SAMPLE PAPER

SET - 1

CLASS - VIII

PHYSICS

1. Which of the following statements about friction is correct ?
   (a) Friction always apposes motion
   (b) Friction always assists motion
   (c) Friction is a sum of gravitational force
   (d) Friction depends only on the weight of an object

2. **Assertion :** Friction is always a dissipative force.

   Reasoning : Friction converts mechanical energy into heat energy when objects slide or rub against each other.
   Now evaluate the given assertion and reasoning and choose the correct option :
   (a) Both the assertion and reasoning are true, and the reasoning is the correct explanations of the assertion.
   (b) Both the assertion and reasoning are true, but the reasoning is not the correct explanation of the assertion.
   (c) The assertion is true, but the reasoning is false
   (d) Both the assertion and reasoning are false.

3. A car is moving at a constant speed in a straight line. What can you infer about the net force acting on the car ?
   (a) The net force is zero
   (b) The net force is in the direction of motion
   (c) The net force is opposite to the direction of motion
   (d) The net force is changing continuously

4. Four children were asked to arrange forces due to rolling, static and sliding frictions in a decreasing order. Their arrangements are given below. Choose the correct arrangement
   (a) Rolling, static, sliding   (b) Rolling, sliding, static
   (c) Static, sliding, rolling   (d) Sliding, static, rolling

5. Which of the statement / statements is/are true ?
   (A) The force between charged and uncharged body is known as electrostatic force
   (B) Force of gravity is attractive as well as repulsive in nature
   (C) Gravitational force between two bodies is due to the mass of the bodies
   (D) Gravity is not a property of the earth alone
   (a) A only   (b) A, C and D   (c) D and C   (d) A, B, C and D

6. Which of the following is an example of atmospheric pressure ?
   (a) Water pressure in a swimming pool
   (b) Air pressure in a car tyre
   (c) Pressure in a hydraulic lift
   (d) Pressure in a vacuum chamber

7. A force of 200 newtons is applied over an area of square metres. What is the pressure ?
   (a) 100 Pascals   (b) 400 Pascals   (c) 1000 Pascals   (d) 2000 Pascals

8. Which part of human body produces sound ?
   (a) Larynx   (b) Vocal cords   (c) Trachea   (d) Nind pipe

9. The time of a sound depends on the
   (a) Fundamental frequency   (b) Amplitude of vibration
   (c) Harmonius present   (d) Velocity of sound in the medium

10. Full form of MCB is
    (a) Main circuit board   (b) Miniature circuit board
    (c) Major circuit board   (d) Mini circuit board

11. Which of the following statement / statements is/are correct
    (A) Electrical meters measure power in kilowatts
    (B) Live wire is always black in colour
    (C) The decomposition of an electrolyte on the passage of electricity through it is electrolysis
    (D) Electromagnetic are permanent magnets
    (a) A only   (b) A, B and C   (c) A, B, C and D   (d) B and C

12. Which of the following cannot be recharged ?
    (a) Accumulators   (b) Dry batteries
    (c) Storage batteries   (d) Primary cells

13. The size of pupil is controlled by
    (a) Cornea   (b) Retina   (c) Iris   (d) Ciliary muscles

14. Which of the following statement / statements is/are correct ?
    (A) Iris is behind the cornea
    (B) Image is formed on retina
    (C) Cones and rods are present in brains
    (D) Spliting of light into colours is called dispersions
    (a) A only   (b) A and B   (c) B and C   (d) A, B, C and D

15. Rainbows are formed due to
    (a) Reflection of light   (b) Refraction of light
    (c) Disperson of light   (d) Rectilinear perpagation of light

CHEMISTRY

16. Which of the following is the best fuel
    (a) Diamond   (b) Petrol   (c) Deasal   (d) CNG

17. What is the unit for expressing the colorific value of a fuel ?
    (a) Kilo Jule / Kilogram   (b) Jule / Kilogram
    (c) Jule / sec   (d) Watt / sec

18. Which of the following group is an example of synthetic fibre ?
    (a) Rayon, Silk, Cotton   (b) PVC, Polystar, Nylon
    (c) Rayon, Nylon, Silk   (d) Cotton, PVC, Wool

19. One day Reeta went to a Jeweller's shop with her mother. Her mother gave old jewellery to the goldsmith to polish. Next day when they brought back, they found that there was a slight loss in its weight. Can you give reason ?
   (a) Outer layer of gold dissolved in aqua regia
   (b) Outer layer of gold get dissolved in nitric acid
   (c) Outer layer of gold get dissolved in sulphuric acid
   (d) In order to polish the gold ornament the goldsmith took out some gold from it

20. If the atomic number of an atom is 17 and the mass number is 35 then the number of neutrons will be
   (a) 35   (b) 17   (c) 18   (d) 52

21. _____are the smallest units of matter that can take part in a chemical reaction during which only rearrangement of atoms take place.
   (a) electrons   (b) proton   (c) atoms   (d) ions

