

SNAP 2019 Question Paper

Time Allowed :2 Hours	Maximum Marks :150	Total questions :110
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General Instructions

1. No clarification on the Question paper can be sought. Answer the questions as they are.
2. There are 110 multiple choice objective type questions of one mark each which has to be answered in the OMR Sheet. **Total Marks are 150.**
3. Candidates have to indicate the most appropriate answer by darkening one of the four responses provided, with **BLACK/BLUE BALL POINT PEN** in the OMR Answer Sheet.
4. There will be **Negative Marking** for multiple choice objective type questions. 0.25 marks will be deducted for every wrong answer.
5. The candidate shall not write anything on the OMR Answer Sheet other than the details required and in the spaces provided for.
6. After the examination is over, the candidate can carry the test booklet along with candidate's copy of the OMR after handing over the original OMR to the invigilator.
7. The use of any unfair means by any candidate will result in the cancellation of his/her candidature.
8. Impersonation is an offence and the candidate, apart from disqualification, may have to face criminal prosecution.
9. Electronic gadgets like mobile phones, pagers and calculators etc. are strictly not permitted inside the Test Centre/Hall.
10. The candidates shall not leave the hall before the end of the test.

**GENERAL ENGLISH: READING COMPREHENSION, VERBAL REASONING,
VERBAL ABILITY**

DIRECTIONS (1-5): Read the following passage and answer the questions as directed.

Two years after the World Health Organization labeled air pollution a global “public health emergency”, and the House of Commons environment committee used the same phrase to describe the situation in the UK, new evidence shows that breathing unsafe air causes a loss of intelligence, particularly in the over-64s. The research, carried out in China, showed that test scores declined when people breathed toxins including nitrogen dioxide and particulate, with language ability more affected than maths. This news, though alarming, is unlikely to change anything straightaway. China has been engaged in a “war against pollution” for five years, while governments and policymakers around the world already have ample evidence that pollution is extremely harmful. Top of the list of dangers is the way it worsens heart and lung diseases including asthma and emphysema, while one study last year suggested a link to dementia.

The problem is both global and national: urbanisation and increasing car use mean that pollution is on the rise internationally, while the UK government is under huge pressure to clean up air that has broken EU legal limits for the past eight years. Western capitals do not feature in the WHO’s lists of the planet’s most polluted cities, and levels of most pollutants in the UK have fallen (though not ammonia, a byproduct of farming). But increased scientific understanding of the damage to health caused by gases such as nitrogen oxides makes inexcusable the complacency of which we have seen so much, both under the current Conservative government and its coalition predecessor.

London mayor Sadiq Khan’s “ultra low-emission zone”, which comes into force next year and will charge the most polluting vehicles to enter central London, looks set to be a game-changer. Government analysis shows clean air zones to be by far the most effective measure in reducing nitrogen oxides. But critics think it is still too limited, while leaders of other cities are calling for government funding to implement their own clean air zones, as well as a new clean air act to provide a national framework. Campaigners struggle to understand why the public outcry is not loud or angry enough to force the government to act,

when air pollution is thought to be a factor in shortening the lives of 40,000 people in the UK every year. So do all those who worry about air pollution, among them parents anxious about the impact on growing lungs. The usual answer is cars, and the fact that even if people would like their cities to be cleaner, they don't want restrictions on their freedom to drive.

1. As per the passage, which of the following is the result of breathing unsafe air?

- (a) People, particularly below 64 years of age can lose their intelligence.
 - (b) People, irrespective of age can lose their intelligence and sight.
 - (c) People, particularly above 64 years of age can lose their intelligence.
 - (d) People tend to lose their power to think and speak.
-

2. Which of the following statements is/are true in the context of the passage above?

- (a) Urbanisation and increasing car use mean that pollution is on the rise internationally.
 - (b) The research, carried out in China, showed that test scores declined when people breathed toxins including nitrogen dioxide and particulate, with language ability more affected than maths.
 - (c) Both (I) and (II)
 - (d) None of these
-

3. Which of the following can replace the word given in bold in the passage?

- (a) Insufficient
 - (b) Pathetic
 - (c) Meagre
 - (d) Plentiful
-

4. In the passage above, a line is given in bold. Which of the following best describes the meaning of the line given in bold?

- (a) Even though people would like their cities to be cleaner, they also want restrictions on their freedom to drive.

- (b) People want their cities to be cleaner and so they do not want to drive cars without restrictions.
- (c) People would like their cities to be cleaner but they don't want restrictions on their freedom.
- (d) Despite the fact that people want their cities to be cleaner, they do not want to compromise on their freedom to drive.
-

5. Which of the following words can fill in the blank to make it meaningful?

- (a) Bold
- (b) Timid
- (c) Forthcoming
- (d) Brazen
-

DIRECTIONS (6-8): Read the following passage and answer the questions as directed.

Paragraph 1 — One of the easiest ways to establish a savings habit is to participate in your employer's 401(k) plan. Funds are withheld from each paycheck and deposited into your account. If your employer matches part of your contribution — and many do! — you will accumulate yet more. A second way to consistently save is with an automatic savings transfer program with your financial institution. You decide how much and when you want funds transferred from your checking account into a savings account. You can also use a payroll deduction plan from your employer and get the same results.

