of electricity in 1hr and a bulb consumes 18 units of electricity in 6 hours. How many units of electricity will both TV and bulb consume in 10 days, if they run 8 hours a day?
 (a) 280 units
 (b) 150 units
 (c) 480 units
 (d) 560 units
14. A, B and C together earn Rs.500 per day, while A and C together earn Rs.320 and B and C together earn Rs.350. The daily earning of C is:
 (a) Rs.170
 (b) Rs.150
 (c) Rs.200
 (d) Rs.250
15. A man covers first 200 km of his journey with the speed of 30 km/hr, next 300 km with 40 km/h and remaining 400 km with 50 km/h. Find the average speed of the man during the journey?
 (a) 38.90km/hr
 (b) 40.60km/hr
 (c) 45.75km/hr
 (d) 48.24km/hr
16. Consider the series given below:
 $4/12/95, 1/1/96, 29/1/96, 26/2/96...$
 The next term of the series is
 (a) $24/3/96$
 (b) $25/3/96$
 (c) $26/3/96$
 (d) $27/3/96$
17. In track meets both 100 yards and 100 metres are used as distances. By how many metres is 100 metres longer than 100 yards?
 (a) 0.856 m
 (b) 8.56 m

(c) 0.0856 m

(d) 1.0 m

18. Examine the following statements:

I watch TV only if I am bored.

I am never bored when I have my brother's company.

Whenever I go to the theatre, I take my brother along.

Which one of the following conclusions is valid in the context of the above statements?

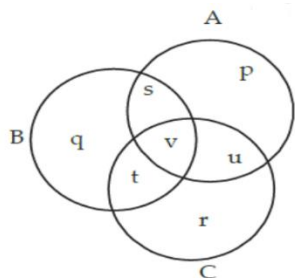
(a) If I am bored, I watch TV

(b) If I am bored, I seek my brother's company

(c) If I am not with my brother, then I watch TV

(d) If I am not bored, I do not watch TV

19. In the given diagram, circle A represents teachers who can teach Physics, circle B represents teachers who can teach Chemistry and circle C represents those who can teach Mathematics. Among the regions marked p, q, r the one which represents teachers who can teach Physics and Mathematics but not Chemistry, is



(a) v

(b) u

(c) s

(d) t

20. Seven men, A, B, C, D, E, F and G are standing in a queue in that order. Each one is wearing a cap of a different colour like violet, indigo, blue, green, yellow, orange and red. D is able to see in front of him green and blue but not violet. E can see violet and yellow, but not red. G can see caps of all colours other than orange. If E is wearing an indigo-coloured cap, then the colour of the cap worn

by F is

(a) blue

(b) violet

(c) red

(d) orange

21. A person travelled from one place to another at an average speed of 40 kilometres/hour and back to the original place at an average speed of 50 kilometres/hour. What is his average speed in kilometres/hour during the entire roundtrip?

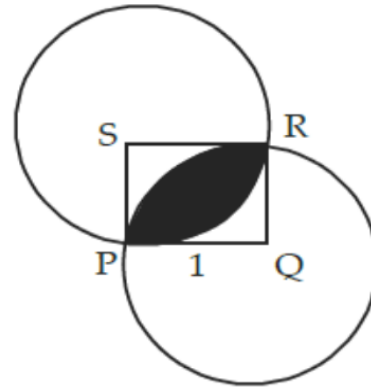
(a) 45

(b) 20

(c) 400/9

(d) Impossible to find out unless the distance between the two places is known

22. The value of $(a - m)(b - m) \dots (y - m)(z - m)$ is
- $m^{26} + am^{25} + abm^{24} + \dots + a.b.c. \dots z$
 - $m^{26} - am^{25} + abm^{24} + \dots - a.b.c. \dots z$
 - 0
 - Indeterminate
23. A rectangular sump of dimensions 6 m x 5 m x 4 m is to be built by using bricks to make the outer dimension 6.2 m x 5.2 x 4.2 m. Approximately how many bricks of size 20 cm x 10 cm x 5 cm are required to build the sump for storing water?
- 1500
 - 3000
 - 15000
 - 30000
24. Consider the figure given below: PQRS is a square of side 1 unit and Q, S are the centres of the two circles. The area of the shaded portion is



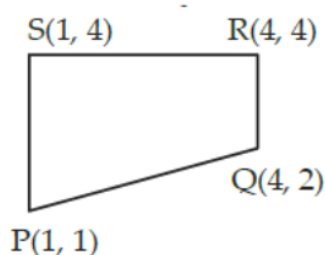
- $\frac{\pi}{2}$
 - $\frac{1}{2}$
 - $\frac{\pi}{4} - \frac{1}{2}$
 - $\frac{\pi}{2} - 1$
- A
 - B
 - C
 - D
25. A thief running at 8 km/hr is chased by a policeman whose speed is 10 km/hr. If the thief is 100 metres ahead of the policeman, then the time required for the policeman to catch the thief will be
- 2 minutes
 - 6 minutes
 - 10 minutes
 - 3 minutes
26. A student has 60% chance of passing in English and 54% chance of passing in both English and Mathematics. What is the percentage probability that he will fail in Mathematics?

- (a) 12
- (b) 36
- (c) 4
- (d) 10

27. A table has three drawers. It is known that one of the drawers contains two silver coins, another contains two gold coins and the third one contains a silver coin and a gold coin. One of the drawers is opened at random and a coin is drawn. It is found to be a silver coin. What is the probability that the other coin in the drawer is a gold coin?

- (a) 0.25
- (b) 1.00
- (c) 0.50
- (d) 0.60

28. In the Cartesian plane four points P, Q, R, S have coordinates (1, 1), (4, 2), (4, 4) and (1, 4). The area of the quadrilateral PQRS is



- (a) 9
- (b) 7.5
- (c) 4.5
- (d) Impossible to find unless the lengths of the diagonals are known

29. Consider the diagram given below:

T: Transport

Ec: Education of children

H: Housing

C: Clothing

F: Food

S: Savings

O: Others

From the diagram shown it would be right to conclude that

- (a) the family spent more than half the income on food and clothing
- (b) the amount saved by the family was too little
- (c) the family had no health problems
- (d) the family managed to meet all the essential expenses out of the income earned

30. Consider the table given below providing details of traffic volume per hour for locations: When the total traffic volume is the same, the factor(s) which affect(s) the noise pollution level is/are

| Location | Total Traffic | % of Heavy Vehicles | Average Noise Level | Noise Pollution Level |
|----------|---------------|---------------------|---------------------|-----------------------|
| I | 377 | 24.40 | 73.50 | 84.00 |
| II | 380 | 12.50 | 72.60 | 83.00 |
| III | 377 | 30.00 | 73.50 | 86.50 |
| IV | 225 | 12.50 | 72.98 | 80.90 |

- (a) % of heavy vehicles
- (b) noise pollution level and average noise level
- (c) average noise level and % of heavy vehicles

(d) indeterminable on the basis of details given

31. The price fluctuations of 4 scrips in a stock market in the four quarters of a year are shown in the table below.

Four different investors had the following portfolios of investment in the four companies throughout the year: Portfolios Investor

1: 10 of A, 20 of B, 30 of C and 40 of D Investor

2: 40 of A, 10 of B, 20 of C and 30 of D Investor

3: 30 of A, 40 of B, 10 of C and 20 of D Investor

4: 20 of A, 30 of B, 40 of C and 10 of D

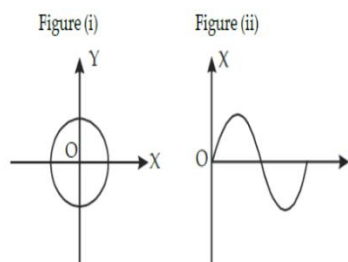
Stock Market Performance

| | I Quarter | II Quarter | III Quarter | IV Quarter |
|---------|-----------|------------|-------------|------------|
| Scrip A | Up 10% | Down 15% | Up 10% | Down 10% |
| Scrip B | Up 2% | Up 1% | Up 2% | Up 2% |
| Scrip C | Up 1% | Up 1% | Down 5% | Down 1% |
| Scrip D | Up 20% | Down 15% | Up 30% | Down 10% |

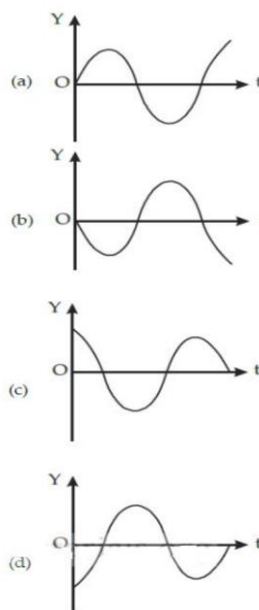
In the light of the above which one of the following statements is correct?

- (a) Investor 2 has made the best investment
- (b) Investor 1 has made the best investment
- (c) Investor 2 suffered a net loss during the year
- (d) Investor 3 suffered a net loss during the year

32. X and Y are two variables whose values at any time are related to each other as shown in Fig. (i). X is known to vary periodically with reference to time as shown in Fig. (ii).



Which of the following curves depicts correctly the dependence of Y on time?



- (a) A
- (b) B
- (c) C
- (d) D

33. Out of a total of 120 musicians in a club, 5% can play all the three

instruments guitar, violin and flute. It so happens that the number of musicians who can play any two and only two of the above instruments is 30. The number of musicians who can play the guitar alone is 40. What is the total number of those who can play violin alone or flute alone?

- (a) 45
- (b) 44
- (c) 38
- (d) 30

34. Which of the following can be inferred from the statement that 'Either John is stupid or John is lazy'?

- I. John is lazy / therefore, John is not stupid.
- II. John is not lazy / therefore, John is stupid.
- III. John is not stupid / therefore, John is lazy.
- IV. John is stupid / therefore, John is not lazy.

Choose the correct answer from the codes given below: Codes:

- (a) I and II
- (b) II and III
- (c) III and IV
- (d) I and IV

35. A person earns Rs. 2000 per month over and above his salary as additional charge allowance. However, 30% of this additional

income will be deducted as additional income tax at source. If the person would deposit Rs. 1000 per month on a long-term saving fetching 12% interest his tax liability on the additional allowance would reduce to 10%. What is the effective interest for this person for money invested in the long-term savings scheme?

- (a) 12%
- (b) 18%
- (c) 19%
- (d) 20%

36. Examine the following statements:

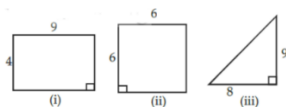
- I. George attends Music classes on Monday.
- II. He attends Mathematics classes on Wednesday.
- III. His Literature classes are not on Friday.
- IV. He attends History classes on the day following the day of his Mathematics classes.
- V. On Tuesday, he attends his Sports classes.

If he attends just one subject in a day and his Sunday is free, then he is also free on

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

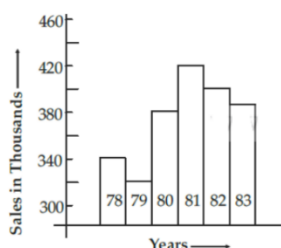
37. Consider the following figures: Which one of the following

conclusions can be drawn from these figures?



