2022
APTITUDE COMPETITION
CLASS-IX
Time Allowed: 3(Three) hours

INSTRUCTIONS*:*

This booklet contains 60 questions. Each question comprises four possible answers. Select ONLY ONE answer which you consider the best and mark it on the answer sheet. All questions carry equal marks. No marks will be deducted for incorrect answers.

1. The Synonym for the word ESTEEM is

   (A) GRACEFUL (B) HONOUR

   (C) SINCERE (D) GRAND

2. The meaning opposite of the word ALIEN is

   (A) FOREIGN (B) FAMILIAR

   (C) CREATURE (D) OUTSIDER

3. Change the voice:

   Switch off the light.

   (A) Let the light be switch off (B) The light be switched off

   (C) Let the light switch off (D) Let the light be switched off

4. Convert the following into a direct sentence:

   Romen asked Santa if he might use his mobile.

   (A) Romen said, "May I use your mobile, Santa?" (B) Romen said, "Can I use Santa's mobile?"

   (C) Romen asked Santa, "May he use his mobile?" (D) Romen ask, "Santa, can I use your mobile?"

Fill up with appropriate prepositions (Q 5-Q6)

5. *The mosquito is a menace ..... the health of mankind*

(A) for (B) to

(C) of (D) on

6. *The attack ..... the fort was repulsive.*

(A) at (B) in

(C) to (D) on

7. Correct the following sentence:

I just had my dinner

(A) I just have my dinner (B) I have just had my dinner

(C) I had just have my dinner (D) No change required

8. Complete the sentence:

He ..... here last night as his mother was better then.

(A) need not have stayed (B) need not stay

(C) should not have stayed (D) might not have stayed

9. Complete the sentence with an appropriate preposition:

The two wives were jealous ..... each other.

(A) for (B) with

(C) at (D) of

10. Change the voice:

Where did you find this clock?

(A) Where was this clock found by you? (B) Where did this clock found by you?

(C) Where this clock was found by you? (D) Where has this clock was found by you?

(Read the following passage and answer questions 11 to 15)

A desert is not always a flat, unchanging wasteland of dry sand. It may have mountains and hills. It may have an oasis, big or small. An oasis is like a green island in the middle of a desert where a spring or a well gives plants and trees a better chance to grow. Some deserts are almost totally without water. In such places, strong winds blow raising heaps of sand and depositing them as mounds. These are called 'sand dunes' that shift and move endlessly across the desert. Deserts are found on every continent and cover about one-fifth of Earth's land area. Some deserts are mountainous. Others are dry expanses of rock, sand, or salt flats. Desert humidity is usually so low that not enough water vapor exists to form clouds. The sun's rays beat down through cloudless skies and bake the land. The ground heats the air so much that air rises in waves you can actually see. These shimmering waves confuse the eye, causing travelers to see distorted images called mirages. In humid climates, the moisture in the air acts like a blanket and protects the earth's surface from the hot rays of the sun. The absence of this blanket in desertlands causes the desert to heat up rapidly during the day and to cool off rapidly at night.

11. Why does the desert's temperature drop so sharply at night?

    (A) because cold breezes sweep at night in the desert
    (B) there is snowfall at night in the desert
    (C) because of the lack of moisture in the air
    (D) because of the sand dunes

12. A well or spring in the middle of a desert that has vegetation growing around it is referred to as...

    (A) Sand dune
    (B) Oasis
    (C) Mirage
    (D) Desert Spring

13. Why is rainfall so scarce in deserts?

    (A) The sands in the desert prevent the formation of clouds
    (B) Due to intense sun-baking, the humidity in deserts is too low to form clouds and rain

(C) Because they are far away from the sea
(D) all the above

14. Which statement is not true?

(A) Europe does not have deserts
(B) High winds blow in the desert
(C) Due to intense heat waves, travellers in the desert experience distorted visuals.
(D) All are true

15. Sand dunes are formed due to...

(A) intense heat
(B) due to the formation of oasis
(C) strong winds
(D) all the above

16. The graph of the equation $x + c = 0$ is a straight line parallel to the axis of y and passing through the point

(A) $(-c, 0)$
(B) $(0, -c)$
(C) (c, 0)
(D) (0, c)

17. The graph of an equation of the type $ky = x$, k is a constant always

(A) parallel to $x - axis$.
(B) parallel to $y - axis$
(C) passes through (0,0)
(D) does not pass through (0,0)

18. The general form of a linear equation in two variables is

(A) $ax + by + cxy = 0$
(B) $Ax + By + C = 0$
(C) $ax + b = 0$
(D) $by + c = 0$.