Paragraph 2 — Along with how much and how often you save, what you earn on your funds will determine how fast your money grows. You cannot control what happens with interest rates or the stock market, but you can consider different types of savings vehicles that provide different returns. The simplest savings vehicle to consider is buying certificates of deposit (CDs) instead of leaving funds in a savings account. CDs usually offer higher interest rates, but they are time deposits and have penalties for early withdrawal. If you can accept not having immediate access to your funds, CDs can be an attractive savings vehicle.

6. Which of the following can be inferred as the theme of the passage?

- (a) Certificate of deposits is the best way to establish savings habit.
 - (b) Establishing a consistent saving habit and also smart saving with CDs.
 - (c) Employer's 401(k) plan provides a convenient way for consistent and smart savings.
 - (d) Your savings decide how well you flourish and grow.
-

7. What is the tone of writing in the passage?

- (a) Satirical
 - (b) Critical
 - (c) Didactic
 - (d) Sarcastic
-

8. Which of the following words can fill in the blank to make it meaningful?

- (a) gifts
 - (b) lucrative
 - (c) casualties
 - (d) penalties
-

9. The sentences given in a question, which properly sequenced, form a coherent paragraph. Each sentence is labeled with a letter. Choose the most logical order of sentences from among the given choices to construct a coherent paragraph.

- (a) CDAB
 - (b) ABCD
 - (c) BCDA
 - (d) DCBA
-

10. In the question below, there are two sentences containing underlined homonyms, which may either be mis-spelt or inappropriately used in the context of the sentence. Select the appropriate and from the option given below:

- (a) Only sentence I is correct
 - (b) Both sentence I and II are correct
 - (c) Both sentence I and II are incorrect
 - (d) Only sentence II is correct
-

11. In the following question, there are sentences that form a paragraph. Identify the sentence(s) or part(s) of sentence(s) that are correct in terms of grammar and usage (including spelling, punctuation and logical consistency). Then, choose the most appropriate option.

- (a) I did not know what to make of you.
 - (b) Because you'd lived in India, I associate you more with my parents than with me.
 - (c) And yet you were unlikely my cousins in Calcutta, who seem so innocent and obedient when I visited them.
 - (d) You were not curious about me in the least.
-

12. Fill in the blanks with the appropriate conjunction. *You must start at once,*
you will be late.

- (a) whereas
 - (b) otherwise
 - (c) as long as
 - (d) but
-

13. Choose the word closest in meaning to the given word: *Abnegation*

- (a) renunciation
 - (b) Excess
 - (c) Saction
 - (d) yielding
-

14. Choose the word closest in meaning to the given word: *Abjure*

- (a) Renounce
 - (b) Relinquish
 - (c) Acquire
 - (d) Remound
-

15. Choose the word closest in meaning to the given word: *Petulant*

- (a) disagreeable
 - (b) dyspeptic
 - (c) ill-humored
 - (d) amiable
-

16. Which of the following words can fill in the blank to make it meaningful?

- (a) Bold
 - (b) Timid
 - (c) Forthcoming
 - (d) Brazen
-

17. Find the word that is the odd one out.

- (a) Exacerbate
 - (b) Alleviate
 - (c) Mitigate
 - (d) Assuage
-

18. Change the voice of the given sentence: I didn't realise that somebody was watching me

- (a) I didn't realise that I was being watched.
- (b) I didn't realise that I was being watching.
- (c) I didn't realised that I was being watched.

(d) I didn't realise that I was been watched.

19. Complete the meaning of the given sentence: If you behaved well, your peers ----- you.

- (a) will respect
 - (b) would respect
 - (c) respect
 - (d) shall respect
-

20. Choose the correct spelling from the given option: The stars were ----- in the sky.

- (a) scintillating
 - (b) scintillating
 - (c) scintillating
 - (d) scintillating
-

21. Choose the correct spelling from the given option: The defence lawyer ----- there was insufficient evidence to convict his client.

- (a) rietrated
 - (b) reiterated
 - (c) reiteriated
 - (d) reiterated
-

22. Choose the word NOT having a prefix:

- (a) Distemper
 - (b) Dislike
 - (c) Dishonest
 - (d) Disagree
-

23. Identify the correct figure of speech. I must have called out to you a thousand times.

- (a) Personification
 - (b) Metaphor
 - (c) Oxymoron
 - (d) Hyperbole
-

24. Choose the word opposite in meaning to the given word: Servile

- (a) Imperious
 - (b) Humorous
 - (c) Helpful
 - (d) Conspiratorial
-

25. Find a correct match of grammatical function with the usage of the word DOWN.

- 1. Noun - A. Some people can down a whole chicken in a meal.
 - 2. Verb - B. There is a down trend in the real estate market.
 - 3. Adjective - C. He was sent down to work in the branch office.
 - 4. Adverb - D. In southern England the downs are so pretty.
-

26. Choose the word closest in meaning to the given word: Diaphanous

- (a) Transparent
 - (b) Cloudy
 - (c) Foggy
 - (d) Drab
-

27. Fill in the blanks with the correct modal verb.

- (a) Might
- (b) Would

- (c) Should
 - (d) Do
-

28. Change the voice of the given sentence. Windowpanes are washed by cleaners.

- (a) Cleaners wash windowpanes
 - (b) Cleaners are washed by windowpanes.
 - (c) Cleaners washed windowpanes.
 - (d) Cleaners was washed windowpanes.
-

