

# Previous Years Paper

5<sup>th</sup> June 2023 (Shift - 1)

- Q1.** A sum of ₹ 5100 is divided amongst A, B and C, such that the ratio of shares of A and B is 1 : 2 that of B and C is 3 : 4. Find the sum of the shares of A and B.

(a) ₹ 3400  
(b) ₹ 3060  
(c) ₹ 2880  
(d) ₹ 2700

- Q2.** Mirror image of D L 9 C G 4 7 2 8:

(a) 8 5 7 4 9 7 2 8  
(b) 8 5 7 4 9 7 2 8  
(c) 8 5 7 4 9 7 2 8  
(d) 8 5 7 4 9 7 2 8

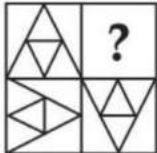
- Q3.** Wrong number in the given series is:

7, 28, 63, 124, 215, 342, 511  
(a) 215  
(b) 124  
(c) 28  
(d) 7

- Q4.** China does not share its boundary with which Indian State?

(a) Arunachal Pradesh  
(b) Sikkim  
(c) Bihar  
(d) Jammu & Kashmir

- Q5.**



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

- Q6.** A box  $(12 + x)$  red balls and  $(18 + x)$  green balls. A ball is drawn at random and is found to be red. If the probability of drawn ball is  $\frac{5}{12}$ , then find the value of  $x$ .

(a) 4  
(b) 3  
(c) 2  
(d) 5

- Q7.** Which one of the following will be same as its mirror image?

(a) WYTOTYW  
(b) WYOTTZW  
(c) WYOTTWZ  
(d) WYTOTWZ

- Q8.** In a given number 1234567891, we interchange the first and the second digits, the third and the fourth digit and so on. Then which digit will be sixth from the right?

(a) 2  
(b) 4  
(c) 7  
(d) 6

- Q9.** Who said "Swaraj is my birthright and I shall have it"?

(a) Jawahar Lal Nehru  
(b) Mahatma Gandhi  
(c) Lala Lajpat Rai  
(d) Bal Gangadhar Tilak

- Q10.** Given that:

(A) P is the brother of Q  
(B) R is the father of P  
(C) S is the brother of T  
(D) T is the daughter of Q  
Who is the uncle of S?

Choose the Correct answer from the options given below:

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

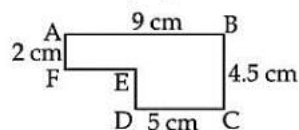
- Q11.** Rome (Italy) is situated on \_\_\_\_\_ river.

(a) Tiber  
(b) Vistula  
(c) Thames  
(d) Seine

- Q12.** An exterior angle of a regular polygon is  $24^\circ$ . How many sides will the polygon have?

(a) 12  
(b) 10  
(c) 15  
(d) 16

- Q13.** Find the area (in  $cm^2$ ) of the figure ABCDEF when all its sides are perpendicular to their adjacent sides.



(a) 28.5  
(b) 30

- (c) 30.5  
(d) 33

**Q14.** In a Geometric Progression, if the product of the first three terms is  $\frac{27}{8}$ , then its second term is:

- (a)  $\frac{3}{2}$   
(b)  $\frac{9}{4}$   
(c)  $\frac{9}{2}$   
(d) 1

**Q15.** If 30 ml solution of 20% alcohol is mixed with 20 ml solution of 25% alcohol, then what is the strength of alcohol in the mixture?

- (a) 23%  
(b) 21.5%  
(c) 22%  
(d) 22.5%

**Q16.** Given below are two statements: one is labelled as Assertion (A) and the other is labelled as Reason (R).  
Assertion (A): DDT has nowadays lost its use as an Insecticide.

Reason (R): DDT is harmful to man.