- The areas of the three figures are all different
- The areas of all the three figures are equal
- The perimeters of the three figures are equal
- The perimeters of figures I and II are equal

38. The following figure represents sales (in thousands) over the period 1978 to 1983:



The sales in 1981 exceeded that in 1979 by

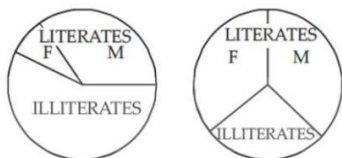
- Rs. one hundred
 - Rs. ten thousand
 - Rs. one lakh
 - Rs. ten lakhs
39. In an accurate clock, on a period of 2 hours 20 minutes, the minute hand will move over
- 520°
 - 320°
 - 840°
 - 140°

40. Two important characteristics of a hypothesis are that it should be testable and that it should be stated in a manner that it can be refuted.

Which one of the following hypotheses, fulfils these characteristics?

- Intelligent persons have good memory
 - Some birds are animals
 - Some businessmen are dishonest
 - All men are mortal
41. If the price of a television set is increased by 25%. then by what percentage should the new price be reduced to bring the price back to the original level?
- 15%
 - 25%
 - 20%
 - 30%

42. The given pie charts show the proportion of literates and illiterates in a country, in the year 1970 and 1990 and also the proportion of males (M) and females (F) among the literates. Which one of the following statements can be said to be beyond any doubt?



- (a) In 1970 has of the illiterates were women (females)
- (b) The proportion of literate males to the total population of males remained the same over the years
- (c) Male literacy did not improve over this period
- (d) The ratio of female literates to male literates improved significantly over this period
43. If $A = x^2 - y^2$. $B = 20$ and $x + y = 10$, then
- (a) A is greater than B
- (b) B is greater than A
- (c) A is equal to B
- (d) It is not possible to compare A and B as the data provided is inadequate
44. Six roads lead to a country. They may be indicated by letters X, Y, Z and digits 1, 2, 3. When there is storm, Y is blocked. When there are floods X, 1 and 2 will be affected. When road 1 is blocked, Z also is blocked. At a time when there are Hoods and a storm also blows, which road(s) can be used?
- (a) Z and 2
- (b) Only Z
- (c) Only 3

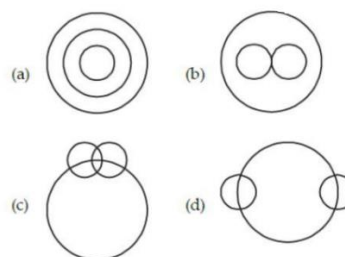
(d) Only Y

45. The table given below depicts the composition of India's exports between 1992-93 and 1994-95:

| Items | 1992-93 | 1993-94 | 1994-95 |
|-------------------------------|-----------------------|---------|---------|
| | (Percentage to total) | | |
| Agriculture & Allied products | 16.9 | 18.0 | 15.9 |
| Ores & Minerals | 4.0 | 4.0 | 3.7 |
| Manufactured goods | 75.5 | 75.6 | 78.0 |
| Petroleum products | 2.6 | 1.8 | 1.9 |

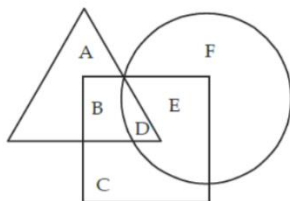
The changing composition of the export trade is indicative of structural transformation of Indian economy in favour of modernisation. The best indicator of the trend is the

- (a) relative shape of petroleum products in exports
- (b) decline in the share of agricultural products in exports
- (c) constant share of ores and minerals in exports
- (d) increase in the share of manufactured products in exports
46. Which one of the following Venn diagrams correctly illustrates the relationship among the classes: Carrot, Food, Vegetable?



- (a) A
 - (b) B
 - (c) C
 - (d) D
47. When the frequency distribution is normal
- (a) median, mode and mean are all different from one another
 - (b) mean, mode and median are identical
 - (c) mean is greater than mode
 - (d) mean is greater than median

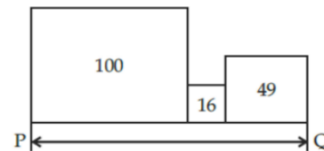
48. In the given figure, the triangle represents girls, the square represents sports persons and the circle represents coaches. The portion in the figure which represents girls who are sports persons but not coaches is the one labelled



- (a) A
 - (b) B
 - (c) D
 - (d) E
49. The next pair of letters in the series AZ, CX, FU, is
- (a) JQ

- (b) KP
- (c) IR
- (d) IV

50. Mouse is to cat as fly is to
- (a) rat
 - (b) animal
 - (c) spider
 - (d) horse
51. The following figure contains three squares with areas of 100, 16 and 49 lying side by side as shown. By how much should the area of the middle square be reduced in order that the total length PQ of the resulting three squares is 19?

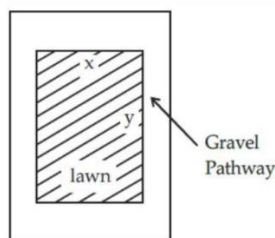


- (a) 12
 - (b) 4
 - (c) 2
 - (d) 6
52. The average of X_1 , X_2 and X_3 is 14. Twice the sum of X_2 and X_3 is 30. What is the value of X_1 ?
- (a) 20
 - (b) 27
 - (c) 16
 - (d) 12
53. A rectangle has a perimeter of 50 meters. If its length is 13 metres

more than its breadth, then its area is

- (a) 124 m²
 - (b) 144 m²
 - (c) 114 m²
 - (d) 104 m²
54. Two packs of cards are thoroughly mixed and stuffed and two cards are drawn at random, one after the other. What is the probability that both of them are Jacks?
- (a) 1/13
 - (b) 2/13
 - (c) 7/1339
 - (d) 1/169
55. A man starts walking in the north easterly direction from a particular point. After walking a distance of 500 metres, he turns southward and walks a distance of 400 metres. At the end of this walk he is situated
- (a) 300 metres north of the starting point
 - (b) 100 metres north-east of the starting point
 - (c) 300 metres east of the starting point
 - (d) 100 metres north of the starting point

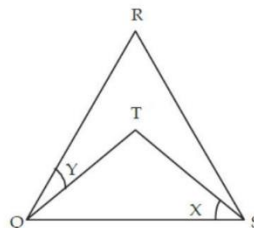
56.



A rectangular plot of lawn shown in the figure has dimensions x and y and is surrounded by a gravel pathway of width 2 m. What is the total area of the pathway?

- (a) $2x + 2y + 4$
 - (b) $2x + 2y + 8$
 - (c) $4x + 4y + 8$
 - (d) $4x + 4y + 16$
57. The average monthly income of a person in a certain family of 5 is Rs. 1000. What will be the monthly average income of a person in the same family if the income of one person increased by Rs. 12,000 per year?
- (a) Rs. 1200
 - (b) Rs. 1600
 - (c) Rs. 2000
 - (d) Rs. 3400

58.



In the given figure, if QRS is an equilateral triangle and QTS is an isosceles triangle and $x = 47^\circ$, then the value (in degrees) of y will be

April 2024

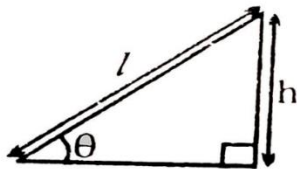
RajasirIAS.com

- (a) 13
- (b) 23
- (c) 33
- (d) 43

59. In the series POQ, SRT, VUW, ? The blank space refers to

- (a) XYZ
- (b) XZY
- (c) YXZ
- (d) YZX

60.



A smooth inclined plane is inclined at an angle θ with the horizontal as shown in the above figure. A body starts from rest and slides down the inclined surface. The time taken by the body to reach the bottom is

- A. $\sqrt{\frac{2h}{g}}$
- B. $\sqrt{\frac{2l}{g}}$
- C. $\sqrt{\frac{2l}{g \sin \theta}}$
- D. $\frac{1}{\sin \theta} \sqrt{\frac{h}{2g}}$

- (a) A
- (b) B
- (c) C
- (d) D

61. An algorithm that is constructed on the back of an envelope is often good enough to compete with an optimally weighted formula, and certainly good enough to outdo

expert judgment. This logic can be applied in various domains, ranging from the selection of stocks by portfolio managers to the choices of medical treatment by doctors or patients.

Which of the following assumptions falsifies/invalidates the argument made above?

- (a) Algorithms are the most scientific of methods to elaborate details in a case study
- (b) Algorithms function in a step by step manner, therefore, ruling out any possibility of an error
- (c) Algorithms are designed not as a formula but as a system, a system has a better practical competence, than a formula
- (d) Algorithms depend on variables, and it is impossible to factor in all the variables of an activity

62. There is growing recognition of „digitalization“ and the so-called „new technologies“ spanning all available approaches, systems, tools and innovations, including a suite of biotechnologies such as genome editing, in particular CRISPR-Cas or synthetic biology, where the genetic material of an organism can be synthesized. Advances in food and medicine research in the area of genomics, food processing, and drug design/formulation, may

April 2024

RajasirIAS.com

increasingly lead to „personalized foods“ to address specific health conditions. This is an area in rapid evolution where regulatory guidance and oversight would be needed.

What is the most logical and appropriate conclusion that we can infer from this passage?

(a) Growing digitalization and advent of new technologies will help in boosting innovation and the manufacturing sector.

(b) Rising use of synthetic biology from food to medicine should be coupled with greater regulation by appropriate regulatory bodies.

(c) Despite growing digitalization and innovation in cutting edge technology India has not yet made the desired progress in synthetic biology.

(d) Synthetic biology induced area of genomics and drug design formulation has made great advancement in India's biotechnology sector.

63. In a box we have twice as many red balls as green balls. Also, 3 lesser white balls than the red balls. And there are 10 green balls in the box. If Arun has to take one ball at a time randomly from the box blindfolded, how many balls he has to take to ensure he had taken at least one from each colour?

(a) 38

(b) 29

(c) 31

(d) Cannot be determined

64. Three men including a senior citizen, board a train where 6 seats are vacant. Two of these 6 seats are reserved, one for women and one for senior citizens. A senior citizen may or may not sit on reserve seat. In how many different ways can the 6 seats be occupied by these three passengers?

(a) 36

(b) 60

(c) 72

(d) 120

65. A longest rod is placed in a room of length 15m and breadth 6m. What can be the height of the room if length of the rod is 19m?

(a) 11m

(b) 15m

(c) 10m

(d) None of these

66. Ramarao has a toy shop. By mistake he calculated profit percentage on a toy's selling price (rather than the cost price), which came out to be 50%. What is the actual profit percentage?

(a) 200%

(b) 50%

- (c) 100%
- (d) 25%

67. How many such pairs of letters are there in the word ARCHITECTURE, each of which has as many letters between them as they have between them in the English alphabet?

- (a) 6
- (b) 5
- (c) 3
- (d) None of the above

68. Study the following information carefully and answer the question that follows:

Point T is 5 m south of point U. Point U is 5 m east of point V. Point V is 3 m south of point W. Point W is 5 m west of point X. Point X is 5 m south of point Y. Point Z is 10 m east of point Y.

How far and in which direction is point U from point Z?

- (a) 25 m, South-East
- (b) 18 m, North
- (c) 15 m, North-East
- (d) 12.8 m, South-West

69. Management is a set of processes that can keep a complicated system of people and technology running smoothly. The most important aspects of management include planning, budgeting, organizing, staffing, controlling,

and problem-solving. Leadership is a set of processes that create organisations in the first place or adapts them to significantly changing circumstances. Leadership defines what the future should look like, aligns people with that vision, and inspires them to make it happen despite the obstacles. This distinction is absolutely crucial for our purposes here: Successful transformation is 70 to 90 per cent leadership and only 10 to 30 per cent management.