22. Which of the following is made up of repeating units of a chemical called ester ?
   (a) Polyester   (b) PVC   (c) Acrylic   (d) Nylon

23. Which of the following is the quality of thermosetting platics ?
   I. If it is moulded once cannot be softened by heating
   II. When it gets deformed then by heating it can be bent easily
   (a) Only (I)   (b) only (II)
   (c) Neither (I) nor (II)   (d) both (I) and (II)

24. Which of the following is not an allotrope of carbon
   (a) Diamond   (b) Fulterene   (c) Coke   (d) Calcium

25. Which of the following has the most percentage of carbon present in them
   (a) Lignite   (b) Anthracide
   (c) Bituminious   (d) Peat

26. Which of the following is the example of thermosetting plastics.
   (a) Bakelite   (b) Teflon
   (c) Epoxy   (d) All of these

27. What is the reason that zinc is coated over iron not iron over zinc.
   (a) Zinc is more reactive than iron
   (b) Iron is more reactive than zinc
   (c) Zinc is equally reactive to iron
   (d) Iron is not reactive at all

28. What is the atomic number of caclcium
   (a) 20   (b) 28   (c) 30   (d) 21

29. When base react with acid they give
   (a) Salt   (b) Alkaline
   (c) Alkali   (d) they do not react with each other

30. The valancy of sodium is
   (a) +1   (b) -1   (c) +2   (d) -2

MATHEMATICS

31. Set of natural numbers is a subset of
    (a) Set of even numbers
    (b) Set of composite numbers
    (c) Set of odd numbers
    (d) Set of real numbers

32. If $x \geq 0$, then $\sqrt{x\sqrt{x\sqrt{x}}}$ =
    (a) $x\sqrt{x}$
    (b) $x\sqrt[4]{x}$
    (c) $\sqrt[8]{x}$
    (d) $\sqrt[8]{x^7}$

33. The greater between $\sqrt{17}-\sqrt{12}$ and $\sqrt{11}-\sqrt{6}$ is
    (a) $\sqrt{17}-\sqrt{12}$
    (b) $\sqrt{11}-\sqrt{6}$
    (c) Both are equal
    (d) can't compare

34. The 100th root of $10^{(10^{10})}$ is
    (a) $10^{8^{10}}$
    (b) 10^{10^8}
    (c) $(\sqrt{10})^{(\sqrt{10})^{10}}$
    (d) $10\,(\sqrt{10})^{(\sqrt{10})}$

35. Evaluate $\sqrt{16} + \sqrt{\dfrac{9.5 \times 0.0085 \times 18.9}{0.021 \times 0.0017 \times 1.9}}$
    (a) 154
    (b) 158
    (c) 160
    (d) 169

36. The difference between the squares of two numbers is 2560 and sum of those number is 160. Find the numbers.
    (a) 82 and 66
    (b) 88 & 72
    (c) 92 & 68
    (d) 45 & 22

37. Evaluate : $\dfrac{\sqrt{10+\sqrt{25+\sqrt{108+\sqrt{154+\sqrt{225}}}}}}{3\sqrt{8}}$
    (a) 2
    (b) 4
    (c) 8
    (d) 5

38. What is the greatest four-digit perfect square number ?
    (a) 9801
    (b) 9901
    (c) 9702
    (d) 9601

39. If $3a = 4b = 6c$ and $a + b + c = 27\sqrt{29}$, find $\sqrt{a^2 + b^2 + c^2}$
    (a) $3\sqrt{29}$
    (b) 81
    (c) 87
    (d) 89

40. If $\dfrac{7.2}{\sqrt[3]{0.729}} = \dfrac{(?)^3}{(2)^3}$, find the value of (?)
    (a) 4
    (b) 5
    (c) 6
    (d) 8

41. If price of 'm' articles is 'n', what is the price of 5 articles ?
    (a) $\dfrac{5n}{m}$
    (b) $\dfrac{mn}{5}$
    (c) $\dfrac{m}{5}$
    (d) $\dfrac{5m}{n}$

42. Shantanu completes $\dfrac{5}{8}$ of a job in 20 days. At this rate, how many days will he take to finish the job ?
    (a) 6 days
    (b) 18 days
    (c) 5 days
    (d) 12 days

43. If 10 spiders can catch 10 flies in 10 min, how many flies can 200 spiders catch in 200 minutes ?
    (a) 2000   (b) 5000   (c) 4000   (d) 3000

44. If the cost price of 30 articles is equal to the selling price of 28 articles. Find the profit percent.
    (a) $7\frac{1}{7}$ %   (b) $14\frac{2}{7}$ %   (c) $14\frac{3}{7}$ %   (d) $14\frac{5}{7}$ %

45. If a watch is sold for Rs 120, there is a loss of 15%, for a profit of 2%, the watch is to be sold for
    (a) Rs 144   (b) Rs 175   (c) Rs 185   (d) Rs 105