In the light of the above statements, choose the most appropriate answer from the options given below:

- (a) Both (A) and (R) are correct and (R) is the correct explanation of (A)  
(b) Both (A) and (R) are correct but (R) is not the correct explanation of (A)  
(c) (A) is correct but (R) is not correct  
(d) (A) is not correct but (R) is correct

**Q17.** Mahatma Buddha was born at \_\_\_\_\_.

- (a) Vaishali  
(b) Kapilvastu  
(c) Lumbini  
(d) Patliputra

**Q18.** Which Fundamental Right can be described as the soul and heart of the Constitution?

- (a) Right to Equality  
(b) Right against exploitation  
(c) Right of Freedom  
(d) Rights to Constitutional Remedies

**Q19.** On dividing a number by 38, we get 90 quotient and 19 as remainder. What is the number?

- (a) 3439  
(b) 3401  
(c) 3382  
(d) 3458

**Q20.** ISRO launched a digital platform on August 12, 2022. This platform is known as:

- (a) SAMARTH  
(b) SARTHAK  
(c) SPARK  
(d) INSAT

**Q21.** The average of five consecutive natural numbers is 13. If next two natural numbers are also included, then find the new average.

- (a) 13  
(b) 13.5  
(c) 16

- (d) 13.75

**Q22.** If a man starts at 7 a.m. at  $\frac{5}{4}$  of his usual speed, he reaches office 30 minutes early than usual. So, with a new speed at what time he reached his office?

- (a) 9: 30 a.m.  
(b) 10 a.m.  
(c) 9 a.m.  
(d) 8: 25 a.m.

**Q23.** On compound interest, a certain sum amounts to ₹ 7350 in 2 years and to ₹ 8575 in 3 years. Find the rate of interest.

- (a)  $\frac{25}{3}\%$   
(b)  $\frac{50}{3}\%$   
(c) 25%  
(d) 33%

**Q24.** The word 'Cell' was first coined by Robert Hook in \_\_\_\_\_.

- (a) 1665  
(b) 1838  
(c) 1839  
(d) 1668

**Q25.** Quantum theory was discovered by:

- (a) Marconi  
(b) Albert Einstein  
(c) Max Plank  
(d) James Chadwick

**Q26.** Match List – I with List – II.

| List – I   |                             | List – II      |                                     |
|------------|-----------------------------|----------------|-------------------------------------|
| Committees |                             | Report/Subject |                                     |
| (A)        | Balwant Rai Mehta committee | (I)            | Working of Panchayats               |
| (B)        | Ashok Mehta Committee       | (II)           | Panchayati Raj                      |
| (C)        | Hanumanth Rao Committee     | (III)          | Constitutional status of Panchayats |
| (D)        | L.M. Singhvi Committee      | (IV)           | Direct level Planning               |

Choose the correct answer from the options given below:

- (a) (A)-(I), (B)-(II), (C)-(III), (D)-(IV)  
(b) (A)-(II), (B)-(I), (C)-(IV), (D)-(III)  
(c) (A)-(I), (B)-(IV), (C)-(III), (D)-(II)  
(d) (A)-(III), (B)-(IV), (C)-(I), (D)-(II)

**Q27.** In certain system of coding the word STATEMENT is written as TNEMETATS. In the same way coding, the code for the word "POLITICAL"?

- (a) LACITLOP  
(b) LCATILIOPL  
(c) OPILITACL  
(d) OPILATACL

**Q28.** A can do a work in 12 days. B's efficiency to do the work is 50% more than that of A. In how many days will B be able to do the work?

- (a) 8  
(b) 10

- (c) 5  
(d) 11

**Q29.** An ice cream is in the form of a cone surmounted by a hemisphere. If the base radius of the cone is 3.5 cm and height of the ice cream is 10 cm, then find the volume of the ice cream (in  $\text{cm}^3$ ).

$$\left(\pi = \frac{22}{7}\right)$$

- (a) 186.92  
(b) 109.08  
(c) 173.25  
(d) 218.16

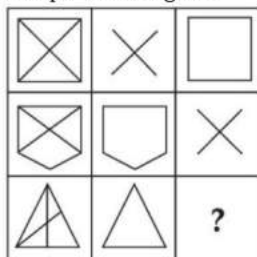
**Q30.** Fractions  $\frac{3}{4}, \frac{2}{3}, \frac{5}{6}, \frac{11}{18}$ , when written in descending order are:

