

1. What are the Highest Common Factor and Lowest Common Multiple of 6, 72 and 120 respectively?

- (1) 12 and 180
- (2) 6 and 360
- (3) 360 and 6
- (4) 12 and 360

2. If a quadratic polynomial $y = ax^2 + bx + c$ intersects x -axis at α and β , then

(1) $\alpha + \beta = \frac{-b}{a}$

(2) $\alpha + \beta = \frac{a}{b}$

(3) $\alpha \times \beta = \frac{a}{c}$

(4) $\frac{\alpha}{\beta} = 1$

3. If in two linear equations $ax + by = c$ and $dx + ey = f$ and

$\frac{a}{d} = \frac{b}{e} = \frac{c}{f}$ then, which of

the following is true about the two equations?

- (1) They represent intersecting lines.
- (2) They represent coincident lines.
- (3) Have a unique solution.
- (4) None of these

4. The roots of the quadratic equations $2x^2 + x - 528 = 0$ is:

(1) 16 (2) $\frac{-33}{2}$

- (3) Both (1) and (2)
- (4) None of these

5. The sum of all positive integers from 1 to 100 is

- (1) 5050 (2) 5020
- (3) 10800 (4) 2400

6. If areas of similar triangles ΔABC and ΔDEF be 64 sq. cm. and 121 sq. cm. respectively and $EF = 15.4$ cm. then BC equals:

- (1) 8 cm. (2) 18 cm.
- (3) 11.2 cm. (4) 8.2 cm.

7. The area of a triangle with vertices at (2, 3), (-1, 0) and (2, -4) is:

(1) $\frac{21}{2}$ cm.

(2) $\frac{21}{2}$ sq. units

- (3) 21 sq. units
- (4) None of these

8. $\frac{2 \times \tan 30^\circ}{(1 + \tan^2 30^\circ)}$ equals:

- (1) $\sin 60^\circ$ (2) $\cos 60^\circ$
- (3) $\tan 60^\circ$ (4) $\sin 30^\circ$

9. The angle of elevation of the top of a tower from a point on ground which is 30 metres, away from the foot of the tower is 30° . Height of the tower is:

(1) $\frac{10}{\sqrt{3}}$ metres

(2) $10 \times \sqrt{3}$ metres

- (3) 100 metres
- (4) 20 metres

10. The length of a tangent from a point A at a distance 5 cm. from the centre of the circle is 4 cm. The radius of the circle is

- (1) 2 cm. (2) 3 cm.

(3) $\sqrt{3}$ cm. (4) $\frac{\sqrt{3}}{2}$ cm.

11. The length of a minute hand of a clock is 14 cm. Area swept by the minute hand in 5 minutes is:

(1) 154 sq. cm.

(2) $\frac{154}{3}$ sq. cm.

(3) 210 sq. cm.

(4) $\frac{154}{\sqrt{3}}$ sq. cm.

12. A metallic sphere of radius 4.2 cm. is melted and recast into the shape of a cylinder of radius 6 cm. Height of the resultant cylinder would be:

(1) 110 cm. (3) 3.84 cm.

(2) 30 cm. (4) 2.74 cm.

13. A box contains 3 blue, 2 white and 4 red marbles. If a marble is drawn at random from the box, what is the probability that it would be white?