Why, according to the author, is a distinction between management and leadership crucial?

- (a) Leaders are reactive whereas managers are proactive.
- (b) Organisations are facing problems of not getting good managers.
- (c) Organisations are pursuing the strategy of status quo.
- (d) In today's context, organizations need leaders as well as managers in transforming them.

70. In a queue, Sadiq is 14th from the front end and Joseph is 17th from the back end, while Jane is in between Sadiq and Joseph. If Sadiq be ahead of Joseph and there are 48 persons in the queue, how many persons are between Sadiq and Jane?

April 2024

RajasirIAS.com

- (a) 5
(b) 6
(c) 7
(d) 8
71. A number is multiplied by six; then its decimal point is moved to the left by three spaces. This is the same as what percent of the number?
(a) $3/100$ %
(b) $3/5$ %
(c) $3/50$ %
(d) 6 %
72. MNT has three sports in extracurricular activities: Cricket, Badminton and Football. Students can participate in one, two or even in all three sports. There are 180 students in the school. There are 90 students in Cricket, 100 in the Badminton, and 70 in the Football. Furthermore, 45 students are in both the Cricket and Badminton, 20 are in both the Cricket and the Football, and 10 students are in all three groups. 30 students are just in the Badminton, not in anything else.
How many students participate in only the Football?
(a) 5
(b) 10
(c) 15
(d) 25
73. What will be the cost of laying a carpet on a floor which has its length and breadth in the respective ratio of 32:21 and where its perimeter is 212 ft, if the cost per square foot of laying the carpet is ₹ 2.5?
(a) 6720
(b) 7390
(c) Cannot be determined
(d) None of these
74. M is 35% of N; L is 25% of N. What percent of M is L?
(a) 40.5%
(b) $500/7$ %
(c) 140%
(d) Data insufficient.
75. Read the following passage and answer the question that follows the passage.
An anthropologist thought he would test these African children. He placed a bowl of fruit underneath a tree and told them that the first one to reach the tree could have the fruit. When he told the children to run, they all took each other's hands and ran together. They all enjoyed the fruit together. This is the African concept of Ubuntu. In my opinion, it is also why Africa is preyed upon by the vultures untamed and let loose by other cultures.

April 2024

RajasirIAS.com

When asked why they didn't run the course alone, they answered, Ubuntu! How can we be happy when others are sad?

Ubuntu in Xhosa is roughly translated, "i am because we are."

What is the social message conveyed through the passage?

1. Community good should come first than personal good.
2. Human race will happy when we as a society are happy.
3. We need to focus on our advancements first then the society

Which are the correct options?

- (a) 1 only
 - (b) Only 3
 - (c) Both 1 and 2
 - (d) Both 2 and 3
76. The ratio in which two sugar solutions of concentration 35% and 50% should be mixed to get a solution of concentration 45% is:
- (a) 1 : 2
 - (b) 2 : 3
 - (c) 1: 3
 - (d) 2: 5
77. In Urban systems, solid waste is generated on a day-to day basis and needs to be administered daily. Solid waste management is an essential practice adopted by the local authorities to maintain

hygienic surroundings in residential areas. The role of these local bodies becomes much more critical in natural disasters such as hurricanes, earthquakes, floods, pandemics, etc. Due to the accumulation of waste or water stagnation, the risk associated with the prevalence of pathogens in the drinking water supply and waste disposal may amplify many folds.

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

- (a) Poor solid waste management exacerbates the burden of diseases during disasters in residential areas.
 - (b) There is a need for solid waste management rules for handling waste during disasters.
 - (c) Urban local bodies lack resources and technology to adequately treat solid waste which causes diseases.
 - (d) Proper protocol of waste generation and collection could reduce the burden of local authorities.
78. Invasive species pose considerable harm to native ecosystems and biodiversity and frustrate and at times fascinate the invasive species management and scientific communities. Of the numerous

non-native species established around the world, only a minority of them are invasive and noxious, whereas the majority are either benign or beneficial. Agriculture in North America, for example, would look dramatically different if only native plants were grown as food crops and without the services of the European honeybee as a pollinator. Yet the minority of invasive species, negatively alter ecosystems and reduce the services they provide, costing governments, industries, and private citizens billions of dollars annually.

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

- (a) Invasive species need to be eliminated to protect the native species of the land.
- (b) Pollinators help in the spread and growth of non-native invasive species around the world.
- (c) European honeybee pollinators should be deployed to improve agricultural diversity in India.
- (d) There is a need to check on the growth of invasive species and promote the growth of benign species.

79. Statements:

- Some cows are crows.

- Some crows are elephants.

Conclusions:

1. Some cows are elephants.
 2. All crows are elephants.
- (a) Only (1) follows
 - (b) Only (2) follows
 - (c) Both (1) & (2) follows
 - (d) Neither (1) nor (2) follows

80. Statements:

- All the actors are girls.
- All the girls are beautiful.

Conclusions:

1. All the actors are beautiful.
 2. Some girls are actors.
- (a) Only (1) follows
 - (b) Only (2) follows
 - (c) Both (1) & (2) follows
 - (d) Neither (1) nor (2) follows

81. Farming is no longer attractive among village youths. The mindset of farmers is not easily changed to win confidence for natural farming. The labour-intensive and time-consuming nature of Zero Budget Natural Farming (ZBNF) prove to be an obstacle for making the transition to natural farming. Small farmers can afford increased labour using their family labour, but it is difficult for big farmers to get adequate labour for big farms. Some big farmers, however, innovatively use locally developed solutions to make ZBNF less labour-intensive but the

April 2024

RajasirIAS.com

implementation of such technology needs initial investment, which poses an obstacle.

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

1. Natural farming makes sense environmentally, but may not be that viable economically.
2. Affordable machinery and adequate finance could encourage village youth to take up natural farming.

Which of the above assumptions is/are valid?

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

82. Internationally, the end of the Cold War and the collapse of the USSR have had profound security implications for India. The cumulative impact has been to make India feel more secure and thus more willing to be innovative in its foreign policy. During the four decades after independence, India structured its foreign policy around security concerns related to threats from Pakistan and China. Since the end of the Cold War, relations with China have improved, surviving the brief chill of mid-1998 when Indian officials, including the defense minister,

referred to alleged dangers from China to justify its 1998 nuclear tests. The improvement of Chinese relations with Russia that followed the ending of the Cold War removed a major impediment to better Sino-Indian ties.

What is the most logical, rational and critical inference that can be drawn from the passage above?

- (a) India played a significant role in the collapse of the USSR
- (b) India's perceived security increased after the end of the Cold War
- (c) Pakistan and China have perpetually posed a security threat to India
- (d) China and Russia have become close allies in several sectors

83. Which of the following assumptions are implied in the passage above?

I. Russia played an important part in the improvement of ties between India and China.

II. India's feeling of security has a direct impact on innovation in its foreign policy.

- (a) Only I
- (b) Only II
- (c) Both I & II
- (d) Neither I nor II

84. What began as a health crisis has soon turned into a devastating

disrupter for trade and commerce wiping away millions of jobs due to varying degrees of lockdowns, which were announced in an attempt to control the spread of the virus. With the passage of time the trade-off between saving lives and saving livelihoods has grown starker. A milestone in the recent history of human civilisation, the pandemic is here to stay and we have no other option but to equip our healthcare systems to fight this massive battle, and vaccinate as much as we can.

As per the above passage, which of the following assumption(s) can be made?

1. Economy of a country is closely connected with the health of its citizens.
2. Government has not invested enough in the health infrastructure in the past.

Choose the correct answer using the code given below:

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

85. The adoption of the market economy heralded a new era in which States came to occupy a strategic position in India's market led economy. The Centre has even gone to the extent of encouraging

states to negotiate loans / FDI with overseas banks / institutions directly since the 1990s. With the Centre's grants in aid no longer being seen as the only source for financing their expenditure, States compete to attract FDI. And positively so, the Centre is not being seen as an obstacle but as a facilitator. Still, approval for FDI's are centralized with the DPIIT being the nodal Ministry at the centre for FDI approvals. In many cases, the DPIIT has to transfer the proposal for FDI licensing to the other central Ministries in whose Rules of Business the subject matter of proposal may fall. In proposals where land border issues or security issues arise, the concurrence of other nodal ministries may also be sought.

As per the above passage, which of the following assumption(s) can be made?

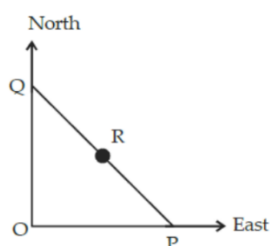
1. Opportunities for states to attract the FDI in India are limited.
2. Opening up of financial opportunities for states has improved fiscal federalism in India.

Choose the correct answer using the code given below:

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

86. There are three drawers in a table. One contains two gold coins, another two silver coins, and the third, a silver coin and a gold coin. One of the drawers is pulled out and a coin is taken out. It turns out to be a silver coin. What is the probability of drawing a gold coin, if one of the other two drawers is pulled out next and one of the coins in it is drawn at random?
- a) 37.5%
b) 50%
c) 62.5%
d) 75%

87.



- P is 300 km eastward of O and Q is 400 km north of O. R is exactly in the middle of Q and P. The distance between Q and R is
- a) 250 km
b) 300 km
c) 350 km
d) 250* km

88. When three coins are tossed together the probability that all coins have the same face up is
- a) $\frac{1}{3}$
b) $\frac{1}{6}$
c) $\frac{1}{8}$

d) None of these

89. The number of students in two sections, A and B having different heights is shown in the following Table: Height (in meters) Number of students with that height in Section A in Section B
- | | | |
|------|----|----|
| 1.55 | 3 | 2 |
| 1.60 | 7 | 3 |
| 1.62 | 12 | 14 |
| 1.65 | 15 | 14 |
| 1.68 | 8 | 9 |
| 1.71 | 6 | 5 |
| 1.75 | 3 | 4 |

The ratio of the number of students of a particular height in Section A to that in Section B is the maximum for the height of

- a) 1.55 m
b) 1.60 m
c) 1.65 m
d) 1.71 m
90. The following table shows the percent change in the number of sales (in rupees) at different retail stores in a given neighbourhood market in the period 1993 to 1995: Retail Store Percent Change 1993 to 1994 1994 to 1995
- | | | |
|---------|-----|-----|
| Anshu | +10 | -10 |
| Borna | -20 | +9 |
| Calpo | +5 | +12 |
| Dilip | -7 | -15 |
| Elegant | +17 | -8 |

- If the sales at Anshu store amounted to Rs. 8 lakhs in 1993, then the number of sales (in lakhs of rupees) at that store in 1995 was
- a) 7.92
b) 8.00
c) 8.80
d) 9.68
91. A complete cycle of a traffic light takes 60 seconds. During each cycle the light is green for 25 seconds, yellow for 5 seconds and red for 30 seconds. At a randomly chosen time, the probability that the light will not be green, is
- (a) $1/3$
(b) $1/4$
(c) $5/12$
(d) $7/12$
92. The owner of a Television shop charges his customer 16% more than the cost price. If a customer paid Rs.17,400 for a Television, then what was the cost price of the television?
- (a) Rs.13,000
(b) Rs.14,000
(c) Rs.15,000
(d) Rs.16,000
93. The difference between 42% of a number and 28% of the same number is 210. What is 75% of that number?
- (a) 775
(b) 1050
(c) 1125
(d) 1500
94. Once a group of 500 people were attending a seminar. Suddenly the speaker stopped and decided to do a group activity. He started giving each person a balloon. Each person was then asked to write their name on it using a marker pen. Then all the balloons were collected and put in another room. The people were then let into that room and asked to find the balloon which had their name written on it within 5 minutes. Everyone was frantically searching for their name, colliding with each other, pushing around others and there was utter chaos. At the end of 5 minutes no one could find their own balloon. Then, the speaker asked each person to randomly collect a balloon and give it to the person whose name was written on it. Within minutes everyone had their own balloon.
- The speaker then began, “this is happening in our lives. Everyone is frantically looking for happiness all around, not knowing where it is. Our happiness lies in the happiness of other people. Give them their happiness; you will get

April 2024

RajasirIAS.com

your own happiness. And this is the purpose of human life...the pursuit of happiness.”