29. Identify the correct figure of speech. Neeta needed new notebooks.

- (a) Personification
 - (b) Metaphor
 - (c) Alliteration
 - (d) Hyperbole
-

30. Which part of speech is the given (underlined) word? This wood will make a good hiding place.

- (a) Adverb
 - (b) Adjective
 - (c) Noun
 - (d) Pronoun
-

31. Choose the correct option of the following incorrect sentence: No matter what that I do, I can't make her happy.

- (a) No matter what should I do, I can't make her happy.
- (b) No matter what will I do, I can't make her happy.
- (c) No matter what I do, I can't make her happy.
- (d) No matter what I did, I can't make her happy.

32. Fill in the blank with proper conditional: Suppose your car broke down in the middle of nowhere, What _____ do?

- (a) will you
- (b) would you
- (c) may you
- (d) did you

33. Fill in the blank with the appropriate option: I _____ anything from her in a long time.

- (a) haven't heard
- (b) haven't hear
- (c) hasn't heard
- (d) hasn't hear

34. Complete the meaning of the given sentence: If you behaved well, your peers _____ you.

- (a) would respect
- (b) will respect
- (c) would respected
- (d) None of these

QUANTITATIVE, DATA INTERPRETATION AND DATA SUFFICIENCY

35. Find the value of the given expression:

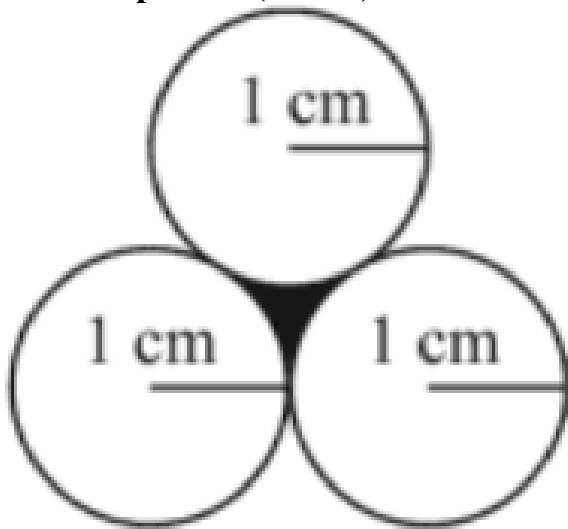
$$\sqrt{\left(3\frac{1}{4}\right)^4 - \left(4\frac{1}{3}\right)^4} = ?$$

- (a) 5
- (b) $\frac{5}{12}$

(c) $\frac{5}{7}$

(d) $\frac{5}{11}$

36. Three circles with radii 1 cm each are drawn touching each other. Find the area of the shaded portion (in cm^2).



(a) $\frac{\sqrt{3} - \pi}{2}$

(b) $\frac{2\sqrt{3} - \pi}{2}$

(c) $\frac{\pi - \sqrt{3}}{2}$

(d) $\frac{\pi - 2\sqrt{3}}{2}$

37. Two trains of length 150 m each pass each other in 20 s when moving in opposite directions. When they move in the same direction, they take 40 s to pass each other completely. Find the speed of the faster train.

(a) 10.25 m/sec

(b) 11.25 m/sec

(c) 11.75 m/sec

(d) 12 m/sec

38. Brigadier Rastogi travels from A to B at 40 km/hr on bike, from B to C at 10 km/hr on cycle. The distance AB equals BC. Then he travels from C to A via B at 24 km/hr by autorickshaw. Find his average speed.

- (a) 12.2 km/hr
 - (b) 12.4 km/hr
 - (c) 19.2 km/hr
 - (d) 19.4 km/hr
-

39. Rohan and Rahul are 144 km apart at A and B. Rohan travels at 8 km/hr. Rahul travels 4 km in the first hour, 5 km in the second, 6 km in the third, and so on. Find the point where they meet.

- (a) 64 km from point A
 - (b) 64 km from point B
 - (c) Midway of A and B
 - (d) None of the above
-

40. Find the unit's place digit of $(1!)^{1!} + (2!)^{2!} + (3!)^{3!} + \dots + (100!)^{100!}$.

- (a) 4
 - (b) 5
 - (c) 6
 - (d) 7
-

41. In how many ways can 10 books on Mechanics and 8 books on Quantum Physics be placed in a row such that two Quantum Physics books are not together?

- (a) 165
- (b) 176
- (c) 187
- (d) 198

42. In an institute, an MBA exam has 4 sections and a sectional cutoff is applied. A candidate qualifies only if they clear *every* sectional cutoff. In how many ways may an applicant fail the exam?

- (a) 15
- (b) 16
- (c) 32
- (d) 64

43. In how many ways can the letters of the word POTICA be arranged such that the vowels occupy odd positions?

- (a) 24
- (b) 30
- (c) 36
- (d) 42

44. A square, circle, regular hexagon and regular octagon all have the same perimeter P . Which one has the maximum area?

