Q1. Which of the following is a Non-electrolyte substance?
(a) Glycerin
(b) Salt solution
(c) Sugar solution
(d) Petrol

Q2. The length of a rectangular field is twice the breadth. If the area of the field is 338 square meters, what is its perimeter (meters)?
(a) 90
(b) 78
(c) 84
(d) 169

Q3. 8, 17, 36, 75, ? __
What would go in place of the question mark?
(a) 145
(b) 152
(c) 150
(d) 154

Q4. Who was the pioneer of railway construction of India?
(a) Lord Mayo
(b) Lord Cornwallis
(c) Lord Curzon
(d) Lord Dalhousie

Q5. A boat moves downstream at the rate of 1 km in 6 min and upstream at the rate of 6 km in 1 hour. The speed of the current (km/hr) is
(a) 6
(b) 4
(c) 3
(d) 2

Q6. Six persons are seated in a circle facing the centre. A is facing B. B sits to the right of E and to the left of C. C is to the left of D. F is to the right of A. Then D changed their places with F and E with B. Now who is on either side of C?
(a) E & F
(b) B & F
(c) B & D
(d) B & E

Q7. The first session of the Congress was held in 1885 in which of the following cities?
(a) Bombay
(b) Delhi
(c) Kolkata
(d) Madras

Q8. If I = 9 and SLIP = 56, then TASK = ?
(a) 40
(b) 41
(c) 39
(d) 51

Q9. A certain sum of money becomes three times of itself in 20 years at simple interest. What is the annual interest rate?
(a) 20
(b) 10
(c) 5
(d) 15

Q10. P, Q, R, S, T and U each have different weights. S is heavier than Q. R is lighter than T and P only. Q is not the lightest and P is not the heaviest. Who is the second heaviest in terms of weight?
(a) S
(b) Q
(c) P
(d) R

Q11. Which religious guru instructed the Sikhs to hold five 'K's?
(a) Guru Gobind Singh
(b) Guru Hargobind
(c) Guru Ranjit Singh
(d) Guru Tegh Bahadur

Q12. Shatabdi Express travels from Howrah to New Jalpaiguri at a speed of 100 kmph and returns at a speed of 120 kmph. What is the average speed of Shatabdi Express? (km/h)
(a) $119\frac{1}{11}$
(b) $109\frac{1}{11}$
(c) 110
(d) $111\frac{1}{11}$

Q13. Pitt's India Rule Act was passed in which year?
(a) 1748
(b) 1784
(c) 1884
(d) 1848

Q14. What is the unit of temperature in SI system?
(a) Degree
(b) Fahrenheit
(c) Celsius
(d) Kelvin

Q15. Soma is Deep's mother. Again Soma is Ramesh's sister and Ramesh is Chandra's brother. How is Deep related to Chandra?
(a) Uncle's son
(b) sister's son
(c) Nephew
(d) Brother

Q16. A person borrows a certain amount of money at a simple interest rate of $12\frac{1}{2}\%$ per annum and purchases a motorcycle. After four years he deposited Rs. 1250 in the bank as interest. How much money did that person borrow?
(a) Rs. 2500
(b) Rs. 2450
(c) Rs. 3000
(d) Rs. 2400

Q17. If each vowel in the word NATIONALISM were replaced by the letter immediately following it and each consonant was replaced by the letter immediately preceding it, what would be the seventh letter from the left of the new word?
(a) M
(b) N
(c) B
(d) L

Q18. Hanging valleys are examples of landforms formed by which of the following?
(a) Glaciers
(b) Rivers
(c) Volcanoes
(d) Sea

Q19. 8, 17, 26, 35, ? ___
What would go in place of the question mark?
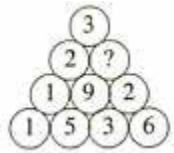(a) 52
(b) 44
(c) 42
(d) 39

Q20. Which position in the Indian Constitution has been created to advise the Central Government on legislative matters?

(a) Speaker of the Lok Sabha
(b) Attorney General of India
(c) Chief Justice of the Supreme Court
(d) Advocate General of India

Q21. $83\frac{1}{3}\%$ of Rs. 90 is equal to 60% of____.
(a) 160
(b) 135
(c) 175
(d) 125

Q22. What would go in place of the question mark?

```
        ( 3 )
      ( 2 )( ? )
    ( 1 )( 9 )( 2 )
  ( 1 )( 5 )( 3 )( 6 )
```

(a) 8
(b) 4
(c) 6
(d) 5

Q23. Y is the son of X. S is the son of R. Y is married to P. P is daughter of R. How is Y related to S?
(a) Uncle
(b) Sister's husband
(c) Wife's brother
(d) Maternal Uncle

Q24. How many seconds will it take a person to go 2 times around a square of side 45 m, if his speed is 9 km/hr?
(a) 96
(b) 80
(c) 72
(d) 144

Q25. In a camp of 4000 men there was a stock of food for 190 days. After 30 days 800 men left the camp. How many days will the rest of the food last?
(a) 200
(b) 240
(c) 180
(d) 300

Q26. Which of the following is not a unicellular organism?
(a) Tapeworm
(b) Blue-green algae
(c) Bacteria
(d) Amoeba

Q27. What is the name of the capital of Chhatrisgarh state?
(a) Jabalpur
(b) Raipur
(c) Bhopal
(d) Bilaspur

Q28. If the code for ACNE is 3, 7, 29, 11, what will be the code for BOIL?
(a) 5, 29, 19, 27
(b) 5, 31, 19, 25
(c) 5, 31, 21, 25
(d) 5, 29, 19, 25

Q29. A stood facing east and B facing west. They are both called "turn left, turn back, turn right, turn left". Now, which direction are A and B facing respectively?
(a) South ,North
(b) West ,East
(c) East, West
(c) North, South

Q30. Simplify :
$$1\frac{2}{9} \div [\frac{3}{4} + 2\frac{2}{3}\{\frac{3}{8} - 2\frac{1}{2} (\frac{1}{4} - \frac{1}{8})\}]$$
(a) $2\frac{1}{3}$
(b) $1\frac{1}{3}$
(c) $1\frac{1}{4}$
(d) 1