According to the passage, which is the most suitable way of life style?

1. Living a self-centred life with absolute focus on self-progress and materialistic improvements.
2. Promoting the culture of sustainable happiness and inclusive growth
3. Enhanced focus on social life along with personal monetary gains

Select the correct answer using the codes below:

- (a) 1 only
 - (b) 2 only
 - (c) 1 and 3 only
 - (d) 2 and 3 only
95. Which of the following is the most suited topic for the seminar?
- (a) Life and sustainable happiness
 - (b) Path to personal prosperity
 - (c) Personal growth is all that matters
 - (d) Happiness is a nothing but a myth
96. How many five-digit prime numbers can be formed by using the digits 1, 2, 3, 4 and 5 without repetition of digits?
- (a) Zero

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

97. A is twice as good in fencing a garden as B and takes 8 hours less than B takes. Find the time B would take for fencing the garden.
- (a) 10 hours
 - (b) 16 hours
 - (c) 12 hours
 - (d) 18 hours
98. Clearly the development of a nation is intimately linked with understanding and application of science and technology by its people. It has sometimes been argued that the application of technology by itself can contribute to growth. This is certainly true as an abstract proposition, but fails in practice. Witness the state of development and social structure of countries of the Middle East, where for decades resources of oil have been exploited with the most sophisticated technology. History has demonstrated that the real social and economic fruits of technology go to those who apply them through understanding. Therefore, a significant number of citizens of every developing country must understand the ways of modern science and of the technology that flows from it.

With reference to the above passage, which of the following can be inferred?

- (a) Countries of Middle East couldn't use their national resources for their economic and social development as they lacked understanding of technology.
- (b) Those countries where due attention is paid on research and development will be at the forefront to lead the world.
- (c) Science and technology has been the bedrock of growth of civilization and those who lead in science and technology lead the world.
- (d) Different countries choose different models of development and for this they use different tools.

99. The world has witnessed myriad scientific and technological advancements in its journey of development. However, in this pursuit, it is often forgotten that no development is sustainable if it does not respect and honour the human rights of the people. The question is, "What are human rights?" To be precise, human rights are the rights which are possessed by every human being, irrespective of his or her nationality, race, religion, sex, etc, simply by virtue of being a human. They are inherent in our nature

and without them we cannot live as human beings. Human rights and fundamental freedom allow us to fully develop and use our human qualities, our intelligence, our talents, and our conscience

Which of the following statements best implies the crux of the passage?

- (a) The definition of human rights is not fixed and it keeps evolving with time.
- (b) It is the purpose of the State to ensure that everyone gets freedom to enjoy their human rights.
- (c) Enabling human rights help the people to become more human and achieve their full potential.
- (d) Science and technology can be used to ensure development thereby, bestowing human rights to everyone.

100. How many zeros are there at end of the following product?

$$1^1 \times 2^2 \times 3^3 \times 4^4 \times 5^5 \times 6^6 \times 7^7 \times 8^8 \times 9^9 = ?$$

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

101. If the number representing volume and surface area of a cube are equal, then the length of the edge of the cube in terms of the unit of measurement will be

April 2024

RajasirIAS.com

- a) 3
b) 4
c) 5
d) 6
102. The length, breadth and height of a room are l , b and h respectively. The perimeter of the ceiling expressed as a percentage of the total area of the four walls is
a) $100h$
b) $100/h$
c) h
d) $h/100$
103. Seven persons P, Q, R, S, T, U and V participate in and finish all the events of a series of swimming races. There are no ties at the finish of any of the events. V always finishes somewhere ahead of P. P always finishes somewhere ahead of Q. Either R finishes first and T finishes last or S finishes first and U or Q finishes last. If in a particular race V finished fifth, then which one of the following would be true?
a) S finishes first
b) R finishes second
c) T finishes third
d) R finishes fourth
104. Consider the following:
- I. Saxena, David, Jain and Kumar were District Collectors at places P, Q, R and S respectively in 1970.
II. In 1972 they were transferred. Saxena and Jain interchanged places. Kumar and David also interchanged places.
III. One year later in 1973 they were again transferred such that David and Jain interchanged places and Saxena and Kumar were also interchanged.
What should be the next round of transfers so that all the four persons could have been posted at all the four places?
a) Interchange Saxena and David as well as Jain and Kumar
b) Interchange Saxena and Kumar as well as David and Jain
c) Interchange David and Kumar as well as Saxena and Jain
d) It is not possible for all the four persons to have been posted at all the four places
105. A girl is swinging on a swing in sitting position. When the same girl stands up, the period of swing will
a) be shorter
b) be longer
c) depend on the height of the girl
d) not change
106. If the letters of the word SACHIN are arranged in all possible ways and these words are written out as

April 2024

RajasirIAS.com

in dictionary, then the word 'SACHIN' appears at serial number

- (a) 601
- (b) 603
- (c) 600
- (d) 602

107. In the following representation:

| | | |
|---|---|---|
| A | | D |
| B | G | E |
| C | | F |

Each of the seven digits from 0, 1, 2, 3, 4, 5, 6, 7, 8, and 9 is:

- 1) Represented by a different letter in the figure above.
- 2) Positioned in the figure above so that $A*B*C$, $B*G*E$, and $D*E*F$ are equal.

Which digit does G represent?

- (a) 1
- (b) 3
- (c) 2
- (d) None of these

108. A survey of 400 doctors passed out from the city's premier medical college in last five years shows that 142 joined government service, 160 took up private practice and 120 joined nursing home as junior doctor. 40 of them who joined the government service also had private practice, 32 of them worked as junior doctor and had private practice. 20 of them worked in government services as well as in

nursing homes. 12 of them worked in all the three areas.

Assuming that the statement is true, which among the given alternatives the follows from the statement?

- (a) Doctors' main aim in the life is to earn money as they are greedy persons as professional
- (b) Doctors often break the rule to earn money
- (c) A single profession does not provide enough money
- (d) Most of the doctors can do justice in two separate jobs

109. There is a difference in how commercial agents and economic agents perceive productivity. For commercial agents, productivity is a standalone concept that has little interactive value with a background that is more or less nonessential for such productivity. For economic agents, however, productivity can only make sense if it is linked to all possible factors within a milieu, the material product that is received at the end of the process is not merely equal to its material value but of is social, political and ecological value.

According to the passage, which among the following is advocated as a better definition of productivity, from the perspective of a society?

April 2024

RajasirIAS.com

- (a) Commercial definition of productivity, as perceived by the commercial agent
- (b) Economic division of productivity, as perceived by the economic agent
- (c) Both (a) and (b)
- (d) Neither (a) nor (b)
110. A solid cube is painted black on two of its opposite faces and is cut into 343 pieces. how many small pieces have no paint?
- (a) 245
- (b) 255
- (c) 98
- (d) 97
111. "For if it were accepted as a result of argument, the refutation of the argument might shake the solidity of the conviction; but when it rests solely on feeling, worse it fares in argumentative contest, the more persuaded adherents are that their feeling must have some deeper ground, which the arguments do not reach; and while the feeling remains, it is always throwing up fresh entrenchments of argument to repair any breach made in the old."
- With reference to the above passage, which of the following best captures the central idea of the passage?
- (a) People who can distinguish their arguments from their emotions are generally more fervent in defending them.
- (b) We should only accept arguments that incorporate both emotion and logic.
- (c) While beliefs based on logical reasoning can be corrected, it is very difficult to change beliefs founded on emotion.
- (d) People who argue from an emotional basis rarely change the opinions of those who make logical arguments.
112. What is the Smallest Number that should be added (or subtracted) to 89355 to make it divisible by 9?
- (a) 3
- (b) 4
- (c) 5
- (d) 6
113. Which of the following numbers is largest?
- (a) 2^{300}
- (b) 3^{200}
- (c) 9^{60}
- (d) 4^{100}
114. How many five digit prime numbers can be formed by using the digits 1, 2, 3, 4 and 5 without repetition of digits?
- (a) Zero
- (b) One

April 2024

RajasirIAS.com

- (c) Two
(d) Three
115. A is twice as good in fencing a garden as B and takes 8 hours less than B takes. Find the time B would take for fencing the garden.
(a) 10 hours
(b) 16 hours
(c) 12 hours
(d) 18 hours
116. The length of the longest pole that can be placed in a room 12 m long, 9 m wide and 8 m high, is
(a) 12 m
(b) 14 m
(c) 17 m
(d) 21 m
117. Consider the volumes of the following:
1. A parallelepiped of length 5 cm, breadth 3 cm and height 4 cm
2. A cube of each side 4 cm
3. A cylinder of radius 3 cm and length 3 cm.
4. A sphere of radius 3 cm.
The volumes of these in the decreasing order is
(a) 1, 3, 2, 4
(b) 4, 2, 3, 1
(c) 1, 2, 3, 4
(d) 4, 3, 2, 1
118. A complete cycle of a traffic light takes 60 seconds. During each cycle the light is green for 25 seconds, yellow for 5 seconds and red for 30 seconds. At a randomly chosen time, the probability that the light will not be green, is
(a) $1/3$
(b) $1/4$
(c) $5/12$
(d) $7/12$
119. The owner of a Television shop charges his customer 16% more than the cost price. If a customer paid Rs.17,400 for a Television, then what was the cost price of the television?
(a) Rs.13,000
(b) Rs.14,000
(c) Rs.15,000
(d) Rs.16,000
120. The difference between 42% of a number and 28% of the same number is 210. What is 75% of that number?
(a) 775
(b) 1050
(c) 1125
(d) 1500
121. An outgoing batch of students wants to construct an auditorium worth Rs 42,00,000 for their college. If the teachers offer to pay 50% more than the student's contribution and an external benefactor give three times the

April 2024

RajasirIAS.com

teachers contribution, how much should the teachers donate?

- (a) 9,00,000 Rs
- (b) 7,35,000 Rs
- (c) 8,40,000 Rs
- (d) 6,50,000 Rs

122. The distribution of the benefits and costs of innovation has been the subject of a reasonably large number of articles within the agricultural economics literature. Beginning with Cochrane (1958, 1993), some economists have argued that agricultural innovation is a treadmill for farmers with an implicit (sometimes explicit) notion that technological change in agriculture has made farmers worse off. In Cochrane's analysis, only the earliest adopters could benefit from new technology, and their benefits were fleeting. Eventually, the price-depressing effects of increased output would offset the gains. Those who were slow to adopt or did not adopt would lose. He characterized the process as a treadmill that farmers must tread to survive but that involved unhappy consequences for agriculture.

