

Previous Years Paper

9th June 2023 (Shift - 2)

- Q1.** In a 40 litre mixture of milk and water, the ratio of milk to water is 3 : 1. How much water (in litres) should be added to make this ratio 2 : 3 ?
(a) 30
(b) 45
(c) 35
(d) 40
- Q2.** The average of five consecutive natural numbers is 50. What is the product of the smallest and the largest of the numbers?
(a) 2496
(b) 2560
(c) 3200
(d) 1800
- Q3.** The Malacca Strait located between Indonesia-Malaysia joins Andaman Sea to:
(a) Bay of Bengal
(b) Tasman Sea
(c) South China Sea
(d) Red Sea
- Q4.** What will be the area of a right-angled triangle whose hypotenuse is 10 cm and base is 6 cm?
(a) 60 sq cm
(b) 24 sq cm
(c) 48 sq cm
(d) 30 sq cm
- Q5.** ₹2000 amounts to ₹2226.05 in 2 years on compound interest. What is the rate of interest per annum?
(a) 5%
(b) 5.25%
(c) 5.5%
(d) 6%
- Q6.** A, B and C started a business on partnership by investing ₹29000, ₹50,000 and ₹65,000 respectively. After 8 months, A invested ₹24,000 more while C withdrew ₹15,000. If profit earned at the end of the year is ₹1,04,000, then find the share of C in the profit.
(a) ₹38,000
(b) ₹38,850
(c) ₹39,200
(d) ₹39,000
- Q7.** Find the next term in the alpha numeric series:
2 CV, 3 FU, 5 IT, 7 LS, ____?
(a) 11 PR
(b) 11 OR
(c) 13 OR
(d) 8 OR
- Q8.** What is the scientific name of Banana?
(a) Solanum tuberosus
(b) Zea Mays
(c) Musa Paradisicum
(d) Oryza Sativa
- Q9.** At what time between 8 and 9 O' clock the hands of a clock coincide?
(a) $42\frac{7}{11}$ min past 8
(b) $43\frac{7}{11}$ min past 8
(c) 40 min past 8
(d) $45\frac{7}{11}$ min past 8
- Q10.** Numbers from 3 to 51 are placed in a box. If a number is drawn from it, find the probability that the number drawn is a perfect cube.
(a) $\frac{5}{47}$
(b) $\frac{1}{17}$
(c) $\frac{11}{50}$
(d) $\frac{2}{49}$
- Q11.** If in a certain language, PUBLIC is coded as KFYORX, then how is 'SERVANT' coded in that language?
(a) HIVEZGM
(b) GMZEVH
(c) HVIEZMG
(d) HIVZEGM
- Q12.** Phonograph is used for _____.
(a) producing sound
(b) making calls
(c) producing γ-rays
(d) producing X-rays
- Q13.** India's First Deputy Prime Minister was:
(a) Morarji Desai
(b) Devi Lal
(c) Charan Singh
(d) Sardar Vallabhbhai Patel
- Q14.** Read the following information carefully and give the answer:
A, B, C are honest.
A, D, E are intelligent.
D, C, and E are hard working.
A, B and E are actors.
Which of the following persons is neither honest nor Actor?
(a) A
(b) B
(c) C
(d) D
- Q15.** Angle of elevation of the top of a building from a point P on the horizontal is 30°. If the point P is 48 m away from the foot of the building, then what is the height of the building?
(a) $48\sqrt{3}$ m
(b) $32\sqrt{3}$ m

- (c) $16\sqrt{3}$ m
(d) $28\sqrt{3}$ m

Q16. Five Girls are sitting in a row, Rashi, in not adjacent to Sulekha or Abha, Anuradha is not adjacent to Sulekha, Rashi is adjacent to Manika, Manika is at the middle in the row. Then Anuradha is adjacent to whom out the following?

- (a) Rashi
(b) Sulekha
(c) Abha
(d) Manika

Q17. Wular lake is situated in which place?

- (a) Rajasthan
(b) Jammu & Kashmir
(c) Himachal Pradesh
(d) Odisha

Q18. What is the smallest five-digit number which is when divided by 7, 11 and 21 leaves a remainder 3 in each case?