19. The cost of a notebook is 5 less than that thrice of a pen. If x and y represent the cost of a pen and a notebook respectively, then the linear equation representing the above statement is

(A) $y = 3x + 5$
(B) $y = 3x - 5$
(C) $x = 3y + 5$
(D) $x = 3y - 5$.

20. The simplified value of $\sqrt[5]{32^{-3}}$ is

(A) -8 (B) $\frac{1}{8}$

(C) -2 (D) $-2\sqrt{2}$.

21. $(125)^{-\frac{2}{3}}$ is equal to

(A) $\frac{1}{5}$ (B) $-\frac{2}{5}$

(C) $\frac{1}{25}$ (D) $-\frac{1}{25}$

22. $\left(\frac{1}{343}\right)^{-\frac{2}{3}}$ is equal to

(A) 7 (B) $7\sqrt{7}$

(C) $2\sqrt{7}$ (D) 49

23. $\frac{1}{\sqrt{5}-\sqrt{3}} - \frac{1}{\sqrt{5}+\sqrt{3}}$ is equal to

(A) $2\sqrt{3}$ (B) $3\sqrt{2}$

(C) $\sqrt{3}$ (D) $3\sqrt{5}$

24. If x and y are two different real numbers then which of the following is a number lying between x and y?

(A) $\frac{xy}{2}$ (B) $\frac{x-y}{2}$

(C) $\frac{x+y-xy}{2}$ (D) $\frac{x+y}{2}$

25. Simplified value of $(16)^{\frac{7}{4}} - (25)^{\frac{3}{2}}$ is

(A) -3 (B) 3

(C) 0 (D) 1

26. The distance of the point (5,12) from the origin is

(A) 13 Units (B) 14 Units

(C) 15 Units (D) 17 Units

27. Which is always an irrational number?

(A) the sum of two irrational numbers

(B) sum of a rational number and an irrational number

(C) product of two irrational numbers

(D) subtraction of two irrational numbers

28. Which of the polynomial has degree '0'?

(A) linear polynomial

(B) constant polynomial

(C) quadratic polynomial

(D) biquadratic polynomial

29. For what value of λ, the equation $x^2 + 7x + \lambda = (x + 1)(x + 6)$ holds true?

(A) 7

(B) -7

(C) 1

(D) 6

30. The zeros of the polynomial $-2x^2 + 8$ are

(A) 0 and 2

(B) -2 and 0

(C) -2 and 2

(D) -2

31. Which of the following statements is not true for zero of polynomials?

(A) 0 may be a zero of a polynomial

(B) A zero of a polynomial need not be 0

(C) A polynomial can have more than one zero

(D) Linear polynomials have at least one zero.