Which of the following is/are the most rational and logical Inference/Inferences that can be made from the passage?

1. The traditional methods of farming were better than new technological methods.

2. Balancing the demand and supply of agricultural products may protect farmers from losses.

Select the correct answer using the code given below.

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

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

(a) Focus on the distribution of technology and better price protection would help tackle the challenges posed by innovation.

(b) Innovation in agriculture should not be encouraged as it causes losses to farmers.

(c) New set of studies is required to re-evaluate the impact of technology on agriculture.

(d) Giving up on technological innovation would save agriculture from negative consequences.

124. One of the major shifts facing business organizations today involves the growing importance of experiential consumption. Alvin Toffler, in his book Future Shock,

was the first to envision experience industries as emerging sectors of the future economy. Pine and Gilmore extended this notion by describing a progression of economic value from commodities to goods to services to experiences. The authors argued that this transition, from a service economy to an experience economy, means that as services become more commoditized, perceptions of competitive advantage diminish. Therefore, all actions of the organization must contribute to delivering experiential offerings that engage customers in unique and memorable ways.

Which of the following is/are the most rational and logical Inference/Inferences that can be made from the passage?

1. The companies should not focus on the quality of the product, but the quality of the experience related to the product.

2. Organizations now need to invest more in creativity for providing a unique memorable experience to customers.

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

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

- (a) Market offers a space for companies exclusively for experience-based adventure trips.
- (b) Governments need to develop mechanisms for calculating the share of experience industry in GDP.
- (c) Organizations should realign their products based on the demands of the market.
- (d) Experience industry will soon beat service and goods industry in terms of contribution to GDP.

126. The age of a man is three times the sum of the ages of his two sons. Five years hence, his age will be double of the sum of the ages of his sons. The father's present age is

- (a) 40 years
- (b) 45 years
- (c) 50 years
- (d) 55 years

127. In a company, 60% of the employees are men. Of these 40% are drawing more than Rs. 50,000 per year. If 36% of the total employees of the company draw more than Rs. 50,000 per year, what is the percentage of women who are drawing less than Rs. 50,000 per year?

- (a) 70

April 2024

RajasirIAS.com

- (b) 60
(c) 40
(d) 30
128. A trader fixed the price of an article in such a way that by giving a rebate of 10% on the price fixed, he made a profit of 15%. If the cost of the article is Rs. 72, the price fixed on it, is
(a) Rs. 82.80
(b) Rs. 90.00
(c) Rs. 92.00
(d) Rs. 97.80
129. The length of the longest pole that can be placed in a room 12 m long, 9 m wide and 8 m high, is
(a) 12 m
(b) 14 m
(c) 17 m
(d) 21 m
130. A complete cycle of a traffic light takes 60 seconds. During each cycle the light is green for 25 seconds, yellow for 5 seconds and red for 30 seconds. At a randomly chosen time, the probability that the light will not be green, is
(a) $1/3$
(b) $1/4$
(c) $5/12$
(d) $7/12$
131. There are 15 apples in a basket and 3 of them are rotten. If two apples are selected at random, what is the chance that only one is good apple?
(a) $36/345$
(b) $9/445$
(c) $16/345$
(d) $36/445$
132. Various conceptual models help explain the dynamics of land-use change from forests to agriculture, and vice versa. In such models, indirect drivers of forest conversion may include population growth; economic development; income distribution; agricultural demand for land; new technologies; market expansion; insecure land tenure; and weak governance. For example, a model sometimes referred to as the “environmental Kuznets curve” suggests that, when per capita income is low, economic growth tends to exacerbate environmental problems, such as deforestation, but that the opposite occurs beyond a certain income threshold. Which among the following are the most rational inferences that can be made from the passage?
1. Increase in per capita income after a threshold, results in lesser environmental degradation.
2. Sustainable management of forests and enhancement of forest carbon stocks (known as REDD+)

April 2024

RajasirIAS.com

is vital for global efforts to conserve forest and combat climate change. Select the correct answer using the code given below.

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) None

133. An algorithm that is constructed on the back of an envelope is often good enough to compete with an optimally weighted formula, and certainly good enough to outdo expert judgment. This logic can be applied in various domains, ranging from the selection of stocks by portfolio managers to the choices of medical treatment by doctors or patients.

Which of the following assumptions falsifies/invalidates the argument made above?

- (a) Algorithms are the most scientific of methods to elaborate details in a case study
- (b) Algorithms function in a step by step manner, therefore, ruling out any possibility of an error
- (c) Algorithms are designed not as a formula but as a system, a system has a better practical competence, than a formula
- (d) Algorithms depend on variables, and it is impossible to factor in all the variables of an activity

134. There is growing recognition of „digitalization“ and the so-called „new technologies“ spanning all available approaches, systems, tools and innovations, including a suite of biotechnologies such as genome editing, in particular CRISPR-Cas or synthetic biology, where the genetic material of an organism can be synthesized. Advances in food and medicine research in the area of genomics, food processing, and drug design/formulation, may increasingly lead to „personalized foods“ to address specific health conditions. This is an area in rapid evolution where regulatory guidance and oversight would be needed.

What is the most logical and appropriate conclusion that we can infer from this passage?

- (a) Growing digitalization and advent of new technologies will help in boosting innovation and the manufacturing sector.
- (b) Rising use of synthetic biology from food to medicine should be coupled with greater regulation by appropriate regulatory bodies.
- (c) Despite growing digitalization and innovation in cutting edge technology India has not yet made the desired progress in synthetic biology.

April 2024

RajasirIAS.com

- (d) Synthetic biology induced area of genomics and drug design formulation has made great advancement in India's biotechnology sector.
135. In a box we have twice as many red balls as green balls. Also, 3 lesser white balls than the red balls. And there are 10 green balls in the box. If Arun has to take one ball at a time randomly from the box blindfolded, how many balls he has to take to ensure he had taken at least one from each colour?
- (a) 38
(b) 29
(c) 31
(d) Cannot be determined
136. The ages of Bhakti and Neil are in the ratio of 8: 7 respectively. After 6 years, the ratio of their ages will be 19:17. What is the difference in their ages?
- (a) 4 years
(b) 8 years
(c) 10 years
(d) None of these
137. 20% of Anuj's annual salary is equal to 75% of Raj's annual salary. Raj's monthly salary is 60% of Ravi's monthly salary. If Ravi's annual salary is Rs.1.44 Lakh. What is Anuj's monthly salary?
- (a) Rs.270000
(b) Rs.27000
(c) Rs.324000
(d) Rs.5400
138. Left pan of a faulty weighs 100 gram more than its right pan. A shopkeeper keeps the weight measure in the left pan while buying his goods but keeps it in the right pan while selling his goods. He uses only 1 kg weight measure. If he sells his goods at the listed cost price, what is his gain?
- (a) $(200/11)\%$
(b) $(100/11)\%$
(c) $(100/9)\%$
(d) $(200/9)\%$
139. Mathematics allows us to expand our consciousness. Mathematics tells us about economic trend patterns of disease and the growth of populations. Mathematics is good at exposing the truth but it can also perpetuate misunderstandings and untruths. Figures have the power to mislead people
This paragraph best supports the statement that
- (a) the study of Mathematics is dangerous
(b) words are more truthful than figures
(c) the study of Mathematics is more important than other disciplines

April 2024

RajasirIAS.com

- (d) figures are sometimes used to deceive people
140. A TV consumes 4 units of electricity in 1hr and a bulb consumes 18 units of electricity in 6 hours. How many units of electricity will both TV and bulb consume in 10 days, if they run 8 hours a day?
- (a) 280 units
(b) 150 units
(c) 480 units
(d) 560 units
141. The sum of a set of positive integers up to 1000 is 50000.
1. When the set comprises of all integers that are divisible by 10, but not divisible by 2.
2. When the set comprises of all integers that are divisible by 5, but not divisible by 2.
- Which of the above statements is/are correct?
- (a) Only 1 is correct
(b) Only 2 is correct
(c) Both 1 and 2 are correct
(d) Neither 1 nor 2 is correct
142. A family of eight persons has three married couples. Amelie is the grandmother of Charles and is the mother-in-law of Floyd. Helen is the daughter of Bob, who is the brother of George. Diana is the only child of George and is the mother of Charles. Emma is the wife of Bob.
- How is George related to Helen?
- (a) Uncle
(b) Father
(c) Brother
(d) Cousin
143. How is Helen related to Diana?
- (a) Sister
(b) Daughter
(c) Cousin
(d) Mother
144. Diana's mother is
- (a) Emma
(b) Amelie
(c) Helen
(d) Floyd
145. The length of a rectangle is increased by 50%. By what percent would be width have to be decreased to maintain the same area?
- (a) 37.5%
(b) 32.5%
(c) 33.3%
(d) 34.5%
146. The circumference of the front wheel of a cart is 40 ft long and that of the back wheel is 48 ft long. What is the distance travelled by the cart, when the front wheel has done eight more revolutions than the rear wheel?

- (a) 20 ft
(b) 25 ft
(c) 850 ft
(d) 1920 ft
147. 15 men can complete a piece of work in 9 days. In how many days will 27 men complete the same work?
- (a) 6 days
(b) 5 days
(c) 3 days
(d) 4 days
148. If 10% of x is 25% of the half of y , then what must be the value of y/x ?
- (a) $3/4$
(b) $8/3$
(c) $4/5$
(d) $5/4$
149. In effect, the Sustainable Development Goals Index celebrates rich countries while turning a blind eye to the damage they are causing. Ecological economists have long warned against this approach. It violates the principle of “strong sustainability” which holds the good performance on development indicators cannot legitimately substitute for destructive levels of ecological impact. The SDG Index team is aware of this problem. It’s even mentioned in their

methodological notes-but than its swept under the rug in favour of a final metric that has little grounding in ecological principles.

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

- (a) The Sustainable Development Goals Index creates the illusion that rich countries have high levels of sustainability even if they do not.
(b) The Nordic countries even with the highest scores on Sustainable Development Goals Index are some of the most environmentally unsustainable countries.
(c) If a country performs well on the development indicators, its score for that goal will look good even if it fails in terms of sustainability.
(d) The United Nations needs to redesign the Sustainable Development Goals Index to correct the issues.