- (a) 10019
(b) 10001
(c) 10111
(d) 10167

Q19. Who gave the slogan "Satyameva Jayate"?

- (a) Pt. Madan Mohan Malviya
(b) Bal Gangadhar Tilak
(c) Lala Lajpat Rai
(d) Mahatma Gandhi

Q20. Match List-I with List-II:

List-I		List-II	
(A)	Sitar	(I)	Light energy into electric energy
(B)	Photocell	(II)	Chemical energy into electrical energy
(C)	Battery	(III)	Electrical energy into sound energy
(D)	Loudspeaker	(IV)	Mechanical energy into sound energy

Choose the **most appropriate** answer from the options given below:

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

Q21. I am facing West. I turn 100° in the anticlockwise direction and then 145° in the clockwise direction. Which direction am I facing now?

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

Q22. 'Malgudi Days' is written by _____.

- (a) Sarojini Naidu
(b) K.R. Mangalam
(c) R.K. Narayan
(d) Yashpal

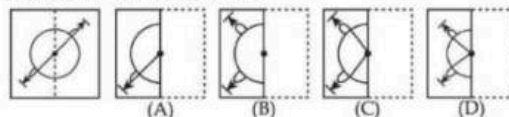
Q23. In which state famous "Panch Mahal" is situated?

- (a) Fatehpur Sikri (U.P.)
(b) Udaipur (Rajasthan)
(c) Ujjain (M.P.)
(d) Konark (Odisha)

Q24. Pointing to Anil, Shivani said, "He is the son of my father's only son". How is Anil's mother related to Shivani??

- (a) Daughter
(b) Aunt
(c) Sister-in-law
(d) Sister

Q25. Figure out from the four alternatives, how the pattern would appear when the transparent sheet is folded at the dotted line.



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

Q26. Mars takes _____ days to complete one revolution around sun (Orbital Period).

- (a) 380
(b) 687
(c) 390
(d) 650

Q27. Artificial language is given below for sentences:

'tap il pue' means Life is hard
'pue' tiw il' means hard is nothing
'tap zeu ylu' means Enjoy your life

Which code could mean 'life is nothing' in that Artificial language?

- (a) zeu tap il
(b) pue tap ylu
(c) ylu tap tiw
(d) tap tiw il

Q28. Life span of 'WBC' is _____.

- (a) (100 - 120) days
(b) (10 - 15) hours
(c) (20 - 24) hours
(d) (12 - 20) days

Q29. Given below are two statements: one is labelled as **Assertion (A)** and the other is labelled as **Reason (R)**.

Assertion (A): Food materials should not be soaked in water for a long time.

Reason (R): Washing leads to loss of Vitamin B and Vitamin C from the food materials because these Vitamins are soluble in water.

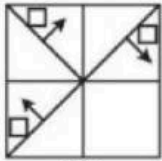
In the light of the above statements, choose the **most appropriate** answer from the options given below:

- (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)

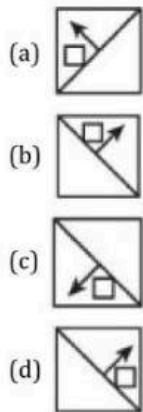
- (c) (A) is correct but (R) is not correct
(d) (A) is not correct but (R) is correct

Q30. The orthocentre of a triangle is the point of concurrency of its:
(a) medians
(b) altitudes
(c) right bisectors of sides
(d) bisectors of angles

Q31. Select a figure from the four alternatives, which is when placed in the blank space of fig. (X) would complete the pattern.



(X)



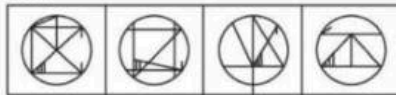
Q32. Choose the correct mirror image of the word:
COVID 19

- (a) 91DIVOC
(b) 91DIVOO
(c) 91DIVOO
(d) 19DIVOO

Q33. Choose the alternative figure in which the problem figure is embedded.