- (a)  $\frac{11}{18}, \frac{2}{3}, \frac{5}{6}, \frac{3}{4}$   
(b)  $\frac{5}{6}, \frac{2}{3}, \frac{3}{4}, \frac{11}{18}$   
(c)  $\frac{2}{3}, \frac{5}{6}, \frac{3}{4}, \frac{11}{18}$   
(d)  $\frac{5}{6}, \frac{3}{4}, \frac{2}{3}, \frac{11}{18}$

**Q31.** If point (x, y) is equidistant from the points (7, 1) and (3, 5), then which one of the following options is correct?

- (a)  $x - y = 2$   
(b)  $x + y = 2$   
(c)  $x - y = 1$   
(d)  $x - y = -2$

**Q32.** Complete the figure:



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

**Q33.** Milk always contains:

- (a) Water  
(b) Calcium  
(c) Fats  
(d) Sugar

**Q34.** Match List - I with List - II.

| List - I                     |                           | List - II |            |
|------------------------------|---------------------------|-----------|------------|
| (UNESCO Word Heritage Sites) |                           | (State)   |            |
| (A)                          | Mahabalipuram Temple      | (I)       | Karnataka  |
| (B)                          | Manas Wild Life Sanctuary | (II)      | Tamil Nadu |

|     |                               |       |        |
|-----|-------------------------------|-------|--------|
| (C) | Monuments of Hampi            | (III) | Sikkim |
| (D) | Khangchendzonga National Park | (IV)  | Assam  |

Choose the correct answer from the options given below:

- (a) (A)-(II), (B)-(IV), (C)-(III), (D)-(I)  
(b) (A)-(II), (B)-(IV), (C)-(I), (D)-(III)  
(c) (A)-(III), (B)-(II), (C)-(IV), (D)-(I)  
(d) (A)-(IV), (B)-(II), (C)-(I), (D)-(III)

**Q35.** Five students are standing in a circle and all are facing towards the centre of circle. Apurva is on left of Abhishek. Alok is on the left of Apurva. Abinav is b/w Alok and Ankur. Who is sitting next to Abhinav on his immediate Right.

- (a) Alok  
(b) Abhishek  
(c) Apurva  
(d) Ankur

**Q36.** The value of  $\frac{(4.2)^3}{(2.1)^2}$  is:

- (a) 2  
(b) 8  
(c) 16.8  
(d) 19.4

**Q37.** Ministry of Social Justice and Empowerment decided to observe "Constitution Day" on \_\_\_\_\_.

- (a) 26<sup>th</sup> November  
(b) 26<sup>th</sup> December  
(c) 16<sup>th</sup> November  
(d) 16<sup>th</sup> December

**Q38.** If Republic Day of India in 1980 falls on Saturday. Mohan was born on 3<sup>rd</sup> March 1980 and Sohan is 4 days older to Mohan, then Sohan's birthday falls on:

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

**Q39.** Which scientist is known as "Birdman of India"?

- (a) Salim Ali  
(b) Gulam Ali  
(c) Noshad Ali  
(d) J.C. Bose

**Q40. Statements:**

- (I) Some books are eraser.  
(II) Some erasers are black.  
(III) No black is green

**Conclusions:**

- (I) Some books are green.  
(II) All erasers are green.

Which of the following conclusions can be definitely drawn from the statements given in the options?

- (a) Only (I) follows  
(b) Neither (I) nor (II) follows  
(c) Only (II) follows  
(d) Either (I) or (II) follows

**Q41.** The cost of 5 kg apples and 3 kg oranges is ₹ 535. If the cost of 8 kg apples and 6 kg oranges is ₹ 910, then what is the cost of 2 kg apples and 8 kg oranges?

