Name ....

Batch............... Roll No. ....

Date :04-08-2024

FOUNDATION

SCREENING MOCK TEST SERIES

FN24$_D$/TP/PCBM | **PHYSICS + CHEMISTRY + BIOLOGY + MATHEMATICS** | Class X (IX Studying)

PHYSICS

1. Which phenomenon is responsible for the formation of rainbow?

   A) Refraction   B) Dispersion   C) Total internal reflection   D) All of the above

2. If two plane mirrors are arranged in such a way that their edges are in contact. If 45^0 is the angle between them, calculate the number of images formed?

   A) 2   B) 5   C) 7   D) 9

3. Identify the velocity-time graph for a car moving with uniform acceleration ?
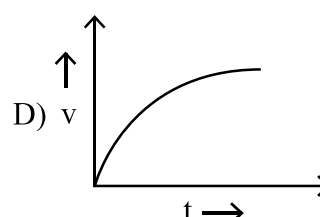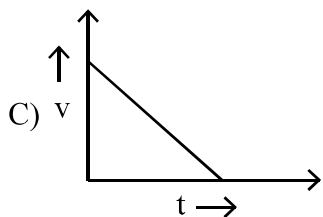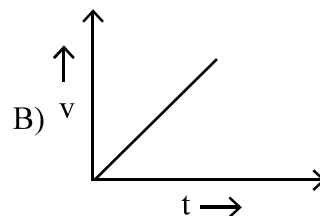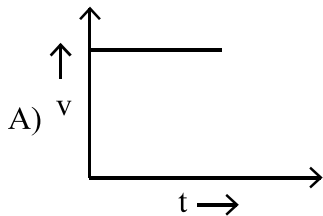
4. A car acquires velocity of 72 km/h in 5 seconds starting from rest. Find the distance travelled by the car within this time

   A) 20 m   B) 30 m   C) 40 m   D) 50 m

5. Which of the following is an example of inertia of motion?

   A) Dust removed from a hanging carpet by beating it with a stick

   B) Coin falls into the tumbler when the card is given a sudden jerk

   C) A person getting out of a moving bus falls in the forward direction

   D) When the bus starts suddenly the standing passengers in the bus tend to fall backward

6. 'F = ma' is the mathematical formulation of :

   A) First law of motion   B) Second law of motion

   C) Third law of motion   D) None of these

7. Which of the following kinds of forces exhibits both attraction and repulsion property?

   A) Magnetic force   B) Electrostatic force   C) Gravitational force   D) Both A & B

8. Identify the incorrect statement from the following

   i. Force can change the state, shape and direction of a body.