Q31. Spring balance is used for measuring
(a) Gravitational acceleration
(b) Weight
(c) Mass
(d) Force

Q32. Which of the following emperors was known as "Akbar of Bengal"?
(a) Barkat Shah
(b) Hussain Shah
(c) Ilyas Shah
(d) Humayun Shah

Q33. Rahul goes west for 15 km from home, turns left for 20 km and then turns left again for 10 km. Then after going north for 7 km, turn right and complete the journey by going 5 km. What is the distance (km) between home and last place?
(a) 15
(b) 10
(c) 5
(d) 13

Q34. What is the name of the highest peak of Nilgiris?
(a) Pareshnath
(b) Sahyadri
(c) Agastyakootam
(d) Dodabeta

Q35. If GROWTH is written as HQPVUG and FOUR as GNVQ according to certain code, what will BOOKWARM be written according to that code?
(a) CNNJXQSL
(b) CNPJXZSL
(c) CNNJXZSL
(d) CNPJVZSL

Q36. Who was the best emperor of the Pallava dynasty?
(a) Rajaraja I
(b) Govinda III
(c) Pulakeshi II
(d) Narasimhavarman

Q37. David Copperfield : Charles Dickens : : James Bond : ?
(a) Ian Fleming
(b) Sidney Sheldon
(c) Lewis Carroll
(d) Leo Tolstoy

Q38. In which Congress session was Shri Subhash Chandra Bose elected as the first President in 1938?
(a) Kolkata
(b) Haripura
(c) Chaurichaura
(d) Tripura

Q39. What is the total discount (as a percentage) if a buyer receives a discount of 10% and 20% respectively?
(a) 30
(b) 20
(c) 15
(d) 28

Q40. Ram's income is 20% more than Shyam's income. Shyam's income is less than Ram's income by what percentage?
(a) $25\frac{2}{3}$
(b) $16\frac{3}{4}$
(c) $16\frac{2}{3}$
(d) $24\frac{2}{3}$

Q41. What color is potassium permanganate solution?
(a) Yellow
(b) Orange
(c) Red
(d) Purple

Q42. A woman pointed to a man and said, "He is the husband of my father's father's only daughter." How is the man related to the woman?
(a) Paternal aunt's husband
(b) Uncle
(c) Cousin brother
(d) Maternal Uncle

Q43. Which of the following cell organelles helps in protein synthesis?
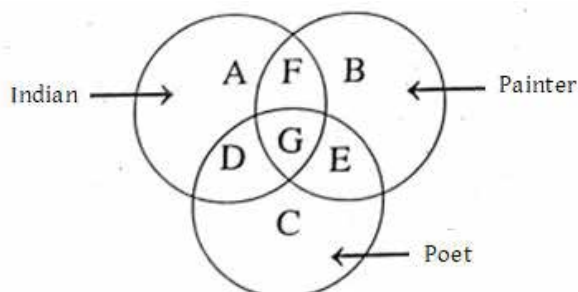(a) Centriole
(b) Ribosome
(c) Lysosomes
(d) Vacuole

Q44. Find the difference between the largest and the smallest four digit numbers formed by the digits 7, 0, 0 and 5.
(a) 2943
(b) 2593
(c) 2493
(d) 2395

Q45. How many pairs of salivary glands are there in human body?
(a) Four pairs
(b) Two pairs
(c) One pair
(d) Three pairs

46.

Analyze the above image and say which Indian painter is not a poet?
(a) G
(b) E
(c) D
(d) F

Q47. What is the chemical symbol of potassium?

(a) Na

(b) P

(c) K

(d) Pt
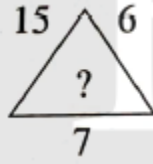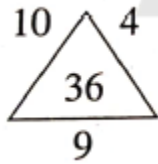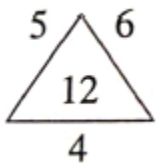
Q48. If Z = 1, A = 26 and GOAT = 65, then FATI = ?

(a) 68

(b) 78

(c) 72

(d) 82

Q49. CX, FU, IR, ?, OL, RI __

What will sit in place of the question mark?

(a) KO

(b) LO

(c) MO

(d) MN

Q50. Find the missing number:

(a) 60

(b) 42

(c) 63

(d) 48

Q51. Granite is an example of which type of rock?

(a) Underground rock

(b) Igneous rocks

(c) Sedimentary rock

(d) Metamorphic rock

Q52. Determine which is the greatest:

$\frac{5}{9}, 0.\overline{23}, \sqrt{\frac{25}{49}}, (0.8)^2$

(a) $(0.8)^2$

(b) $0.\dot{2}\dot{3}$

(c) $\frac{5}{9}$

(d) $\sqrt{\frac{25}{49}}$

Q53. Where did Muhammad bin Tughluq shift his capital from Delhi?
(a) Tanjore
(b) Patliputra
(c) Devagiri
(d) Kanauj

Q54. The length and width of a rectangle are reduced by 20%. By what percent does the area of the rectangle decrease?
(a) 32
(b) 36
(c) 24
(d) 30

Q55. How many seconds will it take for a train 150 m long to cross a bridge 200 m long at a speed of 70 km per hour?
(a) 30
(b) 18
(c) 16
(d) 24

Q56. Find the sum of number series: 1 + 2 + 3 + ... + 25
(a) 300
(b) 225
(c) 325
(d) 350

Q57. Where is the National Stock Exchange located?
(a) Chennai
(b) New Delhi
(c) Kolkata
(d) Mumbai

Q58. If January 25th, 2008 is Monday, what day will March 2nd, 2008 be?
(a) Monday
(b) Wednesday
(c) Tuesday
(d) Sunday

Q59. Who is the author of Bengali novel 'Kalbela'?
(a) Suchitra Bhattacharya
(b) Samaresh Bose
(c) Shyamal Gangopadhyay
(d) Samaresh Majumdar

Q60. What is the current name of 'Imperial Bank of India'?
(a) Reserve Bank of India
(b) United Bank of India
(c) Central Bank of India
(d) State Bank of India