- (a) ₹ 803  
(b) ₹ 680  
(c) ₹ 520  
(d) ₹ 650

Q42. Match List – I with List – II

| List – I |                | List – II |           |
|----------|----------------|-----------|-----------|
| Players  |                | Games     |           |
| (A)      | Dhanraj Pillay | (I)       | Shooting  |
| (B)      | P.V. Sindhu    | (II)      | Wrestling |
| (C)      | Gagan Narang   | (III)     | Badminton |
| (D)      | Geeta Phogat   | (IV)      | Hockey    |

Choose the correct answer from the options given below:

- (a) (A)-(III), (B)-(I), (C)-(II), (D)-(IV)  
(b) (A)-(IV), (B)-(III), (C)-(I), (D)-(II)  
(c) (A)-(IV), (B)-(III), (C)-(II), (D)-(I)  
(d) (A)-(III), (B)-(IV), (C)-(I), (D)-(II)

Q43. At what time between 5 and 6 O' clock are the hands of a Clock coincides?

- (a)  $27\frac{3}{11}$  min past 5  
(b)  $22\frac{8}{11}$  min past 4  
(c) 30 min past 5  
(d) 22 min past 4

Q44. Who did the partition of Bengal in 1905?

- (a) Lord Mount Batten  
(b) Lord Curzon  
(c) Lord Wavell  
(d) Lord Simon

Q45. Match List – I with List – II.

| List – I           |                   | List – II               |                                   |
|--------------------|-------------------|-------------------------|-----------------------------------|
| Name of Revolution |                   | Field of the Revolution |                                   |
| (A)                | Green Revolution  | (I)                     | Fruits production in horticulture |
| (B)                | Blue Revolution   | (II)                    | Agriculture                       |
| (C)                | Golden Revolution | (III)                   | Egg production                    |
| (D)                | Silver Revolution | (IV)                    | Fish production                   |

Choose the correct answer from the options given below:

- (a) (A)-(II), (B)-(IV), (C)-(III), (D)-(I)  
(b) (A)-(II), (B)-(IV), (C)-(I), (D)-(III)  
(c) (A)-(II), (B)-(I), (C)-(III), (D)-(IV)  
(d) (A)-(III), (B)-(II), (C)-(IV), (D)-(I)

Q46. If x and y vary inversely to each other and  $x = 7$  when  $y = 12$ , then find y when  $x = 21$ .

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

Q47. Find the correct relationships:

- (A) Jaundice - Bones  
(B) Jaundice - Liver  
(C) Dengue - Lungs  
(D) Rickets - Bones  
(E) Tuberculosis - Bones

Choose the correct answer from the options given below:

- (a) (A), (B) and (D) only  
(b) (B) and (D) only  
(c) (B), (D) and (E) only  
(d) (C), (B) and (D) only

Q48. Which of the following is/are incorrect?

- (A)  $\sin 0^\circ = 0$   
(B)  $\tan 0^\circ = 0$   
(C)  $\operatorname{cosec} 0^\circ = 0$   
(D)  $\sec 0^\circ = 0$

Choose the correct answer from the options given below:

- (a) (A) and (B) only  
(b) (A), (C) and (D) only  
(c) (D) and (E) only  
(d) (C), (D) and (E) only

Q49. Who is the father of Indian Archaeology?

- (a) James Burgess  
(b) Sir John Marshall  
(c) Sir Alexander Cunningham  
(d) Carl Ortwin Sauer

Q50. The author of the book "The Story of My experiments with Truth" is \_\_\_\_\_.

- (a) Mahatma Gandhi  
(b) Rabindra Nath Tagore  
(c) Chetan Bhagat  
(d) Salman Rushdie

Q51. How many such pairs of distinct letters are there in the word 'CHANNEL', which have as many letters between them in the word as in the English alphabet?

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

Q52. Find the mean of the following frequency distribution:

|           |   |   |   |   |   |
|-----------|---|---|---|---|---|
| Scores    | 5 | 6 | 7 | 8 | 9 |
| Frequency | 2 | 1 | 3 | 2 | 2 |

- (a) 7  
(b) 9  
(c) 7.1  
(d) 7.9

Q53. You go north, then turn right, then right again and then go to the left. In which direction are you now?

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

Q54.  $E : 130 :: I : 2$

Choose the correct option for the missing term.

