

DIRECTIONS (Qs. 1-2): Find the odd word/letters/ number pair from the given alternatives.

1. (a) GLOVES (b) SWEATER
(c) SHAWL (d) UMBRELLA
2. (a) PORTRAIT (b) DRAW
(c) PAINT (d) SKETCH

DIRECTIONS (Q. 3): A series is given, with one/two term missing. Choose the correct alternative from the given ones that will complete the series.

3. 6, 2, 9, 4, 12, -, -
(a) 6, 15 (b) 4, 13
(c) 8, 24 (d) 13, 15
4. In a line, Naresh is 17th from the left & 22nd from the right. How many students are there in the line ?
(a) 40 (b) 38
(c) 39 (d) 37
5. Some equations have been solved on the basis of certain system. Find the correct answer for the unsolved equations on that basis ?
If $72 \times 19 = 23$, $13 \times 48 = 35$ and $16 \times 43 = 18$ then $39 \times 22 = ?$
(a) 27 (b) 51
(c) 31 (d) 21
6. Which one set of letters when sequentially placed at the gaps in the given letter series shall complete it ?
ab_cba_bcc_aabccb__bccba
(a) abbac (b) cccab
(c) cabaa (d) abcab
7. If LISTEN is coded as 593417 then SILENT is code as :
(a) 591734 (b) 391754
(c) 591743 (d) 395174

8. Find out the set of numbers amongst the four sets of numbers given in the alternative which is most like the set given in the question. (12, 24, 144)
(a) (15, 45, 90)
(b) (10, 25, 100)
(c) (14, 28, 112)
(d) (13, 26, 169)
9. In a class of 45, Neha's rank is 15th from first, what is her rank from the last ?
(a) 30 (b) 32
(c) 33 (d) 31
10. If + means \div , \div means \times , and \times means +, then following will be :
 $64 + 8 \times 32 \div 4$
(a) 128 (b) 160
(c) 136 (d) 144
11. Find the wrong number in the given series ?
15, 28, 30, 39, 48
(a) 28 (b) 15
(c) 30 (d) 39

DIRECTIONS (Qs.12-13): Study the information given below and answer the questions following it:

Mohan is son of Arun's father's sister. Prakash is son of Reva, who is mother of Vikash and grandmother of Arun. Pranab is father of Neela and grandfather of Mohan. Reva is wife of Pranab.

12. How is Mohan related to Reva?
(a) Grandson
(b) Son
(c) Nephew
(d) Data inadequate

13. How is Vikash's wife related to Neela?
 (a) Sister
 (b) Niece
 (c) Sister-in-law
 (d) Data inadequate
14. In a certain code language BEAM is written as 5 % * K and COME is written as \$ 7 K %. How is BOMB written in that code?
 (a) 5 % K5 (b) 5 7 K5
 (c) \$ 7 K \$ (d) 5 \$ % 5
15. In a certain code language NATIONALISM is written as OINTANMSAIL. How is DEPARTMENTS written in that code?
 (a) RADEPTSTMNE
 (b) RADPETSTMNE
 (c) RADPESTMNE
 (d) RADPETSTNME

DIRECTIONS (Q.16): In a certain code language meanings of some words are as follows:

- (i) 'pit na sa' mean 'you are welcome'.
 (ii) 'na ho pa la' means 'they are very good'.
 (iii) 'ka da la' means 'who is good'?
 (iv) 'od ho pit la' means 'they welcome good people'.
16. Which of the following means 'people' in that code language?
 (a) ho (b) pit
 (c) la (d) od

DIRECTIONS (Qs. 17-18): Select the related letter/word/number from the given alternatives:

17. Zoology : Animal :: Psychology : ?
 (a) Animal
 (b) Human-being
 (c) Animal and human-being
 (d) Plant
18. CFIL : ABCD :: ? : WXYZ
 (a) ZYXW (b) DCBA
 (c) JHPS (d) XURO
19. From the given alternative words, select the word which cannot be formed using the letters of the given word: DISINTEGRATION
 (a) SIGN
 (b) SIGNATURE
 (c) INTERN
 (d) SINGER
20. Arrange the following words according to English Dictionary:
 1. Bound 2. Bonus
 3. Bunch 4. Board
 (a) 4, 2, 1, 3 (b) 4, 3, 2, 1
 (c) 1, 4, 2, 3 (d) 2, 4, 3, 1