   ii. Force is a dimensionless quantity

   iii. Dyne is the CGS unit of force

   A) ii only   B) iii only   C) i & iii   D) i, ii & iii

9. If a force is applied along the right hand side of an object, then the frictional force will be in _____ direction

   A) Upward   B) Downward   C) Left hand side   D) Right hand side

10. Which of the following will produce the maximum friction?

    A) Rubbing of sand paper on sand paper

    B) Rubbing of sand paper on a mirror surface

    C) Rubbing of a sand paper on a polished marble slab

    D) Rubbing of a sand paper on a glazed paper

11. An object is placed at the focus of a concave mirror. The image formed will be :

    A) Real, inverted, diminished   B) Real, inverted, highly enlarged

    C) Virtual, erect, diminished   D) Virtual, erect, enlarged

12. If the light travels from water to kerosene, it will _____

    A) Bend towards the normal   B) Bend away from the normal

    C) Travel without any deviation   D) None of these

13. The velocity of a body of mass 7 kg changes from 30 m/s to 60 m/s in 6 seconds. Calculate the force acting on it?

    A) 10 N   B) 15 N   C) 30 N   D) 35 N

14. The velocity-time graph shows the motion of car. Find the acceleration?
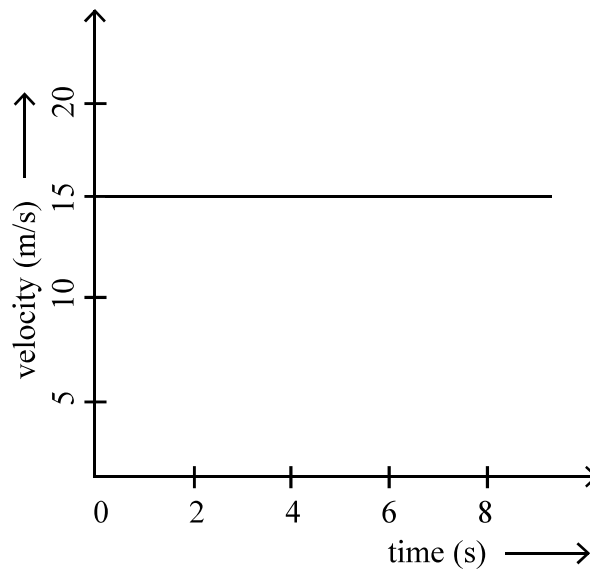
    A) 5 m/s^2 B) 7.5 m/s^2 C) 15 m/s^2 D) Zero

15. Two forces F_1 and F_2 acting on a body as shown in the figure. Calculate the acceleration of the body?
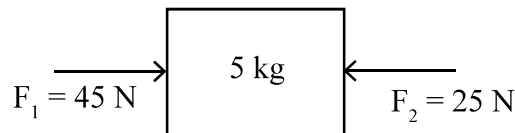
    A) 4 m/s^2 B) 9 m/s^2 C) 5 m/s^2 D) 12 m/s^2

16. While catching a fast moving cricket ball, a fielder in the ground gradually pulls back his hand with the moving ball. This enables him to :

    A) Exert large force on the ball

    B) Increase the rate of change of momentum

    C) Decrease the rate of change of momentum

    D) None of these

17. In which of the following cases, friction is troublesome?

   A) Applying the breaks to stop a vehicle

   B) Walking on a wet floor

   C) Rubbing a matchstick with the side of a matchbox

   D) Nails and screws to hold on to walls

18. Boats and rockets are specially designed in streamline shape to :

   A) Make them attractive   B) Make them cost effective

   C) To increase fluid friction   D) To reduce fluid friction

19. The resultant force of 5 N and 10 N can not be _____

   A) 15 N   B) 10 N   C) 5 N   D) 2 N

20. P, Q, R and S are four imaginary points in a sea lies 5 m, 10 m, 30 m and 40 m below the sea surface respectively. At what point in the sea the pressure will be maximum?

   A) P   B) Q   C) R   D) S

21. The walls of a dam are specially thickened at the base to :

   A) Withstand the sound waves

   B) Withstand huge pressure of water

   C) Reduce the amount of material required to construct dam

   D) All of these

22. Which of the following combination of letters do not show lateral inversion?

   A) A, X, M   B) C, T, I   C) V, Z, U   D) D, H, O

23. Find out the equation of motion, connecting velocity, acceleration and distance travelled?

   A) $v = u + 2\ as$ B) $\dfrac{v^2}{u^2} = 2as$ C) $v^2 + u^2 = 2as$ D) $v^2 = u^2 + 2as$