- (a) Square
- (b) Circle
- (c) Hexagon
- (d) Octagon

45. In how many ways can one wrap 3 KitKat, 2 FiveStar and 3 BarOne chocolates in a gift pack containing exactly three chocolates, if at least one KitKat must be included? (Treat all chocolates as distinct.)

- (a) 3
- (b) 10

(c) 46

(d) 56

46. The difference between CI and SI for a loan is ₹114 when invested for 2 years at the rate of 6% per annum. Find the loan amount.

(a) ₹31,667

(b) ₹41,667

(c) ₹51,667

(d) None of the above

47. The sum of the following series of n terms is:

$$\log a + \log\left(\frac{a^2}{b}\right) + \log\left(\frac{a^3}{b^2}\right) + \cdots = ?$$

(a) $\log\left(\frac{a^{n+1}}{b^{n-1}}\right)^{n/2}$

(b) $\log\left(\frac{a^{n-1}}{b^{n+1}}\right)^{n/2}$

(c) $\log\left(\frac{a^{n+1}}{b^{n-1}}\right)^n$

(d) $\log\left(\frac{a^{n-1}}{b^{n+1}}\right)^n$

48. What is the coefficient of z^3 in $-7xy^2z^3a^2b^2$?

(a) $-7xy^2$

(b) 7

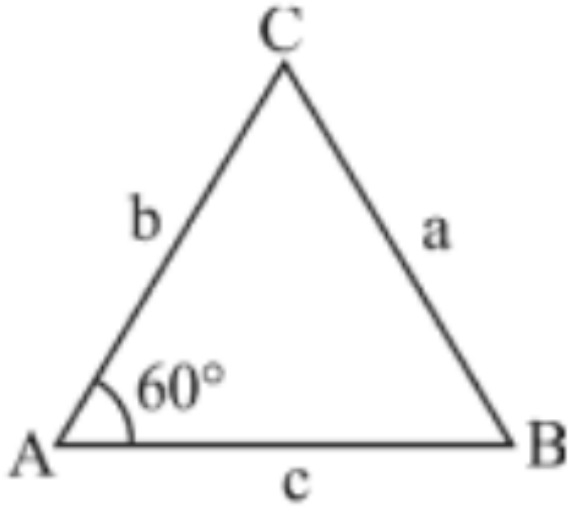
(c) $-7xy^2a^2b^2$

(d) -1

49. In a regular hexagon, ropes are tied to connect every pair of vertices (all sides and all diagonals). How many distinct intersection points do the ropes create?

- (a) 16
- (b) 17
- (c) 19
- (d) 20

50. In $\triangle ABC$, $\angle CAB = 60^\circ$, $BC = a$, $AC = b$, $AB = c$. Which relation is correct?



- (a) $a^2 = b^2 + c^2 - bc$
- (b) $a^2 = b^2 + c^2 - 2bc$
- (c) $a^2 = b^2 + c^2 + bc$
- (d) $a^2 = b^2 + c^2 + 2bc$

51. In a closed wooden box, length = 20 cm, breadth = 14 cm, height = 10 cm and thickness = 5 mm. If weight of empty box is 3.462 kg, what is the weight of 1 cm^3 of wood?

- (a) 4 grams
- (b) 5 grams
- (c) 6 grams
- (d) 7 grams

52. Find the number of zeros at the end of $(5!)^{5!} + (10!)^{10!} + (50!)^{50!} + (100!)^{100!}$.

- (a) 11
 - (b) 12
 - (c) 110
 - (d) 120
-

53. Ritesh is twice as good as Mitesh. Ritesh takes 30 days less than Mitesh to finish a task. How long will they take to complete the task together?

- (a) 10 days
 - (b) 20 days
 - (c) 30 days
 - (d) 60 days
-

54. A 200-litre container initially has x litres of milk (only milk). 6 L of milk is removed and 5 L water is added. Then 6 L of the mixture is replaced with 6 L water. Finally, milk and water are in the ratio 9 : 16. Find x .

- (a) 6 litres
 - (b) 9 litres
 - (c) 15 litres
 - (d) 16 litres
-

55. A train runs at 60 km/h but halts for a fixed time every clock hour. Due to halts, its average speed becomes 50 km/h. Find the duration of each halt.

- (a) 8 minutes
 - (b) 10 minutes
 - (c) 12 minutes
 - (d) 14 minutes
-

Directions (Qs. 56–59): Answer the questions given below:

In 2015, 100 aspirants appeared for an exam.

They had to answer four sections: Maths, DI, LR and English.

The number of students who qualified in Maths = 55.

The number of students who qualified in LR = 38.

The number of students who qualified in (Maths + English) = 30.

The number of students who qualified in (LR + English) = 15.

The number of students who qualified in (Maths + LR) = 20.

The number of students who qualified in (Math + LR + English) = 5.

The number of students who qualified in DI = 22.

The number of students who qualified in (DI + LR) = 5.

The number of students who qualified in (DI + Maths) = 5.

The number of students who qualified in (DI + Math + LR) = 5.

The number of students who qualified in English = 50.

Those who qualified in English could not qualify in DI Section.