21. If 'FRIEND' is coded as 'IULHQQ', how will you code 'ENEMY'?
 (a) HQHPB (b) HQHPA
 (c) HQEMY (d) HQHPG
22. Four aeroplanes of Airforce viz, A, B, C, D, started for a demonstration flight towards east. After flying 50 km planes A and D flew towards right, planes B and C flew towards left. After 50 km, planes B and C flew towards their left, planes A and D also towards their left. In which directions are the aeroplanes A, B, D, C respectively flying now?
 (a) North, South, West, East
 (b) South, North, West, East
 (c) East, West, West, East
 (d) West, East, West, East

DIRECTIONS (Q. 23): Select the missing number from the given responses.

23.

10	11	15
12	12	8
4	12	10
10	5	13
18	20	?

- (a) 21 (b) 20
 (c) 23 (d) 22
24. If $64 \div 14 = 5$, $92 \div 31 = 7$, $26 \div 11 = 6$, then $56 \div 22 = ?$
 (a) 11 (b) 39
 (c) 7 (d) 36
25. Shan is 55 years old, Sathian is 5 years junior to Shan and 6 years senior to Balan. The youngest brother of Balan is Devan and he is 7 years junior to him. So what is the age difference between Devan and Shan?
 (a) 18 years (b) 15 years
 (c) 13 years (d) 7 years
26. The average of 13 results is 70. The average of first seven is 65 and that of the last seven is 75, the seventh result is :
 (a) 70 (b) 70.5
 (c) 68 (d) 67
27. A contractor was engaged to construct a road in 16 days. After working for 12 days with 20 labours it was found that only $\frac{5}{8}$ th of the road had been constructed. To complete the work in stipulated time the number of extra labours required is :
 (a) 12 (b) 10
 (c) 18 (d) 16
28. The length of two parallel sides of a trapezium are 15 cm and 20 cm. If its area is 175 sq. cm, then its height is :
 (a) 10 cm (b) 15 cm
 (c) 25 cm (d) 20 cm