Q61. How many 9's can be found in the following series of numbers, which are divisible by the immediately preceding and immediately following digits?
193499239325991312939499392391
(a) 6
(b) 5
(c) 4
(d) 3

Q62. $999\frac{88}{99} \times 99 = ?$
(a) 99998
(b) 99899
(c) 98989
(d) 98999

Q63. In what year did Mahatma Gandhi start the Dandi campaign?
(a) 1935
(b) 1925
(c) 1920
(d) 1930

Q64. If the letters of the word UNDERSTANDING are arranged from the left according to the English alphabet and one letter is taken only once, which is the eighth letter from the left?
(a) U
(b) G
(c) D
(d) S

Q65. Out of 120 students of science, commerce and arts in a school, 15% are in science. If there are total 66 students of arts department, what percentage are students of commerce department?
(a) 30
(b) 24
(c) 36
(d) 32

Q66. Chittaranjan Locomotive Works is located in which district of West Bengal?
(a) Birbhum
(b) West Burdwan
(c) East Burdwan
(d) Asansol

Q67. Which is the seventh letter from the left of the first to 18th letter of the English alphabet?

(a) M

(b) K

(c) J

(d) L

Q68. How much added to 8.65 will make the sum equal to 402 of 0.3?

(a) 120.6

(b) 113.95

(c) 111.65

(d) 111.95

Q69. Which country won the FIFA World Cup held in Qatar?
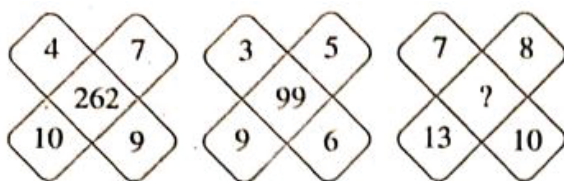
(a) Spain

(b) Croatia

(c) Brazil

(d) Argentina

Q70. Which among Samhita, Aranyak, Mahabharata and Upanishad is not a part of Vedas?

(a) Upanishad

(b) Aranyak

(c) Samhita

(d) Mahabharata

Q71. Which amendment to the Indian Constitution added the words 'socialist' and 'secular' to the Preamble?

(a) 37

(b) 42

(c) 41

(d) 52

Q72. Find the missing number:

(a) 163

(b) 918

(c) 375

(d) 573

Q73. '+' means '÷', '-' means '×', '÷' means '-' and '×' means '+'

67 × 119 + 17 - 27 ÷ 259 = ?

(a) 7
(b) -3
(c) -13
(d) 3

Q74. What causes goiter?
(a) Obesity
(b) Hypothyroidism
(c) Hyperthyroidism
(d) Diabetes mellitus

Q75. Which of the following words cannot be formed using the letters of the word TRANSFERENCE?
(a) TENSE
(b) FACTOR
(c) FRANCE
(d) ENTRANCE

Q76. 'Oryza sativa' is the scientific name of which of the following?
(a) Maize
(b) Paddy
(c) Mango
(d) Wheat

Q77. What is the volume of one gram molecule of a gas at proof pressure and temperature?
(a) 22.4 litres
(b) 44 litres
(c) 20 litres
(d) 31.4 litres

Q78. Identify the odd word:
(a) Stone
(b) Sand
(c) brick
(d) Wood

Q79. Hematite is the name of a type of mineral?
(a) Iron ore
(b) Copper
(c) Coal
(d) Bauxite

Q80. Gas prices have increased by 25%. If a household wants to keep its monthly gas bill unchanged, by what percentage must it reduce its gas consumption?
(a) 32
(b) 24
(c) 20
(d) 30

Q81. If A : B = 3 : 4, B : C = 6 : 5, then A : C = ?
(a) 10 : 11
(b) 8 : 9
(c) 5 : 7
(d) 9 : 10

Q82. Which of the following is not a direct tax?
(a) GST
(b) Corporation Tax
(c) Income tax
(d) Property Tax

Q83. 2 kg is 250 grams, what is the percentage of 0.72 quintal?
(a) $5\frac{1}{5}$
(b) $3\frac{1}{8}$
(c) $2\frac{1}{8}$
(d) $4\frac{1}{4}$

Q84. Find a fraction such that the ratio of $\frac{3}{4}$ to $\frac{27}{64}$ is the same.
(a) $\frac{9}{16}$
(b) $\frac{7}{16}$
(c) $\frac{6}{7}$
(d) $\frac{9}{15}$

Q85. Which of the following is an example of a liquid metal?
(a) Mercury
(b) Iron
(c) Sodium
(d) Gold

Q86. Rs. 136 will be the interest of 4 years at 8% simple interest per annum?
(a) 525
(b) 450
(c) 425
(d) 375

Q87. What is called when carbon dioxide is heated instead of turning into a liquid, it turns directly into a vapor?
(a) Sublimation
(b) Boiling
(c) Evaporation
(d) Vapourisation

Q88. Arrange in correct order:
(i) Saree   (ii) Printing
(iii) Cotton   (iv) Yarn   (v) Cloth
(a) (iii), (ii), (i), (iv), (v)
(b) (iii), (v), (iv), (ii), (i)
(c) (iii), (iv), (v), (ii), (i)
(d) (ii), (i), (iii), (iv), (v)

Q89. A pole is $\frac{1}{2}$ in mud, $\frac{1}{3}$ in water and 25 m above water. How long is the pole (in meters)?
(a) 175
(b) 125
(c) 100
(d) 150

Q90. If the average of two numbers is 9 and the average of other three numbers is 4, what is the average of those 5 numbers?
(a) 7
(b) 5
(c) 4
(d) 6

Q91. What type of lever is the common balance instrument?
(a) It is not a lever
(b) Second
(c) First
(d) Third

Q92. The word 'caddy' is related to which sport?
(a) Golf
(b) Basketball
(c) Cricket
(d) Lawn Tennis

Q93. If 'pil gin jop' means 'apple is good', 'jop zon pin' means 'tree is tall' and 'pil man san' means 'eat good fruit' in a code language, what is the code of 'good'?
(a) pil
(b) gin
(c) jop
(d) san

Q94. The force by which the earth attracts an object towards its center, what is that object called?
(a) Force
(b) Weight
(c) Mass
(d) Gravitational acceleration

Q95. If a wall clock takes 10 seconds to strike 10 o'clock, how long will it take to strike 12 o'clock? (in seconds)

(a) $12\frac{2}{9}$

(b) $10\frac{2}{9}$

(c) $9\frac{2}{9}$

(d) $11\frac{2}{9}$

Q96. Find the least perfect square with four digits?