- (a) 729  
(b) 734  
(c) 738  
(d) 758

Q55. Quit India resolution was passed by the Indian National Congress in its \_\_\_\_\_ session.

- (a) Bombay  
(b) Lahore

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>(c) Calcutta<br/>(d) Lucknow</p> <p><b>Q56.</b> In a right triangle, length of the hypotenuse is 17 cm. If length of its one side is 15 cm, then the area of the triangle is:<br/>(a) <math>127.5 \text{ cm}^2</math><br/>(b) <math>122.5 \text{ cm}^2</math><br/>(c) <math>60 \text{ cm}^2</math><br/>(d) <math>66.5 \text{ cm}^2</math></p> <p><b>Q57.</b> In which state prime minister Narendra Modi inaugurated 'Jal Jan Abhiyan'?<br/>(a) Rajasthan<br/>(b) Jharkhand<br/>(c) Himachal Pradesh<br/>(d) Bihar</p> <p><b>Q58.</b> How many daughters does D have?<br/>Statement (I): B and F are sister of A.<br/>Statement (II): C is the brother of A and F.<br/>Statement (III): C and E are sons of D.<br/>Choose the correct option to decide whether the data provided in the statements are sufficient to answer the question:<br/>(a) I alone is Sufficient<br/>(b) I &amp; II together are Sufficient<br/>(c) II &amp; III together are Sufficient</p> | <p>(d) All the statements together are not sufficient</p> <p><b>Q59.</b> Which are the correct examples of Newton's 3<sup>rd</sup> law motion?<br/>(A) Recoil of a gun<br/>(B) Running horse stops suddenly, the rider bends forward<br/>(C) Motion of rocket<br/>(D) It gives the definition of force<br/>(E) Swimming<br/>Choose the correct answer from the options given below:<br/>(a) (A), (B) and (C) only<br/>(b) (A), (C) and (E) only<br/>(c) (B), (C) and (D) only<br/>(d) (C), (D) and (E) only</p> <p><b>Q60.</b> P sold an item for ₹ 70 and earned 100% profit. What should be the selling price of the item to earn 150% profit?<br/>(a) ₹ 105<br/>(b) ₹ 52.50<br/>(c) ₹ 87.50<br/>(d) ₹ 150</p> |
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## SOLUTIONS

**S1. Ans. (d)**

**Sol.** Total sum of money = Rs. 5100

The ratio of the share of A and B = 1 : 2

The ratio of the share of B and C = 3 : 4

Ratio of A and B =  $(1 : 2) \times 3 = 3 : 6$

Ratio of B and C =  $(3 : 4) \times 2 = 6 : 8$

Ratio of A, B and C = 3 : 6 : 8

Total Sum =  $3x + 6x + 8x$

$5100 = 17x$

$x = 300$

Sum of the shares of A and B = ₹ 2700

**S2. Ans. (a)**

**Sol.** 8 5 7 4 3 2 1 6

**S3. Ans. (c)**

**Sol.** The pattern is  $2^3 - 1, 3^3 - 1, 4^3 - 1, \dots$

So, wrong term =  $28 = 3^3 + 1$ .

**S4. Ans. (c)**

**Sol.** China does not share its boundary with the Indian state of Bihar.

**S5. Ans. (a)**

**Sol.**



**S6. Ans. (b)**

**Sol.** Given, Probability of drawn ball =  $\frac{5}{12}$

Given, A ball is drawn at random and is found to be red then,

$$\frac{5}{12} = \frac{(12 + x)}{(12 + x) + (18 + x)}$$

$x = 3$

**S7. Ans. (a)**

**Sol.** 'WYTOTYW' will be same as its mirror image.

**S8. Ans. (d)**

**Sol.** Actual Number: 1234567891

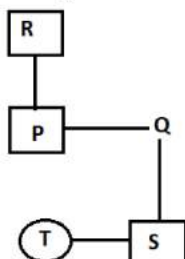
Number after interchange: 2143658791, so '6' will be sixth from right.