29. A train 150 m long passes a km stone in 30 seconds and another train of the same length travelling in opposite direction in 10 seconds. The speed of the second train is :
- (a) 125 km/hr (b) 25 km/hr
(c) 90 km/hr (d) 75 km/hr
30. If water is frozen to become ice, its volume is increased by 10%, then if the ice is melted to water again, its volume will be decreased by :
- (a) 8% (b) $9\frac{1}{2}\%$
(c) 9% (d) $9\frac{1}{11}\%$
31. A number of boys raised ₹ 12,544 for a famine fund, each boy has given as many rupees as there were boys. The number of boys was:
- (a) 122 (b) 132
(c) 112 (d) 102
32. The current ages of Sonali and Monali are in the ratio 5 : 3. Five years from now, their ages will be in the ratio 10 : 7. Then, Monali's current age is:
- (a) 9 years (b) 15 years
(c) 3 years (d) 5 years
33. In $\triangle ABC$, $AB = BC = K$, $AC = \sqrt{2}K$, then $\triangle ABC$ is a :
- (a) Isosceles triangle
(b) Right angled triangle
(c) Equilateral triangle
(d) Right isosceles triangle
34. If $(2a - 1)^2 + (4b - 3)^2 + (4c + 5)^2 = 0$ then the value of $\frac{a^3 + b^3 + c^3 - 3abc}{a^2 + b^2 + c^2}$ is:
- (a) $1\frac{3}{8}$ (b) $3\frac{3}{8}$
(c) $2\frac{3}{8}$ (d) 0
35. If $x * y = (x + 3)^2 (y - 1)$, then the value of $5 * 4$ is
- (a) 192 (b) 182
(c) $\sqrt{2}$ (d) 356
36. Which one among $\sqrt{10} + \sqrt{4}$, $\sqrt{11} + \sqrt{3}$, $\sqrt{7} + \sqrt{7}$ is the smallest number?
- (a) $\sqrt{10} + \sqrt{4}$ (b) $\sqrt{11} + \sqrt{3}$
(c) $\sqrt{7} + \sqrt{7}$ (d) All are equal
37. If $34N$ is divisible by 11, then what is the value of N ?
- (a) 1 (b) 3
(c) 4 (d) 9
38. The sum of two numbers is $15\frac{1}{3}$ and their difference is $4\frac{2}{3}$. The product of the numbers is
- (a) 50 (b) $48\frac{2}{3}$
(c) $53\frac{1}{3}$ (d) 60
39. What is the simplified value of $(2 + 1)(2^2 + 1)(2^4 + 1)(2^8 + 1)$?
- (a) $2^8 - 1$ (b) $2^{16} - 1$
(c) $2^{32} - 1$ (d) $2^{64} - 1$
40. If $x^2 - 3x + 1 = 0$, then what is the value of $x^3 + \frac{1}{x^3}$?
- (a) 3 (b) 7
(c) 11 (d) 18
41. If $\frac{6x-1}{x} + \frac{7y-1}{y} + \frac{8z-1}{z} = 0$, then what is the value of $\frac{1}{x} + \frac{1}{y} + \frac{1}{z}$?
- (a) 1 (b) 3
(c) 0 (d) 21
42. What is the average of the squares of the first 19 natural numbers?
- (a) 124 (b) 127.5
(c) 130 (d) 133.5
43. In a match, average of runs scored by 5 players is 49. If the runs scored by four players are 75, 30, 62 and 21 respectively, then how many runs did the 5th player had scored?
- (a) 43 (b) 49
(c) 57 (d) 89
44. The price of table depreciates every year by 20%. If the value of the table after 2 years will be ₹ 32000, then what is the present price (in ₹) of the table?
- (a) 48000 (b) 44000
(c) 50000 (d) 51000
45. By selling a fan for ₹ 1900 a man has a loss of 5%, then at what price (in ₹) should he sell the fan to gain 20%?
- (a) 2000 (b) 2400
(c) 2600 (d) 2800
46. An amount was lent for two years at the rate of 20% per annum compounding annually. Had the compounding been done half yearly, the interest would have increased by 241. What was the amount (in ₹) lent?
- (a) 10000 (b) 12000
(c) 20000 (d) 24000