(X)



(A)

(B)

(C)

(D)

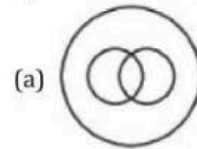
- (a) (A)
(b) (B)
(c) (C)
(d) (D)

Q34. A dealer of scientific instruments allows 20% discount and still makes a profit of 25%. If his gain on sale of an instrument is ₹150, then find the marked price of the instrument.
(a) ₹826.25
(b) ₹750
(c) ₹937.50
(d) ₹428.75

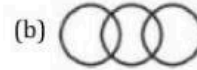
Q35. The Currency of Russia is:
(a) Euro

- (b) Korne
(c) Rouble
(d) Leu

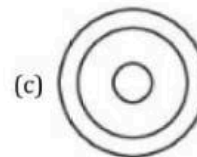
Q36. Identify the diagram that best represents the relationship among classes given below:
Sportsmen, Cricketers, Batsman



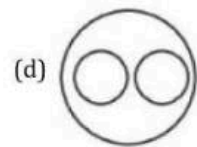
(a)



(b)



(c)



(d)

Q37. A train travels at 82.6 km/ hr. How many meters will it cover in 15 minutes?

- (a) 20650
(b) 21650
(c) 18550
(d) 17950

Q38. Simran can complete a work in 20 days. How much work will be done by her in 12 days?

- (a) $\frac{3}{5}$
(b) $\frac{1}{5}$
(c) $\frac{4}{5}$
(d) $\frac{2}{5}$

Q39. The book 'Devdas' is written by:

- (a) Gajanan Madhav
(b) Sarat Chandra Chattopadhyay
(c) Phanishwar Nath
(d) Amrit Lal Nagar

Q40. Mahesh and Sujain are ranked eighth and eleventh respectively from the top in a class of 32 students. What will be their respective ranks from the bottom in the class?

- (a) 25th and 22nd
(b) 26th and 22nd
(c) 24th and 22nd
(d) 22nd and 20th

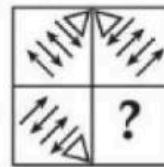
Q41. If the sum of the diameters of two circles is 30 cm and the difference of their radii is 5 cm, then the ratio of area of the smaller circle to that of the bigger circle is:

- (a) 4 : 5
(b) 3 : 4
(c) 2 : 3

- (d) 1 : 4
- Q42.** Which of the following statement(s) is/are correct. Here a and r have their usual meaning:
 (A) a, ar, ar², is a G.P.
 (B) nth term of a G.P. is $a_n = ar^{n-1}$
 (C) nth term of a G.P. is $a_n = ar^{n+1}$
 (D) Sum Of first n terms Of a G.P. is $S_n = a \left(\frac{r^n - 1}{r - 1} \right), r \neq 1$
 (E) 4, 16, 256, is a G.P.
- Chose the **correct** answer from the options given below:
 (a) (A) and (B) only
 (b) (C) and (D) only
 (c) (A), (B), (D) and (E) only
 (d) (A), (B) and (D) only
- Q43.** Select the option from given alternatives which will come in place of?
 EXI :: 5X9 :: NXS : ____ ? ____
 (a) 12X17
 (b) 13X17
 (c) 14X19
 (d) 14X21
- Q44.** Infant Mortality Rate (IMR) is:
 (a) Number of children born in a year
 (b) Number of deaths in a year per 1,000 live births of children
 (c) Total of live births in a year divided by total mid-year population
 (d) Average number of children born to a woman over her lifetime
- Q45.** _____ is called the "Earth's twin."
 (a) Saturn
 (b) Mars
 (c) Venus
 (d) Jupiter
- Q46.** "Swachh Bharat Abhiyan" was launched on _____.
 (a) 2 October, 2012
 (b) 2 October, 2013
 (c) 2 October, 2014
 (d) 2 October, 2015
- Q47.** The sum of the squares of three consecutive odd numbers is 2531. Find the smallest of these numbers.
 (a) 27
 (b) 29
 (c) 31
 (d) 37
- Q48.** Find the area (in square units) of a triangle whose vertices are (1, -1), (-4, 6) and (-3, -5).
 (a) 22
 (b) 24
 (c) 25
 (d) 27
- Q49.** The price of an article is first increased by 20% and subsequently decreased by 25% due to reduction in

sales. Find the net percentage change in price of the article.