56. How many qualified at least two sections?

- (a) 35
- (b) 45
- (c) 55
- (d) 65

57. How many qualified in both Maths and LR but not any other subjects?

- (a) 5
- (b) 10
- (c) 15
- (d) 20

58. How many did not qualify in any section?

- (a) 3

- (b) 5
(c) 12
(d) None of these
-

59. How many qualify only in DI section?

- (a) 12
(b) 15
(c) 17
(d) 21
-

Directions (Qs. 60–62): Go through the table given below which contains data about production of rice in various years and change percentage compared to previous data.

Years	Quantity of Rice (Town)	% change over previous year
20–21	134350	+6.25
30–31	1097172	+12.5
40–41	264280	+11.11
50–51	127890	-09.09
60–61	201924	+20.00
70–71	112325	-16.66
80–81	213465	-25.00
90–91	169368	+33.33
00–01	100956	+50.00
10–11	23800	-80.33

60. What is the approx production of rice in year 1949–50?

- (a) 1278890
(b) 264280
(c) 116263
(d) 140679
-

61. What is the difference in the production of rice in 1969–70 and 1979–80?

- (a) 284620
 - (b) 134790
 - (c) 149830
 - (d) 23800
-

62. What is the approx production in 1959–60?

- (a) 33654
 - (b) 168270
 - (c) 16827
 - (d) 201924
-

63. Valve A fills a bathtub in 10 hours and valve B fills it in 15 hours. A and B are opened together; later B is closed. The tub is filled in 8 hours in total. For how long was B open?

- (a) 1 hour
 - (b) 2 hours
 - (c) 3 hours
 - (d) 4 hours
-

64. Average stipend of a group is ₹50 per day. The difference between maximum and minimum stipend is ₹45. If both these students are excluded, the average decreases by ₹1. The minimum earning of any student lies between ₹42 and ₹47, and the number of students is a prime number whose both digits are also prime. Find the initial number of students.

- (a) 33
- (b) 35
- (c) 37

(d) 39

65. Robot A, B and C make 25%, 35% and 40% of circuit boards, with defect rates 5%, 4% and 2% respectively. If one board is picked at random, what is the probability it is defective?

- (a) 0.034
 - (b) 0.34
 - (c) 0.66
 - (d) 0.066
-

66. A robot is 4 m long and placed at a corner of a $16\text{ m} \times 30\text{ m}$ rectangular field. It faces the diagonally opposite corner and reaches that corner in 15 s. What is its speed?

- (a) 1 m/s
 - (b) 2 m/s
 - (c) 3 m/s
 - (d) 4 m/s
-

67. What is the sum of integers from 113 to 113113 that are divisible by 7?

- (a) 16143
 - (b) 113113
 - (c) 16159
 - (d) 913952088
-

68. Given $\frac{(\sqrt{x+4} + \sqrt{x-10})^2}{(x+4) - (x-10)} = \frac{5}{2}$, find x.

Solution:

$$\frac{(\sqrt{x+4} + \sqrt{x-10})^2}{(x+4) - (x-10)} = \frac{(x+4) + (x-10) + 2\sqrt{(x+4)(x-10)}}{14} = \frac{2x-6 + 2\sqrt{(x+4)(x-10)}}{14}.$$

Set this equal to $\frac{5}{2}$ and clear denominators:

$$2x - 6 + 2\sqrt{(x+4)(x-10)} = 35 \implies \sqrt{(x+4)(x-10)} = \frac{41-2x}{2}.$$

Square both sides (noting $x \geq 10$):

$$(x+4)(x-10) = \frac{(41-2x)^2}{4} \implies x^2 - 6x - 40 = x^2 - 41x + \frac{1681}{4}.$$

Hence $35x = \frac{1841}{4}$, so

$$x = \frac{1841}{140} = \frac{263}{20}.$$

Domain check: $10 \leq x \leq 20.5$ from the radical equation; $x = \frac{263}{20} = 13.15$ is valid.

$$\boxed{\frac{263}{20}}$$

Quick Tip

After expanding $(\sqrt{u} + \sqrt{v})^2$, isolate the radical before squaring. Always check the domain to discard any extraneous root.

69. In a class of 50 students, 23 speak English (E), 15 Hindi (H), 18 Punjabi (P). Only $E \& H = 3$, only $H \& P = 6$, only $E \& P = 6$. If 9 speak only English, how many speak all three languages?

Solution:

Let $x = |E \cap H \cap P|$. Using $|E| = 23$:

$$|E| = \text{only } E + \text{only } (E \& H) + \text{only } (E \& P) + x = 9 + 3 + 6 + x = 18 + x.$$

Thus $23 = 18 + x \Rightarrow x = 5$. (Totals for H and P then give H -only = 1, P -only = 1, consistent.)

$$\boxed{5}$$

Quick Tip

When several “only” region counts are given, use the total of a set (e.g., $|E|$) to solve directly for the triple intersection.