**S9. Ans. (d)**

**Sol.** Bal Gangadhar Tilak was a prominent Indian nationalist leader who is credited with popularizing the slogan "Swaraj is my birthright and I will have it."

**S10. Ans. (a)**

**Sol.** Clearly P is Uncle of S.



**S11. Ans. (a)**

**Sol.** Rome, Italy is situated on the Tiber River.

**S12. Ans. (c)**

**Sol.** If an exterior angle of a regular polygon measures  $24^\circ$ , the polygon has 15 sides.

**S13. Ans. (c)**

**Sol.** Area of ABCDEF =  $(9 \times 4.5) - (4 \times 2.5) = 40.5 - 10 = 30.5 \text{ cm}^2$

**S14. Ans. (a)**

**Sol.** Let the 3 terms of GP be  $\frac{a}{r}, a, ar$

Product of these terms =  $\frac{a}{r} \times a \times ar = a^3$

$$\text{ATQ, } a^3 = \frac{27}{8}$$

$$a = \frac{3}{2}$$

Then, second term =  $\frac{3}{2}$

**S15. Ans. (c)**

**Sol.** Quantity of alcohol in 30 ml solution = 20% of 30 ml = 6 ml

Quantity of alcohol in 20 ml solution = 25% of 20 ml = 5 ml

Percentage of alcohol in the mixture =  $\frac{6+5}{(30+20)} \times 100 = 22\%$

**S16. Ans. (b)**

**Sol.** Both (A) and (R) are correct but (R) is not the correct explanation of (A).

**S17. Ans. (c)**

**Sol.** Lumbini is a UNESCO World Heritage Site located in the Terai plains of southern Nepal. It is the birthplace of Siddhartha Gautama, who later became the Buddha.

**S18. Ans. (d)**

**Sol.** The Fundamental Right that can be described as the "heart and soul" of the Constitution of India is the "Right to Constitutional Remedies." This right, guaranteed under Article 32 of the Indian Constitution, enables citizens to seek legal remedies and enforcement of their other fundamental rights through the Supreme Court of India. It is considered crucial for the protection and enforcement of all other fundamental rights, making it the cornerstone of the Constitution.

**S19. Ans. (a)**

**Sol.** Let the number be x

We know,  $x = \text{Divisor} \times \text{Quotient} + R$

$$x = 38 \times 90 + 19$$

$$x = 3439$$

**S20. Ans. (c)**

**Sol.** ISRO launched a digital platform on August 12, 2022 called SPARK, which stands for Space Exploration and Research Platform. It is a virtual space museum that showcases various ISRO missions with an interactive interface.

**S21. Ans. (c)**

**Sol.** We know,  $\text{Total} = \text{Average} \times \text{Number of entities}$

ATQ,  $n + (n + 1) + (n + 2) + (n + 3) + (n + 4) = 5 \times 13$   
 $5n + 10 = 65$   
 $n = \frac{65}{5} = 13$   
Sum of the seven numbers =  $7n + 21 = 7 \times 13 + 21 = 112$   
Average of the seven numbers =  $\frac{112}{7} = 16$

**S22. Ans. (c)**

**Sol.** Time is inversely proportion to speed.  
Let usual speed of the person be  $4x$   
Speed of the person after decreasing =  $5x$   
Ratio of usual speed to the after decreasing =  $4x : 5x$   
Ratio of usual time to after decreasing =  $5x : 4x$   
 $5x - 4x = 30$   
 $x = 30$   
Then  $4x = 120 \text{ min}$   
New time when the person reaches the office = 9 am

**S23. Ans. (b)**

**Sol.** SI on Rs. 7350 for 1 year = Rs.  $(8575 - 7350) = \text{Rs. } 1225$   
Rate =  $\frac{100 \times 1225}{7350 \times 1} \% = \frac{50}{3} \%$