46. By selling a chair for Rs 300 instead of Rs 400, loss percent is increased by 10%. Find the cost price of the chair.
    (a) Rs 1500   (b) Rs 900   (c) Rs 1800   (d) Rs 1000

47. Pens are bought at 5 for Rs 4 and sold at 4 for Rs 5. Find the gain percent.
    (a) 55%   (b) 45.26%   (c) 56.25 %   (d) 60%

48. Subtract $3x^2 + 4y^2 + 6xy$ from $9x^2 + 12y^2 + 8xy$
    (a) $6x^2 + 8y^2 + 2xy$ (b) $5y^2 + 6xb$ (c) $3x^2 + 5xy$ (d) $6y^2 + 8x^2$

49. Value of $\dfrac{a^3 + b^3 + c^3 - 3abc}{a^2 + b^2 + c^2 - ab - bc - ca}$ is
    (a) $a + b + c$ (b) None   (c) 0   (d) 1

50. If $0 < a < 1$, then the value of $a + \dfrac{1}{a}$ is
    (a) greater than 2   (b) less than 2   (c) greater than 4   (d) less than 4

MENTAL ABILITY

51. Which number would replace question mark in the series
    7, 12, 19, ?, 39
    (a) 29   (b) 28   (c) 26   (d) 24

52. Which is the number that comes next in the sequence
    0, 6, 24, 60, 120, 210, ?
    (a) 240   (b) 290   (c) 336   (d) 504

53. $X^2 + X^2 = ?$
    (a) 4X   (b) 2X   (c) $2X^2$ (d) X/2

54. If ENGLAND is written as 1234526 and FRANCE is written as 785291, how is GREECE coded ?
    (a) 381171   (b) 381191   (c) 832252   (d) 835545

55. If '+' means '÷', '-' means 'x', 'x' means '+', '÷' means '-', then give the value for 49 + 9 - 3 x 15
    (a) 40   (b) 36   (c) 56   (d) 28

56. If 'K' means '-', L means '÷', M means '+', D means 'x' then

117 L 3 K 5 M 12 D 8 = ?

(a) 150 (b) 125 (c) 130 (d) 145

57.

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        9              41             24
72  ( 13 ) 28    48  ( ? ) 32     9  ( 9 ) 36
       60             23             12
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(a) 12 (b) 15 (c) 17 (d) 18

58.

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  594 | 198
  -----+-----
   ?  |  66
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(a) 11 (b) 12 (c) 22 (d) 33

59. Vishnu went 15 km to the west from his house, then turned left and walked 20 km. He then turned east and walked 25 km and finally turning left covered 20 km. How far is he now from his house ?

(a) 15 km (b) 20 km (c) 25 km (d) 10 km

60. Ravi started walking towards south. After walking 15 metres he turned to the left and walked 15 m. He again turned to his left and walked 15 m. How far is he from his original position and in which direction ?

(a) 15 m - North (b) 15 m - South (c) 15 m - East (d) 15 m - West

61. Choose the correct mirror image of the word BRUSH

(a) HƧUЯB (b) ЯBUƧH (c) HSUЯB (d) HƧURB

62. Choose the correct mirror image of the wor EMANATE

(a) ƎTAИAMƎ (b) ƎTAИAƎM (c) ƎTAИAMƎ (d) ƎTAИAƎM

63. Choose the word which is different from the rest

(a) Rigveda (b) Yajurveda (c) Atharvaveda (d) Ayurveda

64. Choose the odd pair

(a) PQT (b) UVY (c) DEH (d) IJN

65. Which one of the four interchanges in signs and number would make the given equation correct ?

35 + 5 - 2 = 4

(a) + & -, 2 and 3 (b) + & -, 2 & 5 (c) + & -, 3 & 5 (d) None of these

ANSWER KEY

PHSICS		CHEMISTRY		MATHEMATICS		MENTAL ABILITY	
1.	(A)	16.	(D)	31.	(D)	51.	()
2.	(A)	17.	(A)	32.	(D)	52.	()
3.	(A)	18.	(B)	33.	(B)	53.	()
4.	(C)	19.	(A)	34.	(B)	54.	()
5.	(B)	20.	(C)	35.	(A)	55.	()
6.	(B)	21.	(C)	36.	(B)	56.	()
7.	(A)	22.	(A)	37.	(A)	57.	()
8.	(A)	23.	(B)	38.	(A)	58.	()
9.	(C)	24.	(D)	39.	(C)	59.	()
10.	(B)	25.	(B)	40.	(A)	60.	()
11.	(B)	26.	(D)	41.	(A)	61.	()
12.	(D)	27.	(A)	42.	(D)	62.	()
13.	(C)	28.	(A)	43.	(C)	63.	()
14.	(D)	29.	(A)	44.	(A)	64.	()
15.	(C)	30.	(A)	45.	(A)	65.	()
				46.	(D)		
				47.	(C)		
				48.	(A)		
				49.	(A)		
				50.	(A)		