70. If $x = \frac{4ab}{a+b}$, evaluate $\frac{x+2a}{x-2a} + \frac{x+2b}{x-2b}$.

Solution:

Combine over a common denominator:

$$\frac{x+2a}{x-2a} + \frac{x+2b}{x-2b} = \frac{(x+2a)(x-2b) + (x+2b)(x-2a)}{(x-2a)(x-2b)} = \frac{2x^2 - 8ab}{x^2 - 2(a+b)x + 4ab}.$$

Now substitute $x = \frac{4ab}{a+b}$. Then

$$\text{Numerator} = 2(x^2 - 4ab) = -\frac{8ab(a-b)^2}{(a+b)^2},$$

$$\text{Denominator} = x^2 - 2(a+b)x + 4ab = -\frac{4ab(a-b)^2}{(a+b)^2}.$$

Hence the value is

$$\frac{-\frac{8ab(a-b)^2}{(a+b)^2}}{-\frac{4ab(a-b)^2}{(a+b)^2}} = 2.$$

2

Quick Tip

Before substituting values, simplify the algebraic expression—often large cancellations become visible and the substitution becomes trivial.

71. Out of 80 students: $|C| = 25$ (Commerce), $|M| = 15$ (Mathematics), $|P| = 13$ (Physics). Pairwise: $|C \cap M| = 3$, $|M \cap P| = 4$, $|C \cap P| = 2$, and $|C \cap M \cap P| = 1$. How many students are studying none of the three subjects?

Solution:

Step 1: Use inclusion–exclusion to find $|C \cup M \cup P|$.

$$|C \cup M \cup P| = |C| + |M| + |P| - |C \cap M| - |M \cap P| - |C \cap P| + |C \cap M \cap P|.$$

Substitute the given numbers:

$$|C \cup M \cup P| = 25 + 15 + 13 - 3 - 4 - 2 + 1 = 45.$$

Step 2: Subtract from the total to get the count of “none.”

$$\text{None} = 80 - |C \cup M \cup P| = 80 - 45 = 35.$$

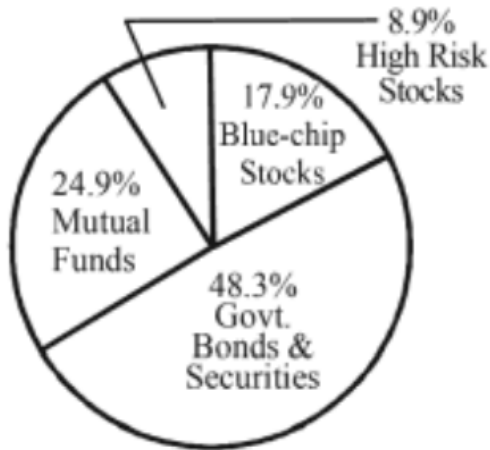
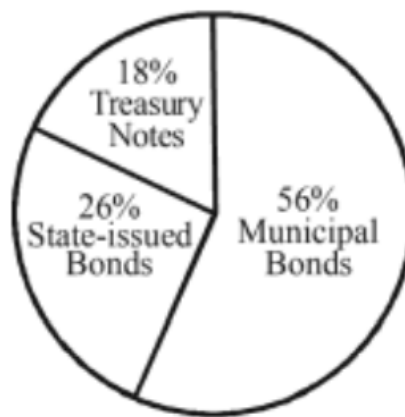
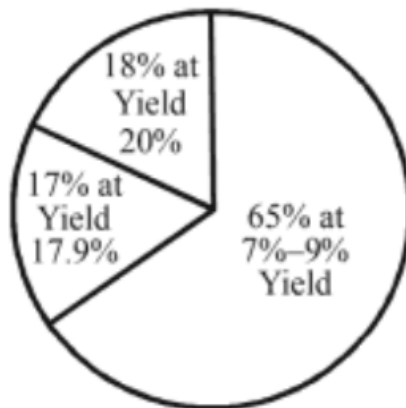
35

Quick Tip

For three sets, memorize $|A \cup B \cup C| = |A| + |B| + |C| - |A \cap B| - |B \cap C| - |C \cap A| + |A \cap B \cap C|$.

“None” is simply total minus the union.

DIRECTIONS (Qs. 72-74): Study the diagrams given below and then answer the questions that follow:

Total Investment Profile**Govt. Bonds & Securities****Municipal Bonds**

72. Approximately, how much money from the total investment of ₹11.5 crore was invested in *State-issued Bonds*?

Solution:

From the pie charts: Government Bonds & Securities constitute about 48% of the total portfolio, and within this, State-issued Bonds are about 25% (approx.).

Step 1: Money in Govt. Bonds & Securities \approx 48% of ₹11.5 crore.

$$|11.5 \times 0.48 \approx |5.52 \text{ crore.}$$

Step 2: State-issued Bonds \approx 25% of the above.

$$|5.52 \times 0.25 \approx |1.38 \text{ crore.}$$

Since 1 crore = 10,000,000, this is

$$\approx 1.387659 \times 10^7 = 13,876,590 \text{ (approximately).}$$

13,876,590 (about 1.39 crore)

Quick Tip

For layered pie charts, multiply the outer share by the inner share and then by the total amount. Convert crores to rupees at the end (1 crore = 10^7).

73. Which of the following earned the least amount of money for the investment portfolio?

- (a) Municipal Bonds
- (b) State issued Bonds
- (c) Government Bonds & Securities
- (d) Cannot be determined from the given information.