(a) 1050

(b) 1000

(c) 4000

(d) 1024

Q97. Speed ratio of Rajdhani Express and Purba Express is 4 : 3. If Purba Express covers 72 km in 4 hours, how far will Rajdhani Express cover in 3 hours? (km)

(a) 72

(b) 48

(c) 24

(d) 60

Q98. 20% discount is available on timely submission of electricity bill. A person got a discount of Rs.66 by submitting the bill on time. How much was the electricity bill? (in Rs.)

(a) 430

(b) 330

(c) 220

(d) 380

Q99. A total of 52 students are standing in a line. Ram, Shyam has 18 before him. Shyam is 13th from last. How many people are behind the Ram from the front?

(a) 21

(b) 22

(c) 20

(d) 19

Q100. Women's U-19 T-20 World Cup 2023 was held in which country?

(a) South Africa

(b) Sri Lanka

(c) India

(d) England

Solutions

S1.Ans.(b)
Sol. Substances which do not dissociate into ions and do not conduct electricity when melted or dissolved in water are called Non-electrolyte substances. Example - alcohol, petrol, sugar solution, benzene, glycerin, kerosene, ether etc.

S2.Ans.(b)
Sol. Let length of rectangular field =2x meter
Breadth of rectangular field = x m
Area of rectangular field = 2x × x = $2x^2$ Sq. m.
ATQ,

$2x^2$ = 338
➜ x^2 = 169
➜ x = 13
length of rectangular field =2 × 13 = 26 m
Breadth of rectangular field = 13 m
∴ Perimeter of rectangular field = 2 (26 +13)
$$= 2 \times 39$$
$$= 78 \text{ m}$$

S3.Ans.(d)
Sol. 8, 17, 36, 75, ?
The type of series is:
8 × 2 + 1 = 17
17 × 2 + 2 = 36
36 × 2 + 3 = 75
75 × 2 + 4 = 154

S4.Ans.(d)
Sol. Lord Dalhousie is called the pioneer of railway construction in India. In 1853 he initiated the railway construction project. He introduced the Doctrine of lapse.

S5.Ans.(d)
Sol. Let speed of boat = x km/hr
Speed of current= y km/hr
Time taken in downstream = $\frac{1}{x+y}$ hr
Time taken in upstream = $\frac{6}{x-y}$ hr
ATQ,
$\frac{1}{x+y} = \frac{6}{60}$ .... (1)
$\frac{6}{x-y} = 1$ ....(2)

Solving equations (1) and (2) we get,

x = 8

and y = 2
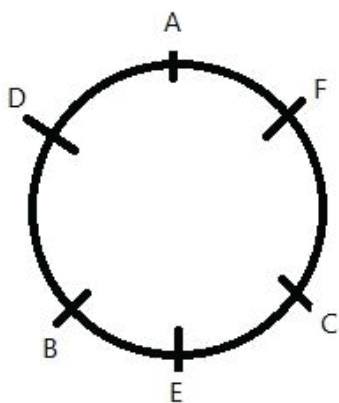
∴ Speed of current = 2 km/hr

S6.Ans.(a)

Sol. Final arrangement:
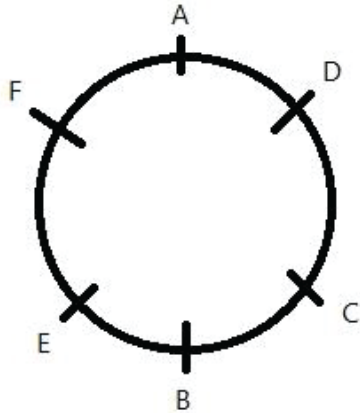
Swap their places with D, F and E, with B, the new final arrangement is:

So, E and F sit next to C.

S7.Ans.(a)

Sol. In 1885 the first session of the Congress was held in the following Bombay. The session was initiated by Alan Octavian Hume.

S8.Ans.(d)

Sol. I = 9

SLIP = 19 + 12 + 9 + 16 =56

TASK = 20 + 1 + 19 + 11 = 51

S9.Ans.(b)

Sol. Let Principal = Rs. x

Time = 20 year

Let rate of interest = r %

Amount = Rs. 3x

Interest = 3x – x = Rs. 2x

Simple Interest = Rs. $\frac{x \times 20 \times r}{100}$

ATQ,

$\frac{x \times 20 \times r}{100} = 2x$

→ r = 10%

S10.Ans.(c)
Sol. S is heavier than Q. R is lighter than T and P only. Q is not the lightest and P is not the heaviest.
Final arrangement:
T > P > R > S > Q > U
The second heaviest in terms of weight is P.

S11.Ans.(a)
Sol. To strengthen unity and brotherhood among Sikhs, Guru Gobind Singh ordered all Sikhs to hold Panch 'K'. These 'five K' are Kachera, Kara, Kripan, Kangha and Kesh. Guru Gobind Singh was the tenth Guru of Sikhism.

S12.Ans.(b)
Sol. Average speed = $\frac{2 \times 100 \times 120}{100 + 120} = \frac{24000}{220} = \frac{1200}{11} = 109\frac{1}{11}$ km/hr
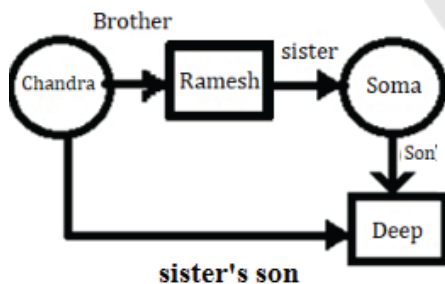
S13.Ans.(b)
Sol. Pitt's India Act was passed in 1784. It was called the East India Company Act, 1784.