- (a) 10% decrease
 (b) 0.2% increase
 (c) 8% decrease
 (d) 5% decrease
- Q50.** Which amongst the following was an exclusive women force that fought for Independence of India from British rule?
 (a) Rani Jhansi Brigade
 (b) Annie Besant Force
 (c) Lalleshwari
 (d) Anushitan Samiti
- Q51.** Select a figure from the four alternatives which is when placed in the blank space of fig (X) would complete the pattern.



(X)

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

- Q52.** In a certain code, CIRCULAR is written as CRIUCALR. How is REMEMBER written in that code?
 (a) REEEMMBR
 (b) RMMEEEBR
 (c) REMMEBER
 (d) RMEMEEBR
- Q53.** Where is the headquarters of NATO?
 (a) England
 (b) America
 (c) Russia
 (d) Belgium
- Q54.** In the following question, one of the terms in the number series is wrong. Find out the wrong term.
 160, 118, 83, 75, 34, 20
 (a) 75
 (b) 34
 (c) 118

(d) 83

Q55. Match List-I with List-II:

List-I (Planet)		List-II (Position with respect to Sun)	
(A)	Earth	(I)	First Position
(B)	Mars	(II)	Fourth Position
(C)	Mercury	(III)	Second Position
(D)	Venus	(IV)	Third Position

Choose the **most appropriate** answer from the options given below:

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

Q56. In a month of 31 days, third Friday falls on 17th. What will be the last day of the month?

- (a) 5th Thursday
(b) 5th Friday
(c) 5th Saturday
(d) 5th Sunday

Q57. What is the pH range of milk?

- (a) (7.2 - 7.5)
(b) (9.2 - 9.5)
(c) (6.7 - 6.9)
(d) (3.4 - 3.9)

Q58. The volumes of two cubes are in the ratio 8 : 27. The ratio of their surface areas is:

- (a) 2 : 3
(b) 1 : 9
(c) 4 : 9

(d) 8 : 27

Q59. In a function girls were allowed to wear only red, blue or black dress. If 15 girls were wearing red, 10 girls were wearing blue and 20 girls were wearing black, then the probability that a girl selected at random was not wearing black dress is:

- (a) $\frac{4}{9}$
(b) $\frac{7}{9}$
(c) $\frac{5}{9}$
(d) $\frac{8}{9}$

Q60. Number of employees in different departments of an organisation and department wise percentage of female employees is given in the table.

Department	Number of Employees	Percentage of Females
IT	840	45
Accounts	220	35
Production	900	23
HR	360	65
Marketing	450	44
Customer Service	540	40

What is the ratio of the number of females in production department to the number of females in the Marketing Department?

- (a) 22 : 23
(b) 35 : 33
(c) 23 : 22
(d) 33 : 35

SOLUTIONS

S1. Ans. (c)

Sol. Milk in mixture = $\frac{3}{4} \times 40 = 30$
 Water in mixture = $40 - 30 = 10$
 Let x lts milk be added
 New ratio of milk and water = $2 : 3$
 $30 + x : 10 = 2 : 3$
 $3(30 + x) = 20$
 $x = 35$
 Quantity of milk to be added is 35 ltrs.

S2. Ans. (a)

Sol. Let the first number be x
 Sum of 5 consecutive number is = $50 \times 5 = 250$
 ATQ, $x + x + 1 + x + 2 + x + 3 + x + 4 = 250$
 $5x + 10 = 250$
 $5x = 240$
 $x = 48$
 Product of smallest to largest = $x(x + 4) = 48 \times 52 = 2496$

S3. Ans. (c)

Sol. The Malacca Strait located between Indonesia-Malaysia joins Andaman Sea to the South China Sea.