(1) Cannot be determined

(2) 1

(3) $\frac{7}{9}$ (4) $\frac{2}{9}$

14. Which of the following cannot be the probability of an event?

(1) $\frac{2}{3}$ (2) -1.5

(3) 15% (4) 0.7

15. Mean of a grouped data calculated using direct method, assumed mean method or step deviation method:

(1) Is the same

(2) Varies slightly

(3) Has huge variation

(4) None of these

16. Which of the following is a prime number?

(1) 12 (2) 7

(3) 9 (4) 4

17. If polynomial $P(x) = x^3 - 3x^2 + 5x - 3$ is divided by polynomial $G(x) = x^2 - 2$, the quotient and remainder are :
- $x - 3, 7x - 9$
 - $x, 7x$
 - $x - 3, 7x$
 - $x, 7x - 9$
18. If in triangle ABC, if side $AB = 6\sqrt{3}$, $AC = 12$ and $BC = 6$, then angle B equals :
- 120°
 - 60°
 - 90°
 - 45°
19. What are the coordinates of the point which divides the line joining $(-1, 7)$ and $(4, -3)$ in the ratio 2 : 3 ?
- $(7, 4)$
 - $(9, 9)$
 - $(1, 3)$
 - $(4, 7)$
20. The volume of a cone with radius r and height h is :
- πr^2
 - $\frac{\pi r^2 h}{2}$
 - $\frac{\pi r h}{3}$
 - $\frac{\pi r^2 h}{3}$
21. International Day of Yoga is celebrated annually on :
- 21 June
 - 10 December
 - 21 July
 - 21 September
22. City of lakes' in India is :
- Lucknow
 - Chandigarh
 - Bengaluru
 - Udaipur
23. Which of the diseases is not caused by virus ?
- TB
 - Chickenpox
 - Dengue
 - Polio
24. How many states are there in India ?
- 26
 - 28
 - 27
 - 29
25. During Akbar's regime, who carried out land revenue reforms :
- Mann Singh
 - Todar Mal
 - Birbal
 - Tansen

26. Which of the following is the unit of heat ?
- Joule
 - Ohm
 - Ampere
 - Volt
27. Who among the following is the future Buddha that is yet to come ?
- Lokes Varna
 - Maitreya
 - Laughing Buddha
 - Chanakya
28. Jaundice is caused due to malfunctioning of :
- Liver
 - Stomach
 - Pancreas
 - Kidney
29. Tsangpo river flowing through Tibet is known in India as :
- Brahmaputra
 - Ganges
 - Sutlej
 - Beas
30. Yuri Gagarin, the first cosmonaut to reach space, was from which country ?
- UK
 - Japan
 - China
 - Russia
31. What is boiling point of water in Fahrenheit ?
- $100^\circ F$
 - $32^\circ F$
 - $212^\circ F$
 - $0^\circ F$
32. Kalibangan, the Indus Valley site, is in :
- Rajasthan
 - Gujarat
 - Madhya Pradesh
 - Uttar Pradesh
33. Who was the founder of Banaras Hindu University ?
- Sukumar Dey
 - Madan Mohan Malviya
 - Dr. Rajendra Prasad
 - Motilal Nehru
34. Where do you find the temple of Angkorwat ?
- Thailand
 - Malaysia
 - Combodia
 - Myanmar

35. Which of the following can cause a Tsunami ?
- Volcano
 - Avalanche
 - Tornado
 - Earthquake
36. The Bhakra Dam in India is built on :
- Beas River
 - Jhelum River
 - Sutluj River
 - Ghagra River
37. Who wrote 'Ramcharitmanas' ?
- Tulsidas
 - Vedvyas
 - Kalidas
 - Panini
38. The river known as Ganges of the South is :
- Godavari
 - Krishna
 - Kaveri
 - None of these
39. Where is the Tungbhadra Sanctuary located ?
- Madhya Pradesh
 - Uttar Pradesh
 - Karnataka
 - West Bengal
40. Where is Nanda Devi Mountain ?
- Uttarakhand
 - Rajasthan
 - Himachal Pradesh
 - Arunachal Pradesh
41. Jaya Samhita is the original name of :
- Ramayana
 - Bhagwat Gita
 - Panchtantra
 - Mahabharata
42. Rickets is caused due to deficiency of :
- Vitamin D
 - Vitamin K
 - Vitamin B12
 - Vitamin A
43. Who was the first woman speaker of Lok Sabha ?
- Sumitra Mahajan
 - Najma Heptullah
 - Meira Kumar
 - Paratibha Patil

44. With which sport is term Butterfly associated with ;
 (1) Kabaddi (2) Cricket
 (3) Football (4) Swimming
45. The resolution for removal of Vice President of India should be moved in :
 (1) Lok Sabha
 (2) Rajya Sabha
 (3) Either of the Houses
 (4) None of these
46. What happens when dilute hydrochloric acid is added to iron fillings ?
 (1) Hydrogen gas and iron chloride are produced
 (2) Chlorine gas and iron hydroxide are produced
 (3) No reaction takes place
 (4) Iron salt and water are produced
47. A solution turns red litmus paper blue. Its pH is likely to be :
 (1) 1 (2) 4
 (3) 5 (4) 10
48. An element reacts with oxygen to give a compound with a high melting point. This compound is also soluble in water. The element is likely to be :
 (1) Calcium (2) Carbon
 (3) Silicon (4) Iron
49. While cooking, if the bottom of the vessel is getting blackened on the outside, it means that :
 (1) The food is not cooked completely
 (2) The fuel is not burning completely
 (3) The fuel is wet
 (4) The fuel is burning completely
50. Which of the following statements is not correct about the trend when going from left to right across the periods of the periodic table :