24. A person pushes a wall with a force of 300 N. What is the reaction force applied by the wall?

A) 0 N   B) 300 N

C) It depends on the mass of the wall   D) None of the above

25. What is the cause of frictional force?

A) Electric charge   B) Magnetic attraction

C) Gravitational pull   D) Contact between surfaces

CHEMISTRY

26. The process of conversion of liquid to gaseous state is called :

A) Condensation   B) Vapourisation   C) Sublimation   D) Deposition

27. Which is the state of matter that can change shape but not volume?

A) Solid   B) Liquid   C) Gas   D) Plasma

28. What is the term for the amount of space inside a container?

A) Volume   B) Mass   C) Length   D) Width

29. The pure substances which cannot be further decomposed through chemical processes are called ———

A) Homogeneous mixture   B) Molecules

C) Elements   D) Both A & B

30. Natrium is the latin name of which element?

A) Potassium   B) Sodium   C) Copper   D) Iron

31. Which is the smallest particle that can exist independently?

A) Molecule   B) Compound   C) Element   D) Atom

32. A natural gas stored under high pressure is called

A) LPG   B) CNG   C) KLG   D) PNP

33.   Which of the following is obtained from coal tar

       A) Petrol   B) Coke   C) Air   D) Naphthalene balls

34.   Refining is

       A) Extracting petroleum gas   B) Separation of various fractions of petroleum

       C) Heating of coal   D) Sedimentation of fossil fuel

35.   What is called black gold?

       A) Petroleum   B) Coal   C) Coal tar   D) Natural gas

36.   What is the main chemical component present in striking surface of a match box?

       A) Potassium chlorate B) Phosphorus   C) Potassium   D) Graphite

37.   When sufficient oxygen is not available, combustion of methane produces _____ gas and water

       A) Nitrogen   B) Hydrogen   C) Carbon monoxide   D) Carbon dioxide

38.   When a cracker is ignited, a sudden reaction takes place with the evolution of heat, light and sound. Identify the type of combustion?