74. Which of the following was the greatest?

- (a) The amount invested in Municipal Bonds that yielded between 7% and 9%.
- (b) The amount invested in State-issued Bonds.
- (c) The amount invested in High Risk Stocks.
- (d) The amount invested in Municipal Bonds that yielded over 9%.

ANALYTICAL AND LOGICAL REASONING

75. Royal Bengal Tiger : India :: Snow Leopard : -----

- (a) Sri Lanka
- (b) Pakistan
- (c) Afghanistan

(d) Bangladesh

76. A new species lays exactly 120 eggs out of which 50% are male and 50% are female. The female insect hatch and grow in a span of 20 days to lay eggs by themselves. On 1st April 2018, an insect laid 120 eggs. Find how many eggs will be hatched (approx.) by the end of May 2018?

- (a) 12960
 - (b) 1269000
 - (c) 12690000
 - (d) None of these
-

77. A + B means A is sister of B. A/B means A is son of B. A = B means A is brother of B. A @ B means A is father of B. Which of the following shows M is grandson of P?

- (a) $P = B @ M + N @ S$
 - (b) $L @ M @ N = K / P$
 - (c) $M / T + J = L @ P$
 - (d) $P @ B = S @ M = N$
-

78. India is written as 95491, then Japan is written as

- (a) 11175
 - (b) 11715
 - (c) 11705
 - (d) None of these
-

79. Rahul asked Shyam to find the smallest integer N such that $N! > 10^N$. Shyam says N is between 10–15; Sohan says 16–20; Suresh says 21–25; Sonal says 26–31. Who is correct?

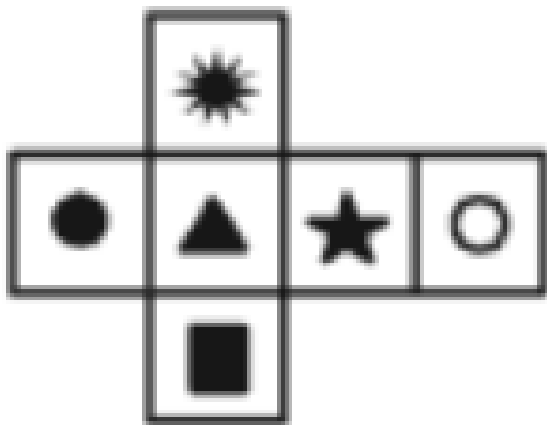
- (a) Rahul

- (b) Suresh
- (c) Shyam
- (d) None of these

80. If 1st June 2013 is Saturday, then 1st June 1981 is

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

81. The following figure is folded to form a cube. Which symbol will appear on the face opposite to \triangle ?



- (a) \square
- (b) \star
- (c) \bullet
- (d) \blacklozenge

82. Find the missing number in the given number table.

6	2	5	4
4	1	3	2
152	7	98	?

- (a) 42
 - (b) 60
 - (c) 56
 - (d) None of these
-

83. Vijay's grandfather has an old Cuckoo clock. It takes 5 seconds for the "Cuckoo clock" to chime 5 Cuckoos. How long will it take to chime 10 Cuckoos?

- (a) 10
 - (b) 11.25
 - (c) 15
 - (d) None of these
-

84. A person wants a house such that all sides of the house face North. He should build the house -----.

- (a) On the South Pole
 - (b) On the equator
 - (c) On the North Pole
 - (d) On the Cancer line
-

85. Find the missing number from the below options.

19	78	20
25	144	47
16	?	13

- (a) 96
 - (b) 76
 - (c) 58
 - (d) 29
-

86. Statement: Since 2018, the bulk of India's population has comprised young working people—much more than the dependent population (children below 5 and people above 65). This trend will continue for the next 55 years.

Courses of Action:

I. There will be a huge increase in the GDP of the country.

II. According to a report by UNFPA, this population will be able to contribute effectively if good health facilities, education and proper infrastructure are provided to the whole population.

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

87. A clock gains 10 minutes a day. The clock was corrected at 6:00 am. What will be the correct time when the clock shows 11:00 am the following day?

- (a) 10:50 AM
 - (b) 10:45 AM
 - (c) 10:48 AM
 - (d) 10:25 AM
-

88. A doctor gives Vishal 3 pills to take with a gap of 30 minutes. What is the minimum time by which Vishal will get rid of his pain?

- (a) 1 hr 30 min
 - (b) 30 min
 - (c) 45 min
 - (d) 60 min
-

89. A mobile manufacturing company: 6 staff members packed 6 mobiles in 6 minutes. The management wants 60 mobiles packed in 60 minutes. How many staff members

are required in total?

- (a) 60
 - (b) 10
 - (c) 6
 - (d) None of these
-

90. Ornithologist : Bird :: Herpetologist : ----

- (a) Reptiles
 - (b) Mammals
 - (c) Fish
 - (d) None of these
-

91. Amar consumed 100 laddoos from Monday to Friday. Each day he consumed 6 more laddoos than the previous day. How many laddoos did he consume on Wednesday?

- (a) 15
 - (b) 20
 - (c) 25
 - (d) None of these
-

92. Find the correct term of the series: 0, 1, 2, 5, 20, 25, ?, 157

- (a) 150
 - (b) 125
 - (c) 130
 - (d) None of these
-

93. Which answer figure will complete the pattern in the question figure?



Answer figures:



(a) (b) (c) (d)

94. Find the correct choice. (The value equals the number of line intersections.)

Given: a grid with 3 vertical and 3 horizontal lines equals 9; a single vertical crossing a single horizontal equals 1; find the value of the last figure.