150. The respective ratio between the speeds of car, a jeep and a tractor is 3: 5: 2. The speed of the jeep is 250% the speed of the tractor which covers 360 km in 12 h. What is the average speed of car and jeep together?
- (a) 40kmph
(b) 60kmph
(c) 80kmph
(d) 100kmph

| SI | ANS | EXPLANATION |
|----|-----|--|
| 1. | C | |
| 2. | B | Author is clearly advocating the concept of sustainable happiness, which according to him lies in the bonds we have amongst us. |
| 3. | A | Author is guiding the reader to understand the concept of social happiness and inclusive growth, which according to him will bring sustainable happiness. |
| 4. | C | Given: The average age of P, Q and R is 5 years more than R's age. The total age of P and Q together is 39 years. ∴ R's age is 12 years. 30 Mar 2023 |
| 5. | A | B can complete the job alone in 36 days. |
| 6. | B | assume 1000 produced; 200 defective; 160 defective and rejected; 40 non-defective rejected by mistake; 40 defective and not rejected; 760 non-defective and not rejected. Total non-rejected and sold = 800. percent of the switches sold by the factory are defective = $40/800 \times 100 = 5\%$ |
| 7. | D | We can let the total number of reporters for the wire service = 100 and n = the number of reporters who cover politics. Thus (100 - n) reporters do not cover politics. Since 30% of the reporters who cover politics for the wire service do not cover local politics, 0.3n who cover politics reporters do not cover local politics, but 0.7n do and we are given that 14% of 100 reporters, i.e., 14 of them do cover local politics. Thus, we can create the equation: $0.7n = 14$; $n = 14/0.7 = 140/7 = 20$; So, we have 20 reporters who cover politics and hence 80 reporters or 80% of them don't cover politics. |
| 8. | D | Where from is the danger to the democracy coming? The speaker says it is from "bureaucracy's less accountability to both the ruling party and the legislature". This means accountability to both the ruling party and the legislature is an important factor in democracy. |
| 9. | A | Suppose the ages of Bhakti and Neil are 8x and 7x respectively |

| | | |
|-----|---|--|
| | | <p>After 6 years =</p> $136x + 102 = 133x + 114$ $136x - 133x = 114 - 102$ $3x = 12$ $x = 4$ <p>Present age of Bhakti = $8x = 8 \times 4 = 32$</p> <p>Present age of Neil = $7 \times x = 7 \times 4 = 28$</p> <p>Difference in their current age = $32 - 28 = 4$ years</p> |
| 10. | B | <p>Ravi's annual salary = 1.44 lacs</p> <p>Ravi's monthly salary = $1,44,000/12 = 12,000$</p> <p>Monthly salary of Raj = $12,000 \times (60/100) = 7,200$</p> <p>Let the annual salary of Anuj be x</p> <p>Then, $x \times 20/100 = 7,200 \times 12 \times 75/100$ which gives $x = 3,24,000$</p> <p>So, Anuj's monthly salary = $3,24,000/12 = 27,000$</p> |
| 11. | D | <p>Assume cp/ 1000 gm = Rs. 1000</p> <p>He gets 1100 g for Rs. 1000 and Sells 900 g for Rs. 1000.</p> <p>So, cp/gram $1000/1100 =$ Rs. 0.90/g Sp/gram = $1000/900 =$ Rs. 1.11/g So, profit%</p> |
| 12. | D | <p>This answer is clearly stated in the last sentence of the paragraph.</p> |
| 13. | D | <p>Total time period = 80hrs</p> <p>Rate of electricity consumption of TV = 4units/hr</p> <p>Rate of electricity consumption of bulb = $18\text{units}/6\text{hrs} = 3\text{units}/\text{hr}$</p> <p>Total electricity consumption when both are on together = 7units/hr</p> <p>So, total electricity unit consumed in 80hrs will be $80\text{hrs} \times 7\text{units}/\text{hr} = 560\text{units}$</p> |
| 14. | A | <p>B's daily earning = ₹ $(500 - 320) =$ Rs.180</p> <p>A's daily earning = ₹ $(500 - 350) =$ Rs.150</p> <p>C's daily earning = ₹ $[500 - (180 + 150)] =$ Rs.170</p> |
| 15. | B | <p>Total Distance Covered by the man = $(200+300+400)$ km = 900 km</p> <p>Total Time Taken by the man = $200/30+300/40+ 400/50 = 20/3 + 15/2 + 8 = 133/6$</p> |

| | | |
|-----|---|---|
| | | Avg. Speed = Total distance / Total time = 900kms/ (133/6)hrs = 40.60 km/h |
| 16. | B | the series is a set of dates in the format dd/mm/yy where every day is 28 days in the future, so the next date would be 25/3/96 |
| 17. | B | 1 yard = 0.9144 m; 100 yards = (100 × 0.9144) m = 91.44m ∴ Required difference: = (100 - 91.44) m = 8.56 m |
| 18. | A | Its only given that he is not bored in his brother's company. Also, he watched TV if I am bored. Hence, 'If I am bored, I watch TV' is the correct answer. |
| 19. | B | The regions common to circle A (Physics) and circle C (Mathematics) are v and u where v represents teachers who can teach all subject and u represents the teachers who can teach Physics and Mathematics but not Chemistry. |
| 20. | C | Following are the possible combination of the person and cap colour. A - green/blue/yellow; B - green/blue/yellow; C - green/blue/yellow; D - violet E – indigo; F – red; G - orange |
| 21. | C | Total time taken = $\frac{x}{40} + \frac{x}{50} = \frac{9x}{200}$ Total distance covered = $x + x = 2x$ km ∴ Average speed = $\frac{\text{Total distance covered}}{\text{Total time taken}}$ $= \frac{2x}{(9x/200)} = \frac{400}{9}$ km/h. |
| 22. | C | $m-m=0$; 0 is multiplied by anything will be zero. So, $a - m$ $b - m$ $c - m$ $m - m$ $z - m = 0$ ∴ $m - m = 0$ |
| 23. | C | Volume of outer dimension of sump – volume of sump = volume needed to be built by the bricks. = $(6.2 \times 5.2 \times 4.2 - 6 \times 5 \times 4) = 15.408$ m ³ . = 15.408 m ³ . |
| 24. | D | The area of the shaded region is found by subtracting the area of the semi-circles from the square. The area of the square PQRS with side |

| | | |
|-----|---|--|
| | | 1 unit is $1 \times 1 = 1$ square unit. The total area of the two semicircles is half the area of a full circle with radius 0.5 units (since Q and S are the centers of the circles and QS is a side of the square). The area of such a circle is $\pi \times (0.5)^2 = \pi/4$ square units. So, the area of the two semicircles combined is $(\pi/4) \times 2 = \pi/2$ square units. |
| 25. | D | Time taken by policeman to catch the thief is 3 minutes. |
| 26. | D | The possibility of the student failing in Maths when they pass in English can be found by subtracting the 54% joint probability from the 60% probability of passing in English. This leaves a 6% chance that the student passes in English but fails in maths. |
| 27. | C | For finding the silver coin only drawer 1 and 3 remains in consideration because the open drawer in any case cannot be the drawer that have only gold coins. Now the probability of next coin being a gold coin = $1/2$. |
| 28. | B | <p>Area of the Quadrilateral = Area (\squareNQRS) + Area (\trianglePQN)</p> <p>Area (\squareNQRS) = $NQ \times QR$</p> $NQ = \sqrt{(4-1)^2 + (2-2)^2} = 3$ $QR = \sqrt{(4-4)^2 + (4-2)^2} = 2$ <p>Area (\squareNQRS) = $3 \times 2 = 6$</p> <p>Area (\trianglePQN) = $\frac{1}{2} \times NP \times NQ$</p> $NP = \sqrt{(1-1)^2 + (2-1)^2} = 1$ $NQ = \sqrt{(4-1)^2 + (2-2)^2} = 3$ <p>Area (\trianglePQN) = $\frac{1}{2} \times 3 \times 1 = 1.5$</p> <p>Net area = $6 + 1.5 = 7.5$</p> |
| 29. | D | From the diagram family do not spend more than half of income on food and clothing. Amount saved by the family is not too little. Health problems may come under the others category. Here family clearly manages to meet all the expenses out of the income. |
| 30. | A | For I and III, traffic volume is same. Since, Average Noise level is same for I and III and % of Heavy vehicles differs for I and III, so clearly % of Heavy vehicles affects the noise pollution level. |

| | | |
|-----|---|---|
| 31. | B | if we look at the correct option, Option-2, implying that Investor 1 has made the best investment. It is highly probable because Investor 1 has the largest amount of his investment in Scrip D, which has performed significantly with substantial gains of 20% and 30% in different quarters of the year. This led to his portfolio outperforming the others and thus, he has made the best investment. |
| 32. | C | Let the radius of the circle be unity Equation of the circle, $x^2 + y^2 = 1$ Now, option (c) is the graph of $y = \cos t$. |
| 33. | B | Number of Musicians who play all three instruments = $120 * 5/100 = 6$. Number of Musicians who play any two and only two instruments = 30. Number of Musicians who play Guitar = 40. Hence, the answer is 44. |
| 34. | B | According to the given statement “Either John is stupid or John is lazy”, it can be inferred that John can not be stupid and lazy simultaneously. In the light of this inference one can conclude that only statements (2) and (3) can be right while statements (1) and (4) depicts the opposite of inferred. |
| 35. | B | Correct option is (b) 18% 1000 per month in long-term saving, additional tax is reduced by 10%, i.e., the income is reduced by Rs. 60. Hence, effective interest rate = 18%. |
| 36. | D | Friday cannot have literature classes, so it must be on Saturday as Sunday is free. Only remaining day to be free is Friday, so Friday is free. |
| 37. | B | Area of (rectangle) = $9 \times 4 = 36$ Area of (square) = $6 \times 6 = 36$ Area (triangle) = $1/2 \times 9 \times 8 = 36$ \therefore Area of all the three figures are equal. |
| 38. | C | sales in 1979 = 320 thousands; sales in 1981 = 420 thousands; |

| | | 420000-320000=100000 | | | | | | | | | | | | | | | | | | | | | |
|-------|-------------------|--|-------|-------------------|--------------------|---|--|----------|---|---------|--|---|--|----------|---|--|----------|---|--|----------|---|--|--|
| 39. | C | the minutes hand will cover 840° angular distance in 2 hours and 20 minutes. | | | | | | | | | | | | | | | | | | | | | |
| 40. | A | According to both the characteristics of the hypothesis, (a) only satisfies the criteria because in case of being testable, intelligent person can be tested positively and in case of refutation also it can be shown that all the persons, having sound memory are not intelligent. | | | | | | | | | | | | | | | | | | | | | |
| 41. | C | Let the price be 100. It is given that the increase in the price of certain item is 25%. So, now the price becomes 125. Then the price is decreased by 20%. | | | | | | | | | | | | | | | | | | | | | |
| 42. | D | It can be clearly seen from the chart that the ratio of female literates to male literates has improved. | | | | | | | | | | | | | | | | | | | | | |
| 43. | D | $A = x^2 - y^2 = (x + y)(x - y) = 10(x - y)$ $B = 20$ Now, it is not possible to compare A and B, as the value of x and y is not known. | | | | | | | | | | | | | | | | | | | | | |
| 44. | C | Using the above information and drawing the tables we get: <table border="1" style="margin-left: 20px;"> <thead> <tr> <th>Roads</th> <th>Blocked by storms</th> <th>Affected by floods</th> </tr> </thead> <tbody> <tr> <td>X</td> <td></td> <td>Affected</td> </tr> <tr> <td>Y</td> <td>Blocked</td> <td></td> </tr> <tr> <td>Z</td> <td></td> <td>Affected</td> </tr> <tr> <td>1</td> <td></td> <td>Affected</td> </tr> <tr> <td>2</td> <td></td> <td>Affected</td> </tr> <tr> <td>3</td> <td></td> <td></td> </tr> </tbody> </table> | Roads | Blocked by storms | Affected by floods | X | | Affected | Y | Blocked | | Z | | Affected | 1 | | Affected | 2 | | Affected | 3 | | |
| Roads | Blocked by storms | Affected by floods | | | | | | | | | | | | | | | | | | | | | |
| X | | Affected | | | | | | | | | | | | | | | | | | | | | |
| Y | Blocked | | | | | | | | | | | | | | | | | | | | | | |
| Z | | Affected | | | | | | | | | | | | | | | | | | | | | |
| 1 | | Affected | | | | | | | | | | | | | | | | | | | | | |
| 2 | | Affected | | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | |
| 45. | D | The share of manufactured goods in exports shows a clear increasing trend from 75.5 to 78 over the period. The increase in export of manufactured goods is indicative of a trend towards modernisation and industrialisation, as manufacturing industries are generally a key driver of economic growth and development. This makes option 4 the best indicator of the trend of modernisation of Indian economy. | | | | | | | | | | | | | | | | | | | | | |
| 46. | A | Image 'a' clearly represents the case of Carrot, Food, Vegetables. | | | | | | | | | | | | | | | | | | | | | |
| 47. | B | If we consider the normal distribution - as this is the most frequently assessed in statistics - when the data is perfectly normal, the mean, median and mode are identical. | | | | | | | | | | | | | | | | | | | | | |