       A) Random combustion   B) Rapid combustion

       C) Spontaneous combustion   D) Explosion

39.   The mass number of the element is _____

       A) The sum of the number of electrons and protons

       B) The sum of the number of protons and neutrons

       C) Number of neutrons

       D) Number of protons

40.   How many electrons are occupied in the M shell?

       A) 8   B) 16   C) 18   D) 32

41. Who discovered the electrons?

    A) Goldstein　　　　B) J.J.Thomson　　　　C) Chadwick　　　　D) Eugen Goldstein

42. $_7N^{15}$ and $_8O^{16}$ are pair of _____

    A) Isotopes　　　　B) Isobars　　　　C) Isotones　　　　D) None of these

43. The reason of bonding in ionic compounds is

    A) Sharing of electrons　　　　　　B) Repulsion force

    C) Attractive force　　　　　　　　D) None of these

44. In which of the following multiple bonds are present?

    A) Cl_2　　　　B) N_2　　　　C) CH_4　　　　D) H_2

45. As temperature increases, the movement of the particles

    A) Decreases　　　　B) Increases　　　　C) Kept constant　　　　D) No change

46. 1 U or 1 amu means

    A) $1/12^{th}$ mass of C-12 atom　　　　B) Mass of C-12 atom

    C) Mass of O-16 atom　　　　　　　　D) Mass of hydrogen molecule

47. When an atom loses electrons, it is called _____ and has a _____ charge

    A) Anion, positive　　B) Cation, positive　　C) Cation, negative　　D) Anion, negative

48. Which of the following is not an element :

    A) Diamond　　　　B) Graphite　　　　C) Silica　　　　D) Ozone

49. Solution containing maximum amount of solute at a given temperature is called

    A) Unsaturated solution　　　　　　B) Saturated solution

    C) Supersaturated solution　　　　　D) None of these

50. Air is a _____

    A) Homogeneous mixture　　　　　　B) Heterogeneous mixture

    C) Pure substance　　　　　　　　　D) Both A & B

BIOLOGY

51. ICBN stands for _____

A) International Code of Botanical Nomenclature

B) Indian Code of Botanical Nomenclature

C) Indian Congress of Botanical Names

D) Indian Congress of Botanical Nomenclature

52. T.O Diener discovered _____

A) Bacteriophage   B) Infectious protein

C) Free infectious DNA   D) Free infectious RNA

53. Who wrote the book 'Genera Plantarum'?

A) Bessey   B) Benthem and Hooker

C) Linnaeus   D) Hutchin Son

54. The natural place of an organism or community is known as

A) Niche   B) Biome   C) Habitat   D) Habit

55. Which is the renewable exhaustible natural energy resource?

A) Coal   B) Petroleum   C) Kerosene   D) Biomass

56. Which of the following requires maximum energy?

A) Secondary consumer   B) Decomposer

C) Primary consumer   D) Primary producer

57. Khurp, Sickle, Shovel, Plough are some examples of

A) Farmers filed tool   B) Types of instruments

C) Types of crops   D) All of the above

58. Which of the following factors are responsible for diversity of crops?

A) Temperature   B) Humidity   C) Rain fall   D) All of the above

59. Paddy, maize, soyabean, ground nut and cotton are what type of crops?

A) Kharif crops   B) Rabi crops   C) Zaid crops   D) None of the above

60. Vaccine for small pox is discovered by

A) Louis Pasteur   B) Alexander Fleming   C) Edward Jenner   D) John Mendal

61. Microorganisms are

A) Unicellular   B) Multicellular   C) Both   D) None of these

62. Which of the following are examples of autotrophic organisms?

A) Fungi and virus   B) Virus and bacteria

C) Green plants and some bacteria   D) None of the above

63. Which of the following is required in the autotrophic mode of nutrition?

A) Sunlight   B) Chlorophyll

C) Water and carbon dioxide   D) All of the above

64. Respiration in plants take place in

A) Only in night   B) Only in day   C) Only in evening   D) In day and night both