- (1) The elements become less metallic in nature
 (2) The number of valence electrons increase
 (3) Atoms lose their electron more easily
 (4) Oxides of the element become more acidic
51. Kidneys in human beings are a part of the system for :
 (1) Nutrition
 (2) Respiration
 (3) Excretion
 (4) Transportation
52. The gap between two neurons is called a :
 (1) Dendrite
 (2) Synapse
 (3) Axon
 (4) Impulse
53. In a plant, the anther contains :
 (1) Sepals
 (2) Ovules
 (3) Pistil
 (4) Pollen grains
54. In evolutionary terms, we have more in common with :
 (1) A Chinese school boy
 (2) Chimpanzee
 (3) Spider
 (4) Bacterium
55. Which of the following material cannot be used to make a lens ?
 (1) Water
 (2) Glass
 (3) Plastic
 (4) Clay
56. The human eyes form the image of an object at its :
 (1) Cornea (2) Iris
 (3) Pupil (4) Retina
57. Which of the following terms does not represent electric power in a circuit ?
 (1) $I^2 R$ (2) IR^2
 (3) VI (4) $\frac{V^2}{R}$
58. The device used for producing electric current is called :

- (1) Generator
 (2) Galvanometer
 (3) Ammeter
 (4) Motor
59. Which of the following is not an example of bio-mass energy source ?
 (1) Wood
 (2) Gobar gas
 (3) Nuclear energy
 (4) Coal
60. Which of the following constitute a food chain ?
 (1) Grass, Wheat and Mango
 (2) Grass, Goat and Human
 (3) Goat, Cow and Elephant
 (4) Grass, Fish and Goat
- Directions (61-70) :** Complete the sentence by choosing the most appropriate option from those given below :
61. Pleasure and pain are inseparable facets _____ human existence.
 (1) in (2) on
 (3) of (4) by
62. Is there _____ fitness centre near your house ?
 (1) an
 (2) the
 (3) a
 (4) None of these
63. He has hardly read _____ book.
 (1) many
 (2) all
 (3) the
 (4) None of these
64. _____ of pain is real and affects one's body, mind and spirit.
 (1) Experiencing
 (2) Experience
 (3) Experienced
 (4) None of these
65. He drove with _____ care and hence was fined by Traffic Police.
 (1) much
 (2) little
 (3) all
 (4) None of these

66. _____ cultural diversity attracts tourists from all over the world.
 (1) India's
 (2) India
 (3) Both (1) and (2)
 (4) None of these

67. I have been to _____ doctor, whose name figured in the Times of India.
 (1) the (2) an
 (3) any
 (4) None of these

68. The _____ monkeys that escaped from the Delhi Zoo were found eating bananas in a fruit shop.
 (1) many (2) three
 (3) all (4) different

69. We are _____ to go out for a picnic tomorrow.
 (1) plan
 (2) planning
 (3) plans
 (4) think

70. The train must _____ reached Delhi by now.
 (1) has (2) had
 (3) have
 (4) None of these

Directions (71-75) : Select the word spelled incorrectly.

71. (1) mischeif (2) belief
 (3) thief (4) grief
 72. (1) familiar (2) sin
 (3) hammer (4) grammer
 73. (1) focal (2) vocal
 (3) vehical (4) local
 74. (1) carpenter (2) denteist
 (3) doctor (4) plumber
 75. (1) volkano (2) crater
 (3) lava (4) earth

Directions (76-80) : please choose one of the four alternatives that can be substituted for the given sentence.