S14.Ans.(d)
Sol. The SI unit of temperature is Kelvin. This unit is denoted by k.

S15.Ans.(b)
Sol.

Deep is Chandra's sister's son i.e. sister's son.

S16.Ans.(a)
Sol. Let Principal be Rs. p

SI= Rs. $\frac{p \times 12.5 \times 4}{100}$

ATQ,

$\frac{p \times 12.5 \times 4}{100} = 1250$

→ p = $\frac{1250 \times 100 \times 10}{125 \times 4}$

→ p = Rs. 2500

S17.Ans.(c)
Sol. If each vowel in the word NATIONALISM were replaced by the letter immediately following it, and each consonant was replaced by the letter immediately preceding it, the new word would be:
MBSJPMBKJRL
The seventh letter from the left of the new word is = **B**

S18.Ans.(a)
Sol. Glacial erosion in mountainous areas results in depth differences between main glacial valleys and subglacial valleys. Therefore, at the meeting point of both, the shallow subglacial valley is seen as a hanging valley above the main glacial valley.

S19.Ans.(b)
Sol. 8 + 9 = 17
17 + 9 = 26
26 + 9 = 35
35 + 9 = **44**

S20.Ans.(b)
Sol. The post of Attorney General of India is created in the Constitution of India to advise the Central Government on legal matters.
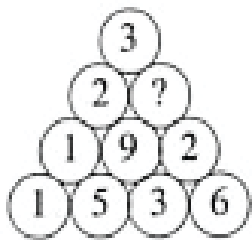
S21.Ans.(d)
Sol. $83\frac{1}{3}$ % of Rs. 90 = $90 \times \frac{250}{300}$ = Rs. 75
Rs. ? of 60% = Rs. 75
Required value = $75 \times \frac{100}{60}$ = Rs. 125

S22.Ans.(c)
Sol.

Adding downwards, the sum is:
1 + 5 + 3 + 6 = 15
1 + 9 + 2 = 12
2 + ? = 8
3
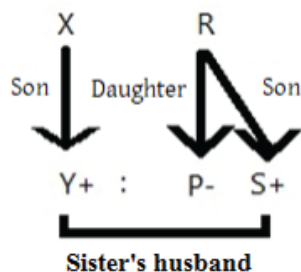The sums are decreasing at the rate of 3, 4, 5 respectively.
It is understood that 6 will sit in place of the symbol (?) then the sum of that row will be 8.

S23.Ans.(b)
Sol.

Y is the son of X. S is the son of R. Y is married to P. P is daughter of R. Y is sister's husband of S.

S24.Ans.(d)
Sol. Perimeter of Square = 4 × Leangth of side = 4 × 45 = 180 m
Total distance to be covered in 2 times = 2 × 180 = 360 m
It will take time = $\frac{\frac{360}{1000}}{9} = \frac{360}{1000} \times \frac{1}{9} = \frac{1}{25}$ hr = $\frac{1}{25}$ × 3600 sec = 144 sec

S25.Ans.(a)
Sol. Food reserves for 4000 people = (190 – 30) = 160 days
Food stored for 1 person = 160 × 4000 days
Food was stored for (4000 – 800) = 3200 people = $\frac{160 \times 4000}{3200}$ days = 200 days

S26.Ans.(a)
Sol. Examples of unicellular organisms are Amoeba, Chlamydomonas, Paramycium, Bacteria, Nostoc, Blue Green Algae and Yeast etc.

S27.Ans.(b)
Sol. Chhattisgarh is a state in central India. Raipur is the capital of this state. Raipur district is rich in mineral resources. The district has many wildlife sanctuaries and sightseeing spots.

S28.Ans.(b)
Sol.

A	C	N	E
1	3	14	5
+2	+4	+15	+6
3	7	29	11

That local value is added to the number immediately following each letter's place in the English alphabet.

B	O	I	L
2	15	9	12
+3	+16	+10	+13
5	31	19	25

Code for BOIL are 5, 31, 19, 25.

S29.Ans.(a)
Sol. A stood facing east and B facing west. They are both called "turn left, turn back, turn right, turn left". Hence A will face south and B will face north.

S30.Ans.(b)
Sol.

$1\frac{2}{9} \div [\frac{3}{4} + 2\frac{2}{3}\{\frac{3}{8} - 2\frac{1}{2}(\frac{1}{4} - \frac{1}{8})\}]$

$= \frac{11}{9} \div [\frac{3}{4} + \frac{8}{3}\{\frac{3}{8} - \frac{5}{2}(\frac{1}{4} - \frac{1}{8})\}]$

$= \frac{11}{9} \div [\frac{3}{4} + \frac{8}{3}\{\frac{3}{8} - \frac{5}{2} \times \frac{1}{8}\}]$

$= \frac{11}{9} \div [\frac{3}{4} + \frac{8}{3}\{\frac{3}{8} - \frac{5}{16}\}]$

$= \frac{11}{9} \div [\frac{3}{4} + \frac{8}{3} \times \frac{1}{16}]$

$= \frac{11}{9} \div [\frac{3}{4} + \frac{1}{6}]$

$= \frac{11}{9} \div [\frac{9+2}{12}]$

$= \frac{11}{9} \div \frac{11}{12}$

$= \frac{11}{9} \times \frac{12}{11}$

$= \frac{4}{3}$

$= 1\frac{1}{3}$

S31.Ans.(b)
Sol. The weight of an object is measured with a spring balance instrument. The spring cotton machine works on the principle of gravity.

S32.Ans.(b)
Sol. Alauddin Hussain Shah or Hussain Shah was an independent Sultan of Bengal in the Middle Ages. He founded the Hussain Shahi dynasty. He was known as Akbar of Bengal.