S4. Ans. (b)

Sol. Hypotenuse = 10 cm, Base = 6 cm
 Height (h) = $\sqrt{c^2 - b^2} = \sqrt{10^2 - 6^2} = 8$ cm
 Area = $\frac{1}{2} \times \text{base} \times \text{height} = \frac{1}{2} \times 8 \times 6 = 24$ cm²

S5. Ans. (c)

Sol. We know, $A = P \left[1 + \frac{R}{100} \right]^n$
 $2226.05 = 2000 \left[1 + \frac{R}{100} \right]^2$
 $\frac{2226.05}{2000} = \left[1 + \frac{R}{100} \right]^2$
 $1.113025 = \left[1 + \frac{R}{100} \right]^2$
 $1.055 = \left[\frac{100 + R}{100} \right]$
 $105.5 = 100 + R$
 $R = 5.5\%$

S6. Ans. (d)

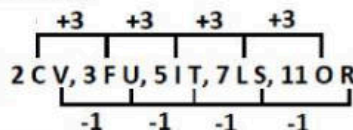
Sol. A's investment:
 For the first 8 months = Rs. 42000
 For next 4 months = Rs. 42000 + Rs. 24,000 = Rs. 66,000
 B's investment for the entire year = Rs. 50,000
 C's investment :
 For the first 8 months: Rs. 65,000
 For the next 4 months = Rs. 65,000 - Rs 15,000 = Rs. 50,000
 A's Total Investment:
 For the first 8 months: ₹42,000 * 8 = ₹336,000.
 For the next 4 months: ₹66,000 * 4 = ₹264,000.
 Total = ₹336,000 + ₹264,000.
 B's Total Investment:
 For the entire year: ₹50,000 * 12 = ₹600,000. C's Total Investment:
 For the first 8 months: ₹65,000 * 8 = ₹520,000.
 For the next 4 months: ₹50,000 * 4 = ₹200,000.

Total = ₹520,000 + ₹200,000.

Given that the total profit at the end of the year is ₹1,04,000, C's share in the profit, based on their proportion of the total investment, is ₹39,000.

S7. Ans. (b)

Sol. The first number of each pair are consecutive prime numbers.



S8. Ans. (c)

Sol. The scientific name of banana is Musa Paradisicum.

S9. Ans. (b)

Sol. Time between 8 and 9 O' clock the hands of a clock coincide = $\frac{2}{11} \times 240 = \frac{480}{11} = 43\frac{7}{11}$ minutes

S10. Ans. (d)

Sol. Total number of outcomes = 49
 Perfect cube between 3 to 51 are 2.
 Probability that the number drawn is a perfect cube = $\frac{2}{49}$

S11. Ans. (c)

Sol. Each letter is replaced with its mirror letter.

S12. Ans. (a)

Sol. A phonograph is a device used for reproducing sound recordings.

S13. Ans. (d)

Sol. Sardar Vallabhbhai Patel was India's first Deputy Prime Minister and also the first Home Minister of independent India.

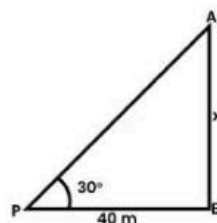
S14. Ans. (d)

Sol. D is neither honest nor Actor.

	Honest	Intelligent	Hard Working	Actor
A	✓	✓		✓
B	✓			✓
C	✓		✓	
D		✓	✓	
E		✓	✓	✓

S15. Ans. (c)

Sol.



Let height of the building be x

Given, $PB = 48$ m

$$\tan 30^\circ = \frac{AB}{PB}$$

$$\frac{1}{\sqrt{3}} = \frac{x}{48}$$

$$x = 16\sqrt{3} \text{ m}$$

S16. Ans. (a)

Sol. Clearly Rashi is adjacent to Anuradha.

Anuradha	Rashi	Manika	Sulekha/ Abha	Abha/ Sulekha
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S17. Ans. (b)

Sol. Wular Lake is the largest freshwater lake in India and is situated in the Union Territory of Jammu and Kashmir.