76. A person who believes in God.
 (1) Theist (2) Cynic
 (3) Atheist
 (4) None of these

77. Story of an individual by himself.
 (1) biography
 (2) autobiography
 (3) history
 (4) None of these

78. A book or paper written in hand.
 (1) edition
 (2) draft
 (3) manuscript
 (4) None of these

79. A number of ships.
 (1) fleet
 (2) galaxy
 (3) constellation
 (4) group

80. A young cow.
 (1) bovine
 (2) herd
 (3) calf
 (4) None of these

Directions (81-85) : Find the odd one out of the choices given therein :

81. (1) Vindhya
 (2) Satpura
 (3) Aravali
 (4) Dal Lake
 82. (1) Ganga
 (2) Yamuna
 (3) Brahmaputra
 (4) Kaveri
 83. (1) Ammeter
 (2) Thermometer
 (3) Barometer
 (4) Temperature
 84. (1) Mango (2) Apple
 (3) Potato (4) Blackberry
 85. (1) Aizawal (2) Itanagar
 (3) Tripura (4) Shillong

Directions (86-90) : Each question contains a pair of words. Find the relationship between these two words. Then choose from the options given in which the relationship is almost similar.

86. Copper : metal
 (1) Engine : car
 (2) Furniture : wood
 (3) Pen : pencil
 (4) Pepper : spice

87. Granary : wheat
 (1) lake : water
 (2) wine : grapes
 (3) gallery : art
 (4) Archive : documents

88. Albania : Europe
 (1) Sydney : Australia
 (2) Congo : South America
 (3) Bengaluru : India
 (4) Cote d' Ivoire : Africa

89. Uranium : Nuclear power plant
 (1) coal : washery
 (2) sand : sea
 (3) coal : thermal power plant
 (4) steam : furnace

90. Hallikar : cow
 (1) dachshund : dog
 (2) gir : lion
 (3) goat : lamb
 (4) mule : horse

91. In the number series, what number should come next?
 7, 10, 8, 11, 9, 12,
 (1) 11 (2) 15
 (3) 14 (4) 10

92. What comes next R, U, X, A, D, ____?
 (1) F (2) G
 (3) H (4) I

93. If the 7th day of a month is 3 days earlier than Friday, then what day will be on the 19th day of the month?
 (1) Sunday
 (2) Monday
 (3) Wednesday
 (4) Friday

94. If EARN is related to RANE and BOND is related to NODB, in the same way TEAR is related to :
 (1) ATRE (2) AERT
 (3) ARFT (4) REAT

95. Average age of a father and his son is 22 years. Ratio of their age is 10 : 1, what is the age of the son?
 (1) 24 years (2) 4 years
 (3) 40 years (4) 6 years

Directions (96-100) : Each question comprises of a statement and two Conclusions I and II. Assuming that the statement is true, which of the Conclusions follow logically from the statement ?

96. Statement :

In a one day cricket match, a team made 200 runs, out of which 160 runs were made by spinners.

Conclusions :

- I. 80% of team consists of spinners.
- II. Opening batsmen were spinners.
 - (1) Only Conclusion I follows
 - (2) Only Conclusion II follows
 - (3) Neither I nor II follows
 - (4) Both I and II follow

97. Statement :

The old order changeth yielding place to new.

Conclusions :

- I. Change is the law of nature.
- II. Discard old ideas because they are old.
 - (1) Only Conclusion I follows
 - (2) Only Conclusion II follows
 - (3) Neither I nor II follows
 - (4) Both I and II follow

98. Statement :

Because of growth in production of Aluminium by National Aluminium Company, India has become self-sufficient in Aluminium.

Conclusions :

- I. Previously India had to import Aluminium.
- II. At this rate, India may start exporting Aluminium.
 - (1) Only Conclusion I follows
 - (2) Only Conclusion II follows
 - (3) Neither I nor II follows
 - (4) Both I and II follow

99. Statement :

All mangoes are golden in colour. No golden coloured things are cheap.

Conclusions :

- I. All mangoes are cheap.

II. Golden coloured mangoes are not cheap.

- (1) Only Conclusion I follows
- (2) Only Conclusion II follows
- (3) Neither I nor II follows
- (4) Both I and II follow

100. Statement :

Jade plant has thick leaves and it requires little water.

Conclusions :

- I. All plants with thick leaves require little water.
- II. Jade plant may grow in places where water is not in abundance.
 - (1) Only Conclusion I follows
 - (2) Only Conclusion II follows
 - (3) Neither I nor II follows
 - (4) Both I and II follow