| | | |
|-----|---|--|
| 48. | B | The required region is the region which is common to the triangle and square but lies outside the circle i.e. B. So the answer is (b). |
| 49. | A | First letter in each pair increases by 2, 3, 4, while the second letter decreases by 2, 3, 4 respectively. So, 4 letters after F is J and before U is Q. Hence, next letter is JQ. |
| 50. | C | Cat eats mouse similarly spider eats flies. |
| 51. | A | Let the final length of the side of the smaller square be a. Now, $a + 10 + 7 = 19$ $a = 19 - 17 = 2$ \therefore Area of the smaller square = $(2)^2 = 4$ \therefore Decrease in the area of the smaller square = $16 - 4 = 12$ sq. units. |
| 52. | B | $X_1 + X_2 + X_3 = (14 \times 3) = 42$ $2(X_2 + X_3) = 30 \Rightarrow X_2 + X_3 = 15 \therefore X_1 = (42 - 15) = 27$ |
| 53. | C | Let the breadth be b. Then, length = $b + 13$; Perimeter = $50 = 2(l + b)$ $2(b + 13 + b) = 50$ $b = 6$ m $l = 6 + 13 = 19$ m \therefore Area = length \times breadth = $19(6) = 114$ m ² |
| 54. | C | Total number of cards = $104 = 2 \times 52$ and total number of jacks = $8 = 2 \times 4$. Probability for the jack in first draw = $8/104$ and probability for the jack in second draw = $7/103$. Since both the events are independent events. Hence the probability that both of them are jacks. |
| 55. | C | Option 4 also suggests that the man is 100 meters north of the starting point. This is incorrect as the 400 meters walk to the south would have taken him past the starting point. The correct answer is option 3, which states that the man is 300 meters east of the starting point. |
| 56. | D | First, calculate the total area including the pathway $(x+4)(y+4)$, which is $x*y + 4x + 4y + 16$, then subtract the area of the lawn $x*y$. This leaves us with $4x + 4y + 16$, which is the total area of the pathway. So, the correct answer is option-4. |

| | | |
|-----|---|--|
| 57. | A | 5 members total salary = $1000 \times 5 = 5000$. Now increased total monthly salary = $5000 + 12000 / 12 = 6000$. increased average salary = $6000 / 5 = 1200$ Ans. |
| 58. | A | |
| 59. | C | The correct option is YXZ A body covers first one-third of its journey with speed u, next one-third with speed v and the last one-third with speed w |
| 60. | C | |
| 61. | D | The argument made in the statement is enforcing the view that algorithms are a better way of constructing judgments than others mentioned therein. Options A, B and C are all reinforcing the main argument of the statement, only option D is not reinforcing but in fact is in contradiction to the argument made in the statement, since the correct answer is supposed to falsify/invalidate the main argument, Option D is correct. |
| 62. | B | <u>Option (b) is correct.</u> The passage mentions “Advances in food and medicine research in the area of genomics, food processing, and drug design/formulation, may increasingly lead to ‘personalized foods’ to address specific health conditions. This is an area in rapid evolution where regulatory guidance and oversight would be needed”. So, it can be concluded that through genomics, edited genes or modified genes can fulfil nutritional food requirements among patients by serving personalised foods. And as this field is in an evolutionary stage, so more regulations and oversight mechanisms are needed. |
| 63. | A | Green balls = 10; Red balls = $2(\text{green}) = 20$; White balls = Red balls – 3 = $20 - 3 = 17$ To ensure he had taken at least one, Arun has to take balls in worst case possible mode. That is in descending order with respect to the number of balls. i.e., Worst case scenario = $20 + 17 + 1 = 38$ |

| | | |
|-----|---|--|
| 64. | A | <p>There is no woman in the group. So, one seat out of 6 seats cannot be used by them.</p> <p>Therefore, there are 5 seats out of which 1 seat is reserved for senior citizens.</p> <p>If senior citizen sits on reserved seat, then – 2 other men can occupy 4 vacant seats in 4, P2 ways, i.e. 12 ways.</p> |
| 65. | C | <p>The longest rod in the room is its diagonal.</p> <p>So, $L^2 + B^2 + H^2 = D^2$</p> <p>$15^2 + 6^2 + H^2 = 19^2$</p> <p>$H^2 = 361 - (225 + 36) = 100$</p> <p>$H = 10.$</p> |
| 66. | C | option (c) is the correct answer |
| 67. | B | A _ C, H _ I, T _ U, R _ T and E _ C are five such pairs. |
| 68. | D | option (d) is the correct answer |
| 69. | D | In the passage it is mentioned that Successful transformation is 70 to 90 per cent leadership and only 10 to 30 per cent management imply that "In today's context, organizations need leaders as well as managers m transforming them." |
| 70. | D | <p>Sadiq's position from last = $(48 - 14) + 1 = 35$th Number of persons between Sadiq and Joseph = $(35 - 17) - 1 = 17$; Since, Jane is in between Sadiq and Joseph, therefore position of Jane = $(35 + 17) / 2 = 26$th Therefore, Jane is at 9th position from both the boys. Hence, the total number of persons between Sadiq and Jane = $(35 - 26) - 1 = 8$</p> |
| 71. | B | <p>Let's do these two things to 100. Multiplying 100 by 6 yields 600; moving the decimal point three places to the left changes 600, or 600.0, to 0.60.</p> <p>This means that the new number is 0.60% , or $3/5$ %, of the original number.</p> |
| 72. | D | No. of students playing only badminton= No. of students playing badminton – No. of students playing both |

| | | |
|-----|---|--|
| | | <p>Badminton & cricket — No. of students playing both Badminton & Football+ No. of students playing all three games</p> $n(\text{only B}) = n(B) - n(B \cap C) - n(B \cap F) + n(B \cap C \cap F)$ $30 = 100 - 45 - n(B \cap F) + 10$ $n(B \cap F) = 35$ <p>So, number of students playing Badminton and Football is 35.</p> <p>Using the same result, the number of students playing only Football will</p> $n(\text{Only F}) = n(F) - n(F \cap C) - n(F \cap B) + n(B \cap C \cap F)$ $n(\text{Only F}) = 70 - 20 - 35 + 10 = 25.$ |
| 73. | A | <p>Let the length and breadth of a floor be $32x$ and $21x$ respectively,</p> <p>Given, perimeter of the floor = 212</p> $2(32x+21x) = 212 \implies 106x = 212 \implies x = 2\text{ft}$ <p>Therefore, area of the floor =Length * Breadth = $(32*2)*(21*2) = 2688$ sqft.</p> <p>So, the cost of laying a carpet = Rs.2.5/sqft * 2688 sqft = Rs.6,720.</p> |
| 74. | B | <p>M is 35% of N, and L is 25% of N</p> <p>So, $M = 0.35N$, and $L = 0.25N$.</p> <p>To find out what percent L is of M, we need to evaluate:</p> $(L/M) \times 100\% = (0.25N/0.35N) \times 100\% = (25/35) \times 100\% = 500/7.$ |
| 75. | C | <p>It is clearly stated in the passage that in African culture, togetherness is given more importance than individuality. Similarly, social happiness is what is looked forward to rather than individual's achievements.</p> |
| 76. | A | <p>The required ratio of two sugar solution is 1 : 2.</p> |
| 77. | A | <p>Option (a) is correct. The lines "Solid waste management is an essential practice adopted by the local authorities to maintain hygienic surroundings in residential areas. The role of these local bodies becomes much more critical in natural disasters such as hurricanes, earthquakes, floods, pandemics, etc. Due to the accumulation of waste or water stagnation, the risk associated with the prevalence of pathogens in drinking water supply and waste</p> |

| | | |
|-----|---|---|
| | | disposal may amplify many folds”, support the crux mentioned in this option. So, this is the best-implied crux of the passage. |
| 78. | D | Option (d) is correct. |
| 79. | D | Both the conclusions are wrong. |
| 80. | C | Both 1 and 2 follows |
| 81. | C | Both assumptions are correct |
| 82. | B | The author states that after the end of the Cold War, ‘The cumulative impact has been to make India feel more secure’. |
| 83. | C | The author highlights that ‘The improvement of Chinese relations with Russia that followed the ending of the Cold War removed a major impediment to better Sino-Indian ties’ and also that ‘The cumulative impact has been to make India feel more secure and thus more willing to be innovative in its foreign policy’. |
| 84. | A | In the first line, author highlights that health crisis became a disrupter of trade and commerce and wiped millions of jobs. So, statement 1 is an assumption. Statement-2 cannot be the assumption from the information given in the passage. The passage highlights that investment in the health care is required as we have to fight the problems posed by the pandemic. Hence, we can't assume that government didn't invest enough in the past on health infrastructure. |
| 85. | D | We have to identify the assumptions based on the passage. Statement 1 cannot be assumed as there is no such inclination. In the passage, it has been highlighted that since 1990s government has been improving the opportunities for the states. However, there is no hint to assume that opportunities are limited. Statement 2 is beyond the scope of the passage. As fiscal federalism is a situation in which equal opportunities prevail for the states and the union. So, statement 2 is also not an assumption. Hence, option d is the best answer. |

| | | |
|-----|---|---|
| 86. | B | the total possibilities are 3 where 2 are gold coins. As such, the probability of drawing a gold coin is $2/3 = 0.67$ or 66.67%, and the probability for silver is $1/3$ or 33.33%. Thus, The probability of drawing a gold coin, if one of the other two drawers is pulled out is 50%. |
| 87. | A | |
| 88. | D | Let's look into all the possible outcomes on three flips of a coin. Therefore, the probability that with three flips of a coin all three flips will be the same is $1/4$. |
| 89. | A | (a) Ratio of students of section A to B is maximum for 1.55 category height, it is $3/2 = 1.55$ |
| 90. | A | The percent change in sales for the Anshu store from 1993 to 1994 was +1%, which means that the store's sales increased by 1% in 1994, making it 1.01 times the 1993 sales value. Since the 1993 sales were Rs. 8 lakhs, that means the sales in 1994 were $1.01 * 8 =$ Rs. 8.08 lakhs. Then, from 1994 to 1995, the sales change for the Anshu store was -10%, which means that the 1995 sales were 10% less than the 1994 sales. Hence, the 1995 sales were $0.9 * 8.08$ lakhs= Rs. 7.272 lakhs. So, Option 1 is correct (7.92 lakhs) as it is closest to the calculated value. |
| 91. | D | Probability that the light is not green is $7/12$. |
| 92. | C | We can assume Cost Price to be Rs.100. Then, selling price would be Rs.116 (16% more is charged on the cost price). So, if in reality selling price is Rs.17,400 then cost price would be Rs.15,000. We could use unitary method to find the value. S.P. — C.P. Rs.116 — Rs.100 Rs.1 — Rs. (100/116) |