32. Common zero of the polynomials $4x^3 - 32$, $6(x^2 + 9x + 14)$ is

(A) $x - 2$

(B) $x - 3$

(C) no zero is found

(D) $x + 7$

33. HCF of the following polynomials: $(2x - 3)^2(x^2 + x - 2)$, $4x^2 - x - 18$ and $2x^2 - 9x + 9$ is

(A) $2x - 3$

(B) $x + 3$

(C) $x - 3$

(D) $x - 1$

34. LCM of the following polynomials: $5(x-y)^2, 10(x^2-y^2)$ and $15(x+y)^2$ is

(A) $(x+y)^2(x-y)^2$ (B) $30(x^2-y^2)(x^2+y^2)$

(C) $15(x+y)^3(x-y)^2$ (D) $30(x^2-y^2)^2$

35. If a point lies in the third quadrant, then the signs of its co-ordinates are

(A) $(+,+)$ (B) $(-,-)$

(C) $(-,+)$ (D) $(+,-)$

36. The triangle formed by joining the points (1,6), (4,2), and (1,2) is

(A) an equilateral triangle (B) an isosceles triangle

(C) a scalene triangle (D) a right-angled triangle

37. The point on the axis of x which is equidistance from the points (1,2) and (3,4) is

(A) $(0,5)$ (B) $(5,0)$

(C) $(0,-5)$ (D) $(-5,0)$

38. If $P(x) = 1 + 2x + 3x^2 - x^3$, then $P(-2)$ is equal to

(A) 17 (B) 11

(C) 15 (D) -13

39. The value of k for which $(-1,2)$ is a point on the line represented by the line $3x - 2y + 7k = 0$ is

(A) - 1 (B) - 2

(C) 1 (D) - 7

40. Axioms are

(A) a self-evident statement that needs proof. (B) theorems that need no proof.

(C) deductions from theorems. (D) self-evident statements which need no proof

41. The southern part of the eastern coastal plain is known as-

(A) Coromandel (B) Konkan

(C) Malabar (D) Northern Circar

42. Which one of the following falls into the Arabian Sea?

(A) Godavari (B) Kaveri

(C) Krishna (D) Narmada

43. The monsoon covers the whole of India by-

(A) Mid-June (B) Mid-July

(C) Mid-August (D) Mid-September

44. The largest salt-water lake in India is:

(A) Pilikat (B) Chilika

(C) Wular (D) Dal

45. Which of the following term is not included in the Preamble of the Indian Constitution

(A) Liberty (B) Equality

(C) Secular (D) Religion

46. The age of a person who can contest the election for the Lok Sabha in India is -

(A) 25 years (B) 30 years

(C) 35 years (D) 18 years

47. Which age group of children does the Sarva Shiksha Abhiyan aims to promote education?

(A) 6-10 years (B) 7-12 years

(C) 6-14 years (D) 4-14 years

48. Group of men who didn't join the Jacobin club was...

(A) Men with property
(B) Peasants
(C) Artisans
(D) Shopkeepers

49. Which of the following is a commercial crop?
(A) Maize
(B) Wheat
(C) Onion
(D) Cotton

50. The name associated with *April Theses* is
(A) Lenin
(B) Karl Marx
(C) Stalin
(D) Robert Owen

51. Meristematic tissues in plants are
(A) Localized and permanent
(B) Not limited to certain regions
(C) Localized and dividing cells
(D) Growing in volume

52. The muscular tissue which functions throughout life continuously without fatigue is
(A) Skeleton muscle
(B) Cardiac muscle
(C) Smooth muscle
(D) Voluntary muscle

53. Which cell organelle plays a crucial role in detoxifying many poisons and drugs in a cell?
(A) Golgi apparatus
(B) Lysosomes
(C) Smooth endoplasmic reticulum
(D) acuoles

54. An object of mass 2 kg is sliding with a constant velocity of 4 ms^{-1} on a frictionless horizontal table. The force required to keep the object moving with the same velocity is
(A) 8 N
(B) 4 N
(C) 2 N
(D) 0 N

55. Which of the following will not undergo sublimation?

(A) Camphor
(B) Ammonium Chloride
(C) Iodine
(D) Sodium Chloride

56. Which of the following condition is most favourable for converting gas into a liquid?

(A) High pressure, low temperature
(B) Low pressure, low temperature
(C) Low pressure, high temperature
(D) High pressure, high temperature

57. On converting 25°C, 38°C, 66°C to Kelvin scale, the correct sequence of temperatures will be

(A) 298 K, 311 K and 399 K
(B) 298 K, 300 K and 338 K
(C) 273 K, 278 K and 543 K
(D) 298 K, 310 K and 338 K

58. According to the third law of motion, action and reaction

(A) act on the same body.
(B) always act on different bodies in opposite directions.
(C) are equal in magnitude and direction.
(D) act perpendicular to each other.

59. A passenger in a moving train tosses a coin that falls behind him. It means that the motion of the train is

(A) accelerated
(B) in uniform motion.
(C) retarded
(D) stopping.

60. The SI unit of momentum is

(A) $kg\ m\ s^2$
(B) $kg\ ms^{-1}$
(C) $kg\ m^2 s^{-1}$
(D) $kg\ m\ s$