65. Which of the following tube connects the kidney to the urinary bladder?

A) Ureter   B) Urethra   C) Jubule   D) Nephron

66. Which part of the cell, glycolysis process occurs?

A) Nucleus   B) Mitochondria   C) Chloroplast   D) Cytoplasm

67. The process through which the roots of plants absorb water from the soil is

A) Transpiration   B) Osmosis   C) Diffusion   D) None of the above

68. An unripe green fruit changes colour when it ripens. The reason being :

A) Chromoplasts changes to chlorophyll   B) Chromoplasts changes to chromosomes

C) Chromosomes changes to chromoplasts   D) Chloroplast changes to chromoplasts

69. The phenomenon where cytoplasms shrink in a hypertonic medium is called :

A) Frontolysis   B) Plasmolysis   C) Acidolysis   D) Allolysis

70. Where the essential proteins and lipids required for cell membrane, manufactured?

A) Lysosome   B) Chromosome

C) Endoplasmic reticulum   D) Mitochondria

71. Pancreatic juice is stimulated by the release of

A) Secretin   B) Cholecystokinin   C) Enterokinase   D) Both A & B

72. Lysosomes are called suicidal bags because

A) It causes the cell to break its cell membrane, causing death

B) It kills the surrounding cells by releasing enzymes

C) The enzymes are capable of digesting cells

D) All of the above

73. The function of dismantling and recycling in a cell is undertaken by

A) Nucleus   B) Chromosomes   C) Lysosomes   D) Mitochondria

74. Rapid elongation of a bamboo stem is due to

A) Lateral meristem   B) Intercalary meristem

C) Apical meristem   D) Cambium

75. _____ is not found in xylem tissues

A) Sieve tubes   B) Xylem parenchyma   C) Tracheids   D) Vessels

MATHEMATICS

76. Area of an equilateral triangle with side length 'a' is equal to

   A) $\sqrt{3}/2a$ B) $\sqrt{3}/2a^2$ C) $\sqrt{3}/4a^2$ D) $\sqrt{3}/4a$

77. If the ratio of the areas of two similar triangle is 64 : 121 then find the ratio of their corresponding sides

   A) $\dfrac{8}{11}$ B) $\dfrac{11}{8}$ C) $\dfrac{4}{11}$ D) $\dfrac{11}{4}$

78. Which of the following is not a criterion for congruence of triangles?

   A) SAS   B) ASA   C) SSA   D) SSS

79. In $\triangle ABC, AB=AC$ and $\angle B=50^0$, then $\angle C$ is equal to

   A) 40^0 B) 50^0 C) 80^0 D) 130^0

80. Intersecting lines cut each other at

   A) One point   B) Two points   C) Three points   D) Null

81. A line joining two end points is called

   A) Line segment   B) A ray   C) Parallel lines   D) Intersecting lines

82. Degree of the polynomial $4x^4 + 0x^3 + 2x^5 + 5x + 7$ is

   A) 4   B) 5   C) 3   D) 7

83. Degree of the zero polynomial is

   A) 0   B) 1

   C) Any natural number   D) Not defined

84. In between two rational numbers

   A) Exactly one rational number

   B) Infinitely many rational numbers

   C) Only rational numbers and no irrational numbers

   D) There is no rational number

85. $4\sqrt{5} + 5\sqrt{5}$ is equal to

   A) $9\sqrt{5}$ B) $9\sqrt{10}$ C) $5\sqrt{10}$ D) $7\sqrt{5}$

86. Can we write 'O' in the form of p/q

   A) Yes   B) No

   C) Cannot be explained   D) None of the above

87. Every integer is a _____ number

   A) Rational number   B) Irrational number   C) Complex number   D) None of these

88. Every rational number is _____

   A) whole number   B) Natural number   C) Integer   D) Real number

89. $\sqrt{9}$ is a _____ number

   A) A rational   B) An irrational

   C) Neither rational nor irrational   D) None of the above

90. $3x + 10 = 0$ will has

   A) Unique solution   B) Two solutions

   C) Infinitely many solutions   D) No solutions

91. If 'x' is an even number then the consecutive even number is

   A) x + 1   B) x + 2   C) 2x   D) $x - 1$

92. Seven times a number is 42. This statement form of an equation is

   A) x + 7 = 42   B) 7x = 42   C) $x - 7 = 42$ D) None of he above

93. $|9 - 2x| = 3$, x = ?

   A) 3, 6   B) 4, 6   C) $3, -1$ D) 0, 4

94. The sum of two number is 26 and their difference is 4. What are the numbers?

    A) x = 15, y = 11   B) x = 11, y = 15   C) x = 8, y = 6   D) y = 8, x = 6

95. Which of the following ordered pairs is a solution of the equation $x - 2y - 6 = 0$

    A) (2, 4)   B) (0, 3)   C) (−4,1)   D) (4,−1)

96. Which of 225^2, 97^2, 53^2, 809^2 would end with digit 1?

    A) 225^2 B) 97^2 C) 53^2 D) 809^2

97. What will be the number of zeros in the square of the number 7000?

    A) 3   B) 5   C) 6   D) 9

98. Which of the following will have 3 at its units place

    A) 19^3 B) 17^3 C) 18^3 D) 6^3

99. If 2^n, n is known as

    A) Base   B) Constant   C) Exponent   D) Variable

100. The multiplicative inverse of $\left(-\dfrac{5}{9}\right)^{-99}$ is

    A) $\left(\dfrac{-5}{9}\right)^{99}$ B) $\left(\dfrac{5}{9}\right)^{99}$ C) $\left(\dfrac{9}{-5}\right)^{99}$ D) $\left(\dfrac{9}{5}\right)^{99}$

FOUNDATION
SCREENING MOCK TEST SERIES

| FN24$_D$/TP/PCBM | P + C + B + M - KEY | Class X (IX Studying) |

PHYSICS

1. D
2. C
3. B
4. D
5. C
6. B
7. D
8. A
9. C
10. A
11. B
12. A
13. D
14. D
15. A
16. C
17. B
18. D
19. D
20. D
21. B
22. A
23. D
24. B
25. D

CHEMISTRY

26. B
27. B
28. A
29. C
30. B
31. A
32. B
33. D
34. B
35. A
36. B
37. C
38. D
39. B
40. C
41. B
42. C
43. C
44. B
45. B
46. A
47. B
48. C
49. B
50. A

BIOLOGY

51. A
52. D
53. C
54. C
55. D
56. D
57. A
58. D
59. A
60. D
61. A
62. C
63. D
64. D
65. A
66. D
67. B
68. D
69. B
70. C
71. D
72. D
73. C
74. B
75. A

MATHEMATICS

76. C
77. A
78. C
79. B
80. A
81. A
82. B
83. D
84. B
85. A
86. A
87. A
88. D
89. A
90. A
91. B
92. B
93. A
94. A
95. D
96. D
97. C
98. B
99. C
100. A