| | | |
|------|---|---|
| | | Rs.17,400 —Rs. (100/116) * Rs.17,400 which gives C.P. as Rs.15,000 |
| 93. | C | The difference in percentage is $42\% - 28\% = 14\%$. So, using unitary method, If 14% of a number is 210, then 1% of that number will $210/14$ which is 15. Therefore, 100% of the number would be 1500. Question is to find out 75% of the number which is nothing but 75% of 1500 which gives answer as 1125. |
| 94. | B | Author is clearly advocating the concept of sustainable happiness, which according to him lies in the bonds we have amongst us. |
| 95. | A | Author is guiding the reader to understand the concept of social happiness and inclusive growth, which according to him will bring sustainable happiness. |
| 96. | A | The digit sum of numbers made by using the digits will be $1 + 2 + 3 + 4 + 5 = 15$. So, if the digits are not repeated then such number will always be divisible by 3. Hence, there will be no such prime number. |
| 97. | B | Let B takes t hours to fence the garden Since A is twice as efficient, he will take $t/2$ hours to fence the garden $t - t/2 = 8$; $t = 16$ hours Hence, option (b) |
| 98. | A | Option (a) is the best choice as it captures the essence of the passage as highlighted by the example of Middle East countries in the passage. |
| 99. | C | Option (c) looks like the best option as it highlights the role of human rights in the life of an individual. |
| 100. | C | In order to make 10, we require 2×5 . There are many 2s ($2^2, 4^4, 6^6, 8^8$) in the series but 5 are only 5(5^5). So, the number of zeros will be only 5. |

| | | |
|------|---|--|
| 101. | D | Side = 6 unit. |
| 102. | B | Total area of four walls = $2h(l+b)$ Perimeter of the ceiling = $2l + 2b = 2(l + b)$ |
| 103. | A | V is 5th & Q is last but S is 1st to finish the race. |
| 104. | C | David and Kumar, as well as Saxena and Jain, haven't interchanged places in the previous transfers. Therefore, the correct answer is 3. |
| 105. | A | The correct option is A be shorter. |
| 106. | A | The required word SACHIN can be obtained after the $SX5! = 600$ Ways i.e. SA CHIN is the 601th letter |
| 107. | C | The value of G is 2 |
| 108. | D | As a very significant number of doctors have been found doing multiple jobs and for a long period of five years, it is obvious that most of the doctors can do justice in two separate jobs. |
| 109. | D | |
| 110. | A | Cube root of $343 = 7$; That means each side of the cube is divided into 7 squares. The side painted has an area of $7*7 = 49$; There are 2 sides like that, so total area painted is $49*2 = 98$ squares. $343 - 98 = 245$, therefore the number of squares unpainted is 245. |
| 111. | C | Option (c) is the best choice. It is saying in brief what we noted above in our two points above. |
| 112. | A | We know that a number is divisible by 9 only when all the number sum up to be multiple of 9; Now let's add all the number to check whether this number is divisible by 9 or not; $8 + 9 + 3 + 5 + 5 = 30$ |
| 113. | B | $4100 = 2200$ _ Thus, it is less than option (a). So, discarded. Similarly, $960 = 3120$. It is less than 3200. So, discarded. |

| | | |
|------|---|---|
| | | We can write option (b) as $3200 = 9100$ and option (a) as $2300 = 8100$. On comparing, we find option (b) to be the largest. |
| 114. | A | The digit sum of numbers made by using the digits will be $1 + 2 + 3 + 4 + 5 = 15$. So, if the digits are not repeated then such number will always be divisible by 3. Hence, there will be no such prime number. |
| 115. | B | Let B takes t hours to fence the garden Since A is twice as efficient, he will take $t/2$ hours to fence the garden $t - t/2 = 8$; $t = 16$ hours Hence, option (b) |
| 116. | C | Length of the longest pole will be placed along the diagonal of the room Length of the diagonal or pole. |
| 117. | D | Volume of Parallelopiped = $l \times b \times h = 5 \times 3 \times 4 = 60 \text{ cm}^3$ Volume of cube = $(\text{side})^3 = 4^3 = 64 \text{ cm}^3$ Volume of cylinder = $\pi r^2 h = 3.14 \times 32 \times 3 = 84.78 \text{ cm}^3$ Volume of sphere = $\frac{4}{3} \pi r^3 = 4 \times 3.14 \times 32 = 113.04 \text{ cm}^3$ Then the correct decreasing order is 4, 3, 2, 1. |
| 118. | D | Probability that the light is not green is $7/12$. |
| 119. | C | We can assume Cost Price to be Rs.100. Then, selling price would be Rs.116 (16% more is charged on the cost price). So, if in reality selling price is Rs.17,400 then cost price would be Rs.15,000. We could use unitary method to find the value. S.P. — C.P. Rs.116 — Rs.100 Rs.1 — Rs. (100/116) Rs.17,400 — Rs. (100/116) * Rs.17,400 which gives C.P. as Rs.15,000 |
| 120. | C | The difference in percentage is $42\% - 28\% = 14\%$. So, using unitary method, |

| | | |
|------|---|--|
| | | <p>If 14% of a number is 210, then 1% of that number will $210/14$ which 15.</p> <p>Therefore, 100% of the number would be 1500.</p> <p>Question is to find out 75% of the number which is nothing but 75% of 1500 which gives answer as 1125.</p> |
| 121. | A | <p>Let's assume the students contributed X Rs; So, the teachers contributed $3X/2$ Rs</p> <p>And external benefactor contributed $9X/2$ Rs; Summation of all contribution = 42,00,000 = 7X; Or, X = 6,00,000 Rs; Hence, teachers contributed 9,00,000 Rs</p> |
| 122. | B | Inference 1 is incorrect and Inference 2 is correct. |
| 123. | A | Option (a) is correct. |
| 124. | B | Inference 1 is incorrect and Inference 2 is correct. |
| 125. | C | Option (c) is correct. |
| 126. | B | |
| 127. | A | |
| 128. | C | |
| 129. | C | <p>Length of the longest pole will be placed along the diagonal of the room</p> <p>Length of the diagonal or pole.</p> |
| 130. | D | Probability that the light is not green is $7/12$. |
| 131. | D | <p>Out of 15 apples, 2 random apples are chosen. There one should be good and the other rotten. Hence, $P = \frac{12C1 \times 3C1}{15C2}$</p> <p>$P = 36 / 105$</p> |
| 132. | A | Statement (1) is correct and Statement (2) is Incorrect |
| 133. | D | The argument made in the statement is enforcing the view that algorithms are a better way of constructing judgments than others mentioned therein. Options A, B and C are all reinforcing the main |

| | | |
|------|---|--|
| | | argument of the statement, only option D is not reinforcing but in fact is in contradiction to the argument made in the statement, since the correct answer is supposed to falsify/invalidate the main argument, Option D is correct. |
| 134. | B | <u>Option (b) is correct.</u> The passage mentions “Advances in food and medicine research in the area of genomics, food processing, and drug design/formulation, may increasingly lead to ‘personalized foods’ to address specific health conditions. This is an area in rapid evolution where regulatory guidance and oversight would be needed”. So, it can be concluded that through genomics, edited genes or modified genes can fulfil nutritional food requirements among patients by serving personalised foods. And as this field is in an evolutionary stage, so more regulations and oversight mechanisms are needed. |
| 135. | A | Green balls = 10; Red balls = 2(green) = 20; White balls = Red balls – 3 = 20 – 3 = 17 To ensure he had taken at least one, Arun has to take balls in worst case possible mode. That is in descending order with respect to the number of balls. i.e., Worst case scenario = 20 + 17 + 1 = 38 |
| 136. | A | Suppose the ages of Bhakti and Neil are 8x and 7x respectively After 6 years = 136x + 102 = 133x + 114 136x – 133x = 114 – 102 3x = 12 x = 4 Present age of Bhakti = 8x = 8 × 4 = 32 Present age of Neil = 7 × x = 7 × 4 = 28 Difference in their current age = 32 – 28 = 4 years |
| 137. | B | Ravi’s annual salary = 1.44 lacs Ravi’s monthly salary = 1,44,000/12 = 12,000 Monthly salary of Raj = 12,000*(60/100) = 7,200 Let the annual salary of Anuj be x Then, x*20/100 = 7,200*12*75/100 which gives x = 3,24,000 |

| | | |
|------|---|--|
| | | So, Anuj's monthly salary = $3,24,000/12 = 27,000$ |
| 138. | D | Assume cp/ 1000 gm= Rs. 1000 He gets 1100 g for Rs. 1000 and Sells 900 g for Rs. 1000. So, cp/gram $1000/ 1100 = \text{Rs. } 0.90/\text{g}$ Sp/gram $= 1000/900 = \text{Rs. } 1.11/\text{g}$ So, profit% |
| 139. | D | This answer is clearly stated in the last sentence of the paragraph. |
| 140. | D | Total time period = 80hrs Rate of electricity consumption of TV = 4units/hr Rate of electricity consumption of bulb = $18\text{units}/6\text{hrs} = 3\text{units}/\text{hr}$ Total electricity consumption when both are on together = 7units/hr So, total electricity unit consumed in 80hrs will be $80\text{hrs} * 7\text{units}/\text{hr} = 560\text{units}$ |
| 141. | B | If a number is divisible by 10, it must be divisible by 2. So, statement 1 is not correct. Thus, the sum of the series = $(n/2) (a + l) = (100/2) (5 + 995) = 50000$. |
| 142. | A | George is related to Helen as Uncle. |
| 143. | C | Helen is the cousin of Diana |
| 144. | B | Amelie is Diana's mother |
| 145. | C | The length is increased by 50 % which means that the length becomes 150% of original length {say 1.5 times the original length). The area should be $1.5 * b$. |
| 146. | D | Let the rear wheel make 'n' revolutions. At this time, the front wheel should have made (n+8) revolutions. As both the wheels would have covered the same distance, $48 * n = 40(n+8)$ $48n = 40n + 320$ $8n = 320$ $n = 320/8 = 40$ |

| | | |
|------|---|---|
| | | So, distance covered = $40 \times 48 = 1920$ ft. |
| 147. | B | 15 men can do the work in 9 days 1 man will do the same work in 15×9 days = 135 days So, 27 men will do the same work in $135 \text{ days} / 27 = 5$ days. |
| 148. | C | This is simply a matter of breaking down the problem. 10 percent of x is $0.1x$. 25 percent of half of y is 25 percent of $0.5y$, which is $0.25 \times 0.5y = y/8$. Now, as per the question, $x/10 = y/8$ or $y/x = 4/5$ |
| 149. | A | Option (a) is correct - high levels of sustainability. |
| 150. | B | Speed of tractor = $360/12 = 30$ km/h. Speed of jeep = $30 \times 250\% = 75$ km/h. Speed of car = $3/5 \times 75$ km/h = 45 km/h. Therefore, average speed of car and jeep together = $(75+45)/2 = 60$ km/h. |