S18. Ans. (d)

Sol. LCM of 7, 11 and 21 = 231

Smallest 5-digit number = 10000

Multiple of 231 near 10000 = 10164

So, the required number will be = 10164 + 3 = 10167

S19. Ans. (a)

Sol. Pt. Madan Mohan Malaviya was the freedom fighter credited with popularizing the slogan Satyameva Jayate (the truth alone shall triumph).

S20. Ans. (c)

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

S21. Ans. (b)

Sol. Total Clock wise direction movement = $145^\circ - 100^\circ = 45^\circ$. So, I will be facing North-West.

S22. Ans. (c)

Sol. R.K. Narayan is the author of "Malgudi Days," a collection of short stories set in the fictional town of Malgudi.

S23. Ans. (a)

Sol. The Panch Mahal is a historical structure located in Fatehpur Sikri, Uttar Pradesh, India.

S24. Ans. (c)

Sol. Shivani's father's only son would be Shivani's brother. So, Anil is son of Shivani's Brother. Therefore, Shivani is aunt of Anil. Therefore, Shivani's mother would be sister-in-law of Shivani.

S25. Ans. (c)

Sol. Option (c) is best answer among the given options.



S26. Ans. (b)

Sol. Mars takes 687 days to complete one revolution around the sun.

S27. Ans. (d)

Sol. tap → life

tiw → nothing

il/pue → is/hard

From the given information it is not possible to find the correct code of 'is' and 'hard'. So, code of 'life is nothing' could be 'tap tiw il' or 'tap tiw pue'. But in options 'tap tiw pue' is not given so option (d) is correct answer.

S28. Ans. (d)

Sol. White blood cells (WBCs) have a lifetime of 12-20 days.

S29. Ans. (a)

Sol. Both (A) and (R) are correct and (R) is the correct explanation of (A)

S30. Ans. (c)

Sol. The orthocentre of a triangle is the point of concurrency of its right bisectors of sides.

S31. Ans. (c)

Sol.

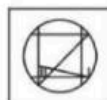


S32. Ans. (c)

Sol. COVID 19

S33. Ans. (b)

Sol.



S34. Ans. (c)

Sol. Let C.P of instrument = Rs. 100

Profit = 25% of Rs. 100 = Rs. 25

If profit is Rs. 150, C.P = $\frac{100}{25} \times 150 = 600$

S.P of the instrument = 600 + 150 = Rs. 750

Let M.P of the instrument be Rs. 100

If S.P is Rs. 80, M.P = $\frac{100}{80} \times 750 = 937.50$

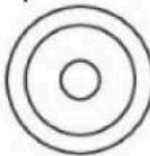
Thus, marked price of the investment = Rs. 937.50

S35. Ans. (c)

Sol. The Currency of Russia is Rouble.

S36. Ans. (c)

Sol. All Batsman are Cricketers and All Cricketers are Sportsmen.



S37. Ans. (a)

Sol. 1 hour = 82.6 km

60 minutes = 82.6 × 1000m

15 minutes = $82.6 \times \frac{1000}{60} \times 15 = 20650 \text{ m}$

S38. Ans. (a)

Sol. Work done by Simran in 12 days = $\frac{3}{5}$

S39. Ans. (b)

Sol. The book "Devdas" is a classic Bengali novel written by Sarat Chandra Chattopadhyay.

S40. Ans. (a)

Sol. Mahesh's rank from bottom = 32 - 8 + 1 = 25th

Sujain's rank from bottom = 32 - 11 + 1 = 22nd

S41. Ans. (d)

Sol. Let, r_1, d_1 and A_1 be the radius, diameter and Area of bigger circle respectively.

Similarly, r_2, d_2 and A_2 be the radius, diameter and Area of smaller circle respectively.

Given, $d_1 + d_2 = 30$

As we know, $d = 2r$ then above eqn become, $r_1 + r_2 = 15$ (1)

Also given, $r_1 - r_2 = 5$ (2)

On solving eqn (1) and (2) we get, $r_1 = 10, r_2 = 5$

$$\text{Ratio } \frac{A_1}{A_2} = \frac{\pi r_1^2}{\pi r_2^2}$$

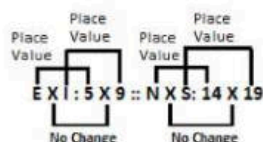
Ratio of area of the smaller circle to that of the bigger circle is = 1 : 4

S42. Ans. (d)

Sol. (A), (B) and (D) only are correct.