47. Raman, Manan, and Kamal are partners and invest in a business such that Raman invests $\frac{2}{5}$ th of total and Manan invest $\frac{3}{8}$ th of the total. What is the ratio of profit of Raman, Manan and Kamal respectively?
- (a) 16 : 15 : 9 (b) 16 : 15 : 31
(c) 2 : 3 : 5 (d) 15 : 16 : 9
48. Two inlet pipes can fill a cistern in 10 and 12 hours respectively and an outlet pipe can empty 80 gallons of water per hour. All the three pipes working together can fill the empty cistern in 20 hours. What is the capacity (in gallons) of the tank?
- (a) 360 (b) 300
(c) 600 (d) 900
49. A bus starts running with the initial speed of 33 km/hr and its speed increases every hour by certain amount. If it takes 7 hours to cover a distance of 315 km, then what will be hourly increment (in km/hr) in the speed of the bus?
- (a) 1 (b) 2
(c) 3 (d) 4
50. If the perimeter of a rhombus is 80 cm and one of its diagonal is 24 cm, then what is the area (in cm^2) of the rhombus?
- (a) 218 (b) 192
(c) 384 (d) 768
51. Chromosomes are made up of
- (a) DNA (b) Protein
(c) DNA and Protein (d) RNA
52. The danger signals are red while the eye is more sensitive to yellow because
- (a) absorption in red is less than yellow and hence red is visible from a distance
(b) scattering in yellow light is less than red
(c) the wavelength of red light is more than yellow light
(d) none of the above reasons
53. Hemophilia is –
- (a) caused by bacteria
(b) caused by virus
(c) caused by pollutants
(d) a hereditary defect
54. In human body, vitamin A is stored in the –
- (a) liver (b) skin
(c) lung (d) kidney
55. Odometer is a –
- (a) Measuring instrument for distance covered by motor wheels
(b) Measuring instrument for frequency of electromagnetic waves
(c) Device for measuring sound intensity
(d) Measuring instrument for electric power
56. Which acid is used in rubber, textile, leather and electroplating industries ?
- (a) Ethanoic acid
(b) Methanoic acid
(c) Malonic acid
(d) Butyric acid
57. For a person having hypermetropia, the near point is
- (a) Greater than 20 cm
(b) Lesser than 25cm
(c) Greater than 25cm
(d) Lesser than 30cm
58. Cryogenic is a science deals with
- (a) High Temperatures
(b) Low Pressure
(c) High Pressure
(d) Low Temperature
59. Wood Spirit is which of the following ?
- (a) Ethyl Alcohol (b) Propanol
(c) Methyl Alcohol (d) Butanol
60. Which of the following is chief source of Naphthalene ?
- (a) Moth balls (b) Mothflakes
(c) Tar Camphor (d) Coal tar
61. Study of crop production is
- (a) Entology (b) Ecology
(c) Botany (d) Agronomy
62. *Bos Taurus* is a scientific name of
- (a) Buffalo (b) Horse
(c) Cow (d) Cat
63. includes all prokaryotic organism likes bacteria, cyanobacteria and archiobacteria
- (a) Animalia (b) Protista
(c) Monera (d) Planatae
64. Which one of the following is not a constituent of biogas?
- (a) Methane
(b) Carbon dioxide
(c) Hydrogen
(d) Nitrogen dioxide
65. Bar is a unit of which one of the following?
- (a) Force
(b) Energy
(c) Pressure
(d) Frequency
66. Which of the following metals are present in haemoglobin and chlorophyll, respectively?
- (a) Fe and Mg
(b) Fe and Zn
(c) Mg and Zn
(d) Zn and Mg
67. A mother of blood group O has a group O child. What could be the blood group of father of the child?
- (a) Only O (b) A or B or O
(c) A or B (d) Only AB