S33.Ans.(d)
Sol.
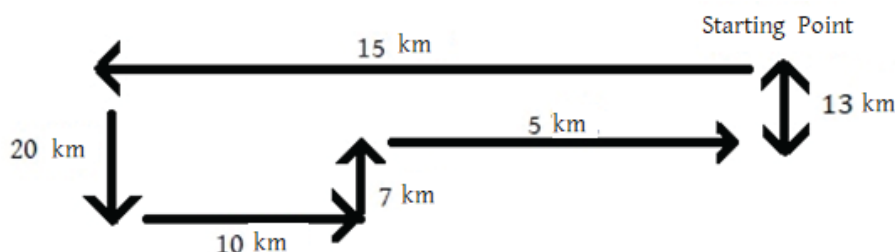
S34.Ans.(d)
Sol. It is the highest peak of the Nilgiri mountains called Dodabeta. The Eastern Ghats and the Western Ghats meet in the Nilgiri.

S35.Ans.(b)
Sol.

G	R	O	W	T	H
+1	-1	+1	-1	+1	-1
H	Q	P	V	U	G

F	O	U	R
+1	-1	+1	-1
G	N	V	Q

Words are changed to the letter after the letter in the odd position and the letter before the letter in the even position.

B	O	O	K	W	A	R	M
+1	-1	+1	-1	+1	-1	+1	-1
C	N	P	J	X	Z	S	L

BOOKWARM will be written as CNPJXZSL.

S36.Ans.(d)
Sol. The greatest emperor or king of the Pallava dynasty was Narasimhavarman I. Under his leadership the Pallava kingdom rose to the pinnacle of glory. By defeating the rival Chalukyas, he raised the status and prestige of the clan.

S37.Ans.(a)
Sol. David Copperfield is the eighth novel by Charles Dickens. Ian Fleming is the creator of James Bond.

S38.Ans.(b)
Sol. Netaji Subhash Chandra Bose was one of the prominent freedom fighters of India. Netaji Subhash Chandra Bose was elected President of the first Haripura Congress session in 1938.

S39.Ans.(d)
Sol. Let price = Rs. 100

After 1st discount, price = $100 \times \frac{90}{100}$ = Rs. 90

After 2nd discount, price = $90 \times \frac{80}{100}$ = Rs. 72

Total Discount = 100 – 72 = Rs. 28

% of discount = $\frac{28}{100} \times 100$ = 28%

S40.Ans.(c)
Sol. Let Shyam's income is Rs.100

Ram's income = Rs.120

Shyam's income is percentage less than Ram's income = $\frac{20}{120} \times 100 = 16\frac{2}{3}\%$

S41.Ans.(d)
Sol. Potassium permanganate ($KMnO_4$) is an inorganic compound. It is a purple-black crystalline salt, soluble in water. Its aqueous solution is purple in color.

S42.Ans.(a)
Sol. A woman pointed to a man and said, "He is the husband of my father's father's only daughter." Then the man is Paternal aunt's husband of the woman.

S43.Ans.(b)
Sol. The following ribosomes are organelles involved in protein synthesis, i.e. their main function is to make proteins. Hence the cellular organelle ribosome is called the protein factory of the cell.

S44.Ans.(c)
Sol. Digits are = 7, 0, 0, 5
Largest four-digit number = 7500
Smallest four digit number = 5007
Required difference = 7500 – 5007 = 2493

S45.Ans.(d)
Sol. In the human body, the open digestive gland in the oral cavity is called the salivary gland. Three pairs of salivary glands are located in the internal cavity of the human body. Example - parotid gland, submandibular gland, sublingual gland. The largest of these salivary glands is the parotid gland.

S46.Ans.(d)
Sol.
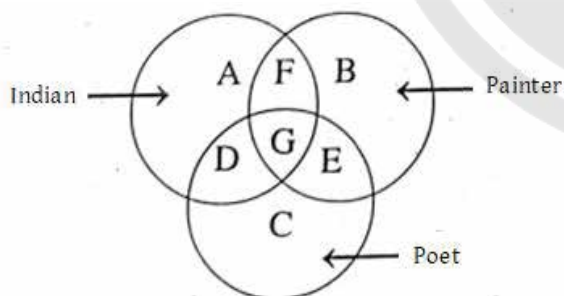
The above figure shows that F is the person who is not an Indian painter poet.

S47.Ans.(c)
Sol. Potassium is a chemical element. Its chemical symbol is K. And the atomic number of potassium is 19. It rapidly reacts with atmospheric oxygen to form a layer of potassium peroxide.

S48.Ans.(c)
Sol. According to the English alphabet,
Z = 26
A = 1

G	O	A	T
7	15	1	20

F	A	T	I
6	1	20	9

Subtracting the place value of each from 27, we get,

Z = 1
A = 26

G	O	A	T
20	12	26	7

F	A	T	I
21	26	7	18

GOAT = 20 + 12 + 26 + 7 = 65
FATI = 21 + 26 + 7 + 18 = 72

S49.Ans.(b)
Sol. According to the English alphabet,
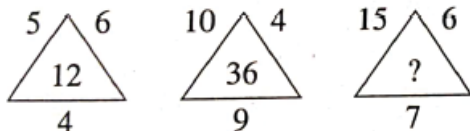C   X = 3   24
F   U = 6   21
I   R = 9   18
L   **O =12 15**
O   L= 15   12
R   I = 18   9
This means that the first letter of each alphabet is increasing by 3 and the second letter is decreasing by 3.
Thus **LO** will sit in place of question mark.

S50.Ans.(c)
Sol.

$$\frac{5 \times 6 \times 4}{10} = 12$$
$$\frac{10 \times 4 \times 9}{10} = 36$$
$$\frac{15 \times 6 \times 7}{10} = \mathbf{63}$$

S51.Ans.(b)
Sol. Granite is an example of a type of igneous rock. Because the grains of these rocks are large, they are visible to the naked eye. Due to the presence of quartz, white-black spots are seen on the rock and shiny coating is seen on the rock. Sometimes this type of rock is also light pink due to the presence of feldspar.

S52.Ans.(d)
Sol.
$\frac{5}{9} = 0.5..$

$0.\overline{23} = \frac{23}{99} = 0.2..$

$\sqrt{\frac{25}{49}} = \frac{5}{7} = 0.7$

$(0.8)^2 = 0.64$

$\sqrt{\frac{25}{49}}$ is the largest.