S43. Ans. (c)

Sol.



S44. Ans. (b)

Sol. Infant Mortality Rate (IMR) is the number of deaths in a year per 1,000 live births of children.

S45. Ans. (c)

Sol. Venus is called the "Earth's twin."

S46. Ans. (c)

Sol. The Clean India Mission, or Swachh Bharat Abhiyan, is a nationwide initiative that was started by the Indian government on October 2, 2014.

S47. Ans. (a)

Sol. Let the number be, $(x-2)$ and $(x+2)$. Then form the equation as,

$$(x-2)^2 + x^2 + (x+2)^2 = 2531$$

On simplifying $x^2 - 4x + 4 + x^2 + x^2 + 4x + 4 = 2531$

$$3x^2 + 8 = 2531$$

$$3x^2 = 2531 - 8 = 2523$$

$$\text{Or, } x^2 = \frac{2523}{3} = 841 \text{ or } x = 29$$

So, the three numbers are 27, 29, 31

Thus, smaller is 27.

S48. Ans. (b)

Sol. Let A (1, -1), B (-4, 6) and C (-3, -5) be the vertices of a triangle ABC

$$\text{Area} = \frac{1}{2} [x_1(y_2 - y_3) + x_2(y_3 - y_1) + x_3(y_1 - y_2)]$$

$$\text{Area} = \frac{1}{2} [1(6 + 5) + (-4)(-5 + 1) + (-3)(-1 - 6)]$$

Area = 24 square units

S49. Ans. (a)

Sol. Let the original cost = Rs. 100

Increased by 20%

$$\text{New cost} = 100 + 20 = \text{Rs. } 120$$

$$\text{Decreased by } 25\% = \frac{120 \times 25}{100} = \text{Rs. } 30$$

$$\text{New cost} = 120 - 30 = \text{Rs. } 70$$

$$\text{Overall change} = 100 - 70 = \text{Rs. } 30$$

$$\text{Required Percentage} = \frac{30}{100} \times 100 = 30\%$$

Thus, net percentage change = 10%

S50. Ans. (a)

Sol. An exclusive women force that was vital to the Indian independence movement against British rule was the Rani Jhansi Regiment.

S51. Ans. (a)

Sol.



S52. Ans. (d)

Sol. The second and third letters, fourth and fifth letters, sixth and seventh letters of the word mutually interchange positions to form the code.

S53. Ans. (d)

Sol. The headquarters of NATO (North Atlantic Treaty Organisation) is in Brussels, Belgium.

S54. Ans. (a)

Sol. The pattern is -42, -35, -28, -21, -14. Therefore, wrong term in the series is 75. Instead of 75, it should be 55.

S55. Ans. (b)

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

S56. Ans. (b)

Sol. Friday will fall on 3, 10, 17, 24, 31 So, it will be 5th Friday on 31st.

S57. Ans. (c)

Sol. The pH range of milk is typically around 6.7 to 6.9, making it slightly acidic.

S58. Ans. (c)

Sol. In volume of cube, we have ratio as:

$$\frac{a_1^3}{a_2^3} = \frac{8}{27}$$

$$\frac{a_1}{a_2} = \frac{2}{3}$$

$$\frac{a_1}{a_2} = \frac{2}{3}$$

So, in case of surface area we have ratio as,

$$\frac{a_1^2}{a_2^2} = \frac{2^2}{3^2} = \frac{4}{9}$$

S59. Ans. (c)

Sol. Total number of girls = 45

The probability that a girl selected at random was not wearing black dress = $\frac{10+15}{45} = \frac{25}{45} = \frac{5}{9}$

S60. Ans. (c)

Sol. Ratio of the number of females in production department to the number of females in the Marketing Department = 23 : 22