68. Which one of the following causes the chikungunia disease?
 (a) Bacteria (b) Helminthic worm
 (c) Protozoan (d) Virus
69. Which one of the following vitamins helps in clotting of blood?
 (a) Vitamin-A (b) Vitamin-B₆
 (c) Vitamin-D (d) Vitamin-K
70. What is the purpose of adding baking soda to dough?
 (a) To generate moisture
 (b) To give a good flavour
 (c) To give good colour
 (d) To generate carbon dioxide
71. Which one of the following glands in the human body stores iodine?
 (a) Parathyroid (b) Thyroid
 (c) Pituitary (d) Adrenal
72. Which one of the following glands produces the growth hormone (somatotrophin)?
 (a) Adrenal (b) Pancreas
 (c) Pituitary (d) Thyroid
73. Carbon dioxide is called a greenhouse gas because
 (a) its concentration remains always higher than other gases
 (b) it is used in photosynthesis
 (c) it absorbs infrared radiation .
 (d) it emits visible radiation
74. Laser is a device to produce
 (a) a beam of white light
 (b) coherent light
 (c) microwaves
 (d) X-rays
75. In the human body, Cowper's glands form a part of which one of the following system?
 (a) Digestive system
 (b) Endocrine system
 (c) Reproductive system
 (d) Nervous system
76. Mist is a result of which one of the following
 (a) Condensation (b) Evaporation
 (c) Sublimation (d) Saturation
77. Fat can be separated from milk in a cream separation because of
 (a) cohesive force (b) gravitational force
 (c) centrifugal force (d) centripetal force
78. Malaria in the human body is caused by which one of the following organisms?
 (a) Bacteria (b) Virus
 (c) Mosquito (d) Protozoan
79. The focal length of convex lens is
 (a) the same for all colours
 (b) shorter for blue light than for red
 (c) shorter for red light than for blue
 (d) maximum for yellow light
80. The headquarters of which one of the following organizations is not in Geneva?
 (a) Food and Agricultural Organisation
 (b) World Meteorological Organisation
 (c) World Health Organisation
 (d) World Trade Organisation
81. Which Amendment Act is referred as mini constitution?
 (a) 7th Constitutional Amendment Act, 1956
 (b) 24th Constitutional Amendment Act, 1971
 (c) 42nd Constitutional Amendment Act, 1976
 (d) 44th Constitutional Amendment Act, 1978
82. Inflation is caused by
 (a) decrease in production
 (b) increase in money supply and decrease in production
 (c) increase in money supply
 (d) increase in production
83. Arihant is a
 (a) Multi barrel rocket launcher
 (b) Airborne Early Warning and Control System
 (c) Unarmed Combat Aerial Vehicle
 (d) Nuclear-powered ballistic missile submarine
84. The city of Prayag was named Allahabad - the city of Allah by
 (a) Aurangzeb
 (b) Akbar
 (c) Shahjahan
 (d) Bahadur Shah Zafar
85. Which Article of the Indian Constitution guarantees rights to arrested persons ?
 (a) Article 22 (b) Article 35
 (c) Article 20 (d) Article 42
86. is an active factor of production
 (a) Product (b) Labour
 (c) Wages (d) Price
87. Who was the last guru of the Sikhs ?
 (a) Guru Granth Sahib
 (b) Guru Gobind Singh
 (c) Guru Angad
 (d) Guru Amar Das
88. Tattvabodhini Sabha was founded by In 1839
 (a) Swami Vivekanand
 (b) Keshav Chandra Sen
 (c) Dabendranath Tagore
 (d) Swami Sahajanamd
89. After the revolt of 1857, British pursued the policy of
 (a) Divide and Policies
 (b) Rules and Regulation
 (c) Divide and Rule
 (d) Unity and Poliy

90. is the Kuchipudi dancer
(a) Anupama Mohan (b) Bimbavati Devi
(c) Arush Mudgal (d) Swapnasundari
91. The treaty of Mangalore was signed between
(a) the English East India Company and Haidar Ali
(b) the English East India Company and Tipu Sultan
(c) Haidar Ali and the Zamorin of Calicut
(d) the French East India Company and Tipu Sultan
92. World's largest Charkha (spinning wheels) that was unveiled at Terminal 3 of the Indira Gandhi International Airport (IGI), New Delhi is made of the teak wood of which country?
(a) Burma (b) Sri Lanka
(c) Nepal (d) Ukraine
93. In which of the following cities are located 3 zonal headquarters of Indian Railways?
(a) Guwahati (b) Mumbai
(c) New Delhi (d) Kolkata
94. Who of the following is known for having designed the first railway timetables?
(a) George Bradman (b) George Bernard Shaw
(c) George Bradshaw (d) George Brummel
95. Which HRD Ministry - appointed committee is drafting new National Education Policy (NEP)?
(a) Ram Shanker Kureel committee
(b) K Kasturisangan committee
(c) V G S Rathore committee
(d) KJ Alphonse committee
96. NIS stands for
(a) National Infectious diseases seminar
(b) National Irrigation Schedule
(c) National Immunisation Schedule
(d) National Information Sector
97. Which of the following criteria is not used for the classification of human races?
(a) Nose (b) Hair
(c) Eyes (d) Ear
98. Multi purpose river valley projects are the "New temples of modern India".
(a) Jawaharlal Nehru
(b) Motilal Nehru
(c) Mahatma Gandhi
(d) Rajiv Gandhi
99. The Red Data Books published by the International Union for Conservation of Nature and Natural Resources enumerate
(a) Biodiversity parks and wild life sanctuaries in different countries.
(b) Centres of origin of cultivated plants.
(c) Centres of origin of all economically important plants.
(d) Threatened species of plants and animals.
100. First Nobel Prize to India was given for :
(a) Physics (b) Literature
(c) Medicine (d) Chemistry