S53.Ans.(c)
Sol. Muhammad bin Tughlaq was the founder of the Tughlaq dynasty. He remained the Sultanate of Delhi from 1325 AD to 1351 AD. He shifted his capital from Delhi to Devagiri.

S54.Ans.(b)
Sol. Let length of rectangle = 100 units
Breadth of rectangle = 100 units
Area of rectangle = 100 × 100 = 10000 sq. units
After reducing the length and breadth of the rectangle by 20%,
Length of rectangle = 80 units
Width of rectangle = 80 units
Now area of rectangle = 80 × 80 = 6400 sq. units
Area of rectangle reduced = 10000 – 6400 = 3600 sq. units
Area decreased in % = $\frac{3600}{10000} \times 100$ = 36%

S55.Ans.(b)
Sol. Total distance covered = length of train + length of bridge
= 150 + 200 = 350 m

Required time = $\frac{Distance}{Speed} = \frac{\frac{350}{1000}}{70} = \frac{350}{1000} \times \frac{1}{70} = \frac{1}{200}$ hr = $\frac{1}{200} \times 3600$ = 18 Sec

S56.Ans.(c)
Sol. Sum of the series: 1 + 2 + 3 + … + 25
$\frac{n(n+1)}{2} = \frac{25(25+1)}{2} = \frac{25 \times 26}{2} = 325$

S57.Ans.(d)
Sol. National Stock Exchange of India Limited is a leading stock exchange organization in India. It is located in the city of Mumbai, Maharashtra.

S58.Ans.(b)
Sol. 2008 is a leap year.
Total number of days from 25th January to 2nd March = 6 + 29 + 2 = 37 days
Dividing 37 by 7 leaves 2 as the remainder.
So, the day 2nd March, 2008 is = Monday + 2 = Wednesday.

S59.Ans.(d)
Sol. Samaresh Majumdar is a famous Bengali fiction writer and novelist. He is the author of many popular novels including Uttaradhikar, Kaalbela, Kalpurush.

S60.Ans.(d)
Sol. The Imperial Bank of India was founded by J. M. Keynes on 27 January 1921. After nationalization in 1955, Imperial Bank of India was renamed as State Bank of India.

S61.Ans.(b)
Sol. 1934992**393**25**991**312939**4993**92**391**
There are 9 in this number class that are divisible by the immediately preceding and immediately following digits. They are:
(193), (393), (991), (993), (391)
Then there are 5 such 9s.

S62.Ans.(c)
Sol. $999\frac{88}{99} \times 99$
$= \frac{98989}{99} \times 99$
$= 98989$

S63.Ans.(d)
Sol. From 12th March to 5th April 1930, Mahatma Gandhi led the Salt Satyagraha in India, known as the Dandi Campaign. It was one of the most important steps in the massive non-violent protest.

S64.Ans.(d)
Sol. If the letters of the word UNDERSTANDING are arranged from left to right in the English alphabet, the word will be:
ADDEGINNNRSTU
Taking only one letter of this new word, the eighth letter from the left is – **S.**

S65.Ans.(a)
Sol. Studying science in school = 120 ×15%=18
Studying arts in school = 66
Studying commerce in school = 120 – 66 – 18 = 36
Studying commerce in school (%) = $\frac{36}{120} \times 100 = 30\%$

S66.Ans.(b)
Sol. Chittaranjan Locomotive Works or Chittaranjan Rail Engine Factory is an electric locomotive manufacturing plant in India. It is one of the largest locomotive manufacturing factories in the world. This factory is located in West Burdwan district of West Bengal state.

S67.Ans.(b)
Sol. The first to 18th letter of the English alphabet is R.
The seventh letter to the left of R is K.

S68.Ans.(d)
Sol. 402 of 0.3 = 120.6
Required value = 120.6 – 8.65 = 111.95

S69.Ans.(d)
Sol. The 2022 FIFA World Cup was a professional football tournament. It was a world championship for national football teams organized by FIFA. The tournament was held in Qatar from 20th November to 18th December 2022 and was won by Argentina.

S70.Ans.(d)
Sol. The Mahabharata is one of the two major epics of ancient India written in Sanskrit. This epic belongs to the history section of Sanskrit scriptures. Mahabharata is an epic poem. It is not part of the ancient Vedas.

S71.Ans.(b)
Sol. It was amended by the 42nd Constitutional Amendment Act of 1976 to the Constitution of India. And the words socialist, secular and integrity have been added to the proposal.

S72.Ans.(d)
Sol.
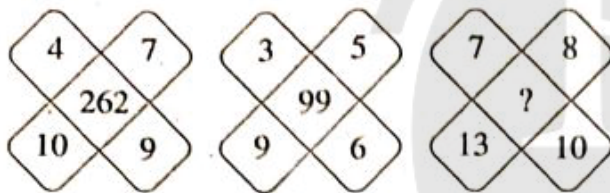
$(4 \times 7 \times 9) + 10 = 262$
$(3 \times 5 \times 6) + 9 = 99$
$(7 \times 8 \times 10) + 13 = \textbf{573}$

S73.Ans.(b)
Sol. $67 \times 119 + 17 - 27 \div 259 = ?$
Put the value: '+' means '÷', '-' means '×', '÷' means '-' and '×' means '+'
$67 + 119 \div 17 \times 27 - 259$
$= 67 + 7 \times 27 - 259$
$= 67 + 189 - 259$
$= 256 - 259$
$= -3$

S74.Ans.(b)
Sol. Gout is caused by hypothyroidism. This disease occurs when the hypothalamus fails to produce enough thyrotropin releasing hormone (TRH).

S75.Ans.(b)
Sol. The word FACTOR cannot be formed with the letters of the word TRANSFERENCE. Because there is no 'O' in the original word.

S76.Ans.(b)

Sol. Rice is a cereal plant. Rice is widely cultivated in warm climates, especially in East-Asia. The scientific name of rice is 'Oryza sativa'. It is the major food crop of India.

S77.Ans.(a)

Sol. Proof The volume of a gas per gram molecule at pressure and temperature is 22.4 liters. 22.4 liters of any gas at STP has the same number of molecules i.e. 6.02×10^{23}. This number is known as Avogadro's number.