- (a) 5
- (b) 8
- (c) 4
- (d) None of these

95. Kishore says, “that man’s father is my father’s son”. How is the man related to Kishore?

- (a) Brother
- (b) Son
- (c) Father
- (d) Grand Father

96. How many times does the letter ‘A’ appear from 0 to 100?

- (a) 79
 - (b) 87
 - (c) 68
 - (d) None of these
-

97. Population of Timbaktou (2 years ago) is 125000. Due to natural calamities people started migrating. So, population decreased at the rate of 4% per annum. How many migrated from his town in past 2 years?

- (a) 98000
 - (b) 96000
 - (c) 9600
 - (d) 9800
-

DIRECTIONS (Qs. 98-100): Five movies -Do Bigha Jameen, Sholay, 3 idiots, Chak de, Aanand - screening on Monday to Friday in any order. Movie screened on Friday remains till Sunday. Screening of Do Bigha Jameen and Chak de should not be first and last day. Chak de should be followed by Aanand. Sholay is immediately after Do Bigha Jameen. There is a one movie between Sholay and 3 idiots.

98. Which movie was screened on Friday?

- (a) Chak De
 - (b) Sholay
 - (c) Anand
 - (d) 3 Idiots
-

99. Sholay was screened on which day?

- (a) Tuesday
- (b) Wednesday
- (c) Friday

(d) Monday

100. 3 Idiots was screened on which day?

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

DIRECTIONS (Qs. 101-103): Study the following information carefully and answer the given questions:

Seven cars P, Q, R, S, T, Y, and X are parked in a linear row facing north in such a way that no two cars parked with each other of according to alphabetical order (for ex- P is not parked with Q, Q is not parked with P and R and so on). Some cars either of Petrol or some are Diesel variant. Y is third to the left of P. More than three cars are parked between the petrol cars. T is second to the right of Q. X is a diesel car and parked at one of the extreme end. R is a diesel car and parked forth to the right of S. All the cars are arranged in ascending order according to the distance covered by them from left to right. Car Q covers 37 km and Car R cover 50 km. X is to the right of T. Y is of Diesel variant car and no petrol variant car parked next to it.

101. Which among the following are petrol cars?

- (a) S and T
 - (b) P, Y, Q
 - (c) P and S
 - (d) P, Y, S, Q
-

102. What can be the distance covered by car Y?

- (a) 55 km
- (b) 73 km

- (c) 27 km
 - (d) 41 km
-
-

103. Which among the following cars are parked at the extreme ends?

- (a) S, T
 - (b) X, Q
 - (c) X, S
 - (d) S, Q
-

104. There are nine members in a family: $M, N, O, X, Y, Z, I, J, Q$. Four are females and there are three married couples. M is the paternal uncle of I . J has only two children. O is married to N . X and Y are sons of O ; Y is unmarried. Z is married to J and Z is male. N is the son-in-law of I . How is N 's sister-in-law related to J 's brother-in-law?

- (a) Niece
 - (b) Nephew
 - (c) Son
 - (d) Daughter
-

DIRECTIONS (Qs. 105-107): Study the following information carefully and answer the question given below:

There are six boys i.e. Rahul, Mohit, Vikas, Gopi, Ayush and Aditya who all are of different weight. No two persons have same weight. Only two persons are lighter than Rahul. Mohit is heavier than Rahul but lighter than Vikas and Gopi. Aditya is heavier than Ayush but lighter than Gopi. Gopi is not the heaviest. The weight of 2nd heaviest person is 230 kg and the weight of lightest is 128 kg.

105. How many persons are heavier than Rahul?

- (a) One

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

106. If the sum of weights of Ayush and Rahul is 262 and the sum of weights of Gopi and Mohit is 426, then what is the sum of weights of Rahul and Mohit?

- (a) 343
 - (b) 340
 - (c) 330
 - (d) 300
-

107. Which among the following persons is the 3rd heaviest?

- (a) Rahul
 - (b) Mohit
 - (c) Vikas
 - (d) Gopi
-

DIRECTIONS (Qs. 108-110): Study the following information carefully and answer the questions given below:

Nine persons are sitting in a row. Some of them are facing North and some are facing South. C sits 2nd from one of the extreme ends. Two persons sit between C and D. M sits 3rd to the left of D. N sits 2nd to the right of M. Immediate neighbors of M faces opposite to M. O sits 2nd to the right of N. P is an immediate neighbor of O. Persons sitting in an extreme end are facing opposite direction to each other. C sits 2nd to the right of O and C doesn't face North. Q sits 2nd to the left of B. A doesn't face south.

108. How many persons are sitting between C and M?

- (a) Two
- (b) Three

- (c) Five
 - (d) Four
-

109. Who among the following pair of persons are sitting at extreme ends?

- (a) M-B
 - (b) B-A
 - (c) C-P
 - (d) C-A
-

110. How many persons are facing South?

- (a) Two
 - (b) Three
 - (c) Four
 - (d) Five
-