**S24. Ans. (a)**

**Sol.** The word "cell" was first coined by Robert Hooke in the year 1665.

**S25. Ans. (c)**

**Sol.** Max Planck is considered the father of quantum theory.

**S26. Ans. (b)**

**Sol.** (A)-(II), (B)-(I), (C)-(IV), (D)-(III)

**S27. Ans. (a)**

**Sol.** The letters are reversed to obtain the code. So, code for 'POLITICAL' will be 'LACITILOP'.

**S28. Ans. (a)**

**Sol.** We know, Total work = Efficiency \* Num of days to finish the work  
Efficiency ratio of A and B (A : B) =  $100 : 150 = 2 : 3$   
Let A's efficiency =  $2s$  then B's efficiency =  $3a$   
Now, total work done by A =  $2a \times 12 = 24a$   
Same work done by B in =  $24a/3a = 8$  days  
B alone will take 8 days to complete the same work.

**S29. Ans. (c)**

**Sol.** Radius of cone = Radius of hemisphere  
Given,  $r = 3.5$  and Total height = 10 cm  
Height of conical shape =  $10 - 3.5 = 6.5$  cm  
Volume of ice cream in the cone = volume of conical part + volume of hemisphere  
 $= \frac{1}{3} \pi r^2 h + \frac{2}{3} \pi r^3$   
 $= \frac{1}{3} \pi r^2 (h + 2r)$   
 $= \frac{1}{3} \times \frac{22}{7} \times (3.5)^2 (6.5 + 7)$   
Volume of ice cream =  $173.25 \text{ cm}^3$

**S30. Ans. (d)**

**Sol.**  $\frac{5}{6}, \frac{3}{4}, \frac{2}{3}, \frac{11}{18}$

**S31. Ans. (a)**

**Sol.** Using distance formula

$$\sqrt{(x-7)^2 + (y-1)^2} = \sqrt{(x-3)^2 + (y-5)^2}$$

$$-14x + 49 - 2y + 1 = -6x + 9 - 10y + 25$$

$$8x - 8y = 16$$

$$x - y = 2$$

**S32. Ans. (d)**

**Sol.**



**S33. Ans. (b)**

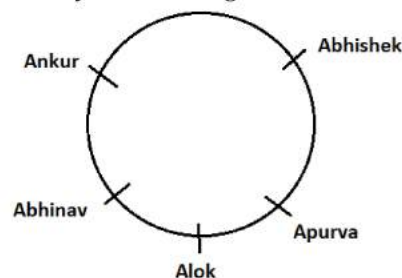
**Sol.** Milk always contains calcium.

**S34. Ans. (b)**

**Sol.** (A)-(II), (B)-(IV), (C)-(I), (D)-(III)

**S35. Ans. (a)**

**Sol.** Clearly Alok is sitting to immediate right of Abhinav.



**S36. Ans. (c)**

**Sol.** 16.8

**S37. Ans. (a)**

**Sol.** The Ministry of Social Justice and Empowerment on 19th November 2015 notified the decision of Government of India to celebrate the 26th day of November every year as 'Constitution Day' to promote Constitution values among citizens.

**S38. Ans. (b)**

**Sol.** Republic Day i.e., 26th January of 1980 falls on Saturday.

Mohan was born on March 3, 1980.

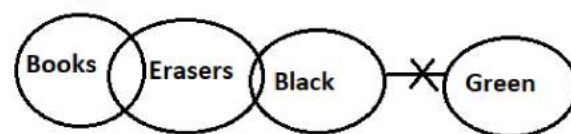
Sohan is older to Mohan by 4 days, so Sohan was born 4 days before March 3, 1980. As 1980 is a leap year, there are 29 days in February. So, Y was born on 28th February.

No. of days between 26th January to 28th February is 33. And 33 when divided by 7, we get 5 as remainder. 5 days after Saturday is Thursday. So, 28th February, the day Sohan was born falls on Thursday.

**S39. Ans. (a)**

**Sol.** The scientist known as the "Birdman of India" is Salim Ali. He was a prominent Indian ornithologist and naturalist known for his extensive work in the field of ornithology and bird conservation.