S78.Ans.(d)

Sol. The incompatible word is wood because stone, sand and brick sink in water but wood does not.

S79.Ans.(a)

Sol. A type of iron ore mineral is called hematite. The chemical symbol of hematite is Fe_2O_3. It is also known as ferric oxide. It is a reddish black colored iron ore mineral.

S80.Ans.(c)

Sol. Let Price of gas be Rs.100

Price increased = Rs.125

To keep the monthly cost of gas unchanged, the cost of gas will have to be brought back to Rs.100

So reduce gas consumption = 125 – 100 = Rs. 25

Decreased in percentage = $\frac{25}{125} \times 100 = 20\%$

S81.Ans.(d)

Sol. A : B = 3 : 4, B : C = 6 : 5

$\frac{A}{B} \times \frac{B}{C} = \frac{3}{4} \times \frac{6}{5}$

➔ $\frac{A}{C} = \frac{9}{10}$

➔ A : C = 9 : 10

S82.Ans.(a)

Sol. GST i.e. Goods and Services Tax is a value added tax. This tax is levied on the supply of goods and services from the manufacturer to the consumer. This tax is implemented in India from 1st July 2017. It is an indirect tax system.

S83.Ans.(b)

Sol. 2 kg 250 g = 2250 g

0.72 quintal = 0.72 × 100000 = 72000 g

Required Percentage = $\frac{2250}{72000} \times 100 = \frac{25}{8} = 3\frac{1}{8}\%$

S84.Ans.(a)

Sol. $\frac{3}{4} : x :: x : \frac{27}{64}$

➔ $x^2 = \frac{3}{4} \times \frac{27}{64}$

➔ $x = \sqrt{\frac{3}{4} \times \frac{27}{64}}$

➔ $x = \frac{9}{16}$

S85.Ans.(a)
Sol. Mercury is an example of a liquid metal. Its chemical symbol is Hg. It is a heavy, silvery white metal. Its thermal conductivity is low compared to other metals but electrical conductivity is very high.

S86.Ans.(c)
Sol. $p = \frac{100I}{rt}$

➔ $p = \frac{100 \times 136}{8 \times 4}$

➔ p = Rs. 425

S87.Ans.(a)
Sol. In the process of sublimation, the solid substance is converted directly into the gaseous state, without entering the liquid state. Substances such as camphor, sulphur, iodine, naphthalene, nishadol, ammonium chloride, carbon dioxide, arsenic etc. show such properties.

S88.Ans.(c)
Sol. The correct sequence is:
(iii) Cotton ➔ (iv) Yarn ➔ (v) Cloth ➔ (ii) Printing ➔ (i) Saree

S89.Ans.(d)
Sol. Let length of pole = 1 part

Pole above water = $1 - \left(\frac{1}{2} - \frac{1}{3}\right) = 1 - \frac{5}{6} = \frac{1}{6}$

Length of pole = $25 \times \frac{1}{\frac{1}{6}} = 25 \times \frac{6}{1} = 150$ m

S90.Ans.(d)
Sol. Sum of two numbers = 9 × 2 = 18

Sum of other three numbers = 3 × 4 = 12

Sum of 5 numbers = 18 + 12 = 30

Average of 5 numbers = $\frac{30}{5}$ = 6

S91.Ans.(c)
Sol. Common balance instrument are first class levers. A lever where the fulcrum on one side and the applied force acts on the other is called a first class lever. Examples of these levers are well handles, scissors, scissors, nail hammers, shovels, spades, etc. A typical common balance instrument has a power arm on one side of the Fulcrum point and a resistance arm on the opposite side. Its mechanical advantage is always 1.
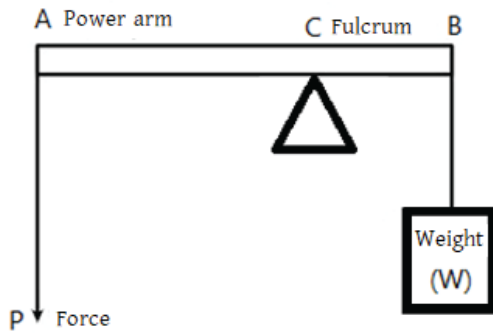
S92.Ans.(a)
Sol. The game of golf is a game of club and ball, in which the players try to hit the ball with the help of the club into a certain hole. Golf players are called golfers. Golf is played on an open field called a golf course. The word caddy is associated with this game.

S93.Ans.(a)
Sol.

(pil) gin jop - apple is (good)

jop zon pin - tree is tall

(pil) man san - eat (good) fruit

So the symbol for 'good' is pil

S94.Ans.(b)
Sol. The force by which the earth attracts an object towards its center is called the weight of that object. An object has both a value and a direction. The weight of an object is a vector quantity.

S95.Ans.(a)
Sol. Between 1 o'clock to 10 o'clock there are (10 - 1) = 9 gaps of time
∴ Between 1 o'clock to 12 o'clock there are (12 - 1) = 11 gaps of time
Now 9 intervals of time takes 10 seconds
➜ 1 intervals of time takes $\frac{10}{9}$ seconds
∴ 11 intervals of time takes = $\frac{10}{9} \times 11 = \frac{110}{9} = 12\frac{2}{9}$ seconds

S96.Ans.(d)
Sol. The smallest four-digit number is 1000
1000 is not a whole number so the next whole number is 1024. which is the square of 32.

S97.Ans.(a)
Sol. Speed of Purba Express = $\frac{72}{4} = 18$ km/hr
Speed of Rajdhani Express = $18 \times \frac{4}{3} = 24$ km/hr
Rajdhani Express will covered in 3 hours = $24 \times 3 = 72$ km

S98.Ans.(b)
Sol. Amount of the electricity bill = $66 \times \frac{100}{20}$ = Rs. 330

S99.Ans.(c)
Sol. Shyam stands in = 52 – 13 = 39
Ram standing in = 39 – 18 = 21
Ram stands behind (21 – 1) = 20 people from front.

S100.Ans.(a)
Sol. The Women's U-19 T-20 World Cup in 2023 was held in the country of South Africa. India beat England to win the U-19 Women's T-20 World Cup.