**S40. Ans. (b)**



**S41. Ans. (c)**

**Sol.** Let the cost of an orange = Rs.  $x$   
And cost of an apple = Rs.  $y$   
ATQ,  $5x + 3y = 535$   
And  $8x + 6y = 910$   
 $4x + 3y = 455$   
By solving both equations, we get  $x = 40$  and  $y = 35$   
The cost of 2 kg apples and 8 kg oranges = ₹ 520

**S42. Ans. (b)**

**Sol.** (A)-(IV), (B)-(III), (C)-(I), (D)-(II)

**S43. Ans. (a)**

**Sol.** The angle between the hour hand and minutes hand  
 $\theta = (30H - 11M/2)$   
 $H = 5$  and angle =  $0^\circ$   
When minute & hour hands coincide, then  $\theta$   
 $\Rightarrow 0 = 30 \times 5 - 11M/2$   
 $\Rightarrow 0 = 150 - 11M/2$   
 $\Rightarrow 150 = 11M/2$   
 $\Rightarrow 300 = 11M$   
 $\Rightarrow M = \frac{300}{11}$   
 $\Rightarrow M = 27 \frac{3}{11}$  Minutes  
The correct answer is  $27 \frac{3}{11}$  minutes past 5.

**S44. Ans. (b)**

**Sol.** Lord Curzon, the Viceroy of India from 1899 to 1905, partitioned Bengal in 1905.

**S45. Ans. (b)**

**Sol.** (A)-(II), (B)-(IV), (C)-(I), (D)-(III)

**S46. Ans. (b)**

**Sol.**  $7 \times 12 = 21 \times y$   
 $y = 4$

**S47. Ans. (b)**

**Sol.** Only (B) and (D) are the correctly mentioned pairs

**S48. Ans. (d)**

**Sol.** (C), (D) and (E) only

**S49. Ans. (c)**

**Sol.** Sir Alexander Cunningham is known as the father of Indian archaeology. He was the first Director-General of the Archaeological Survey of India (ASI), which was founded in 1861.

**S50. Ans. (a)**

**Sol.** Mahatma Gandhi was the author of the book "The Story of My Experiments with Truth".

**S51. Ans. (b)**

**Sol.** So, such Pairs are AC and LN.

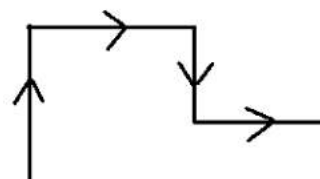
## CHANNEL

**S52. Ans. (c)**

**Sol.**  $n = 2 + 1 + 3 + 2 + 2 = 10$   
Total =  $(5 \times 2) + (6 \times 1) + (7 \times 3) + (8 \times 2) + (9 \times 2) = 71$   
Mean =  $\frac{71}{10} = 7.1$

**S53. Ans. (c)**

**Sol.** Clearly now the person is going towards East direction.



Starting Point

**S54. Ans. (c)**

**Sol.** Place Value of E = 5  
The relationship is  $x: (x^3 + x)$ .  
So missing term =  $9^3 + 9 = 738$

**S55. Ans. (a)**

**Sol.** Quit India resolution was passed by the Indian National Congress in its Bombay session.

**S56. Ans. (c)**

**Sol.** Height =  $\sqrt{17^2 - 8^2} = 15$  cm  
Area of right angles triangle =  $\frac{1}{2} \times b \times h = 60$  cm<sup>2</sup>

**S57. Ans. (a)**

**Sol.** Prime Minister Narendra Modi inaugurated the 'Jal Jan Abhiyan' in Rajasthan on February 16, 2023.

**S58. Ans. (d)**

**Sol.** Statement I alone is not sufficient, as no information is given related to D.  
Statement II alone is not sufficient, as no information is given related to D.  
Statement III alone is not sufficient, as no information is given related to daughters of D.  
If we combine all the three statements, it is not possible to determine how many daughters D have. Therefore, all the statements together are not sufficient.

**S59. Ans. (b)**

**Sol.** (A), (C) and (E) only are correct.

**S60. Ans. (c)**

**Sol.** Selling price should be ₹ 87.50 to earn 150% profit.