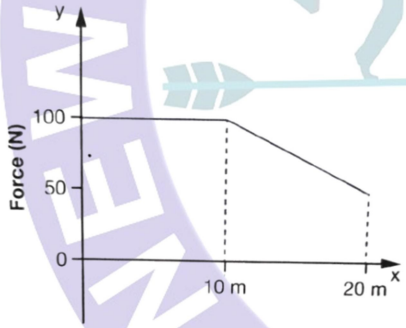
NEW STANDARD ACADEMY

Marks: 60

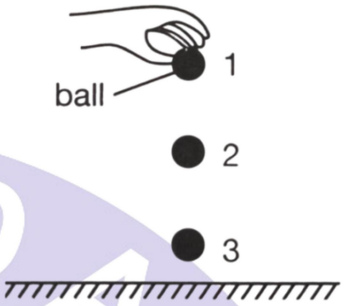
Date : 20-07-2026 **CLASS : 9TH** **Time: 2 hours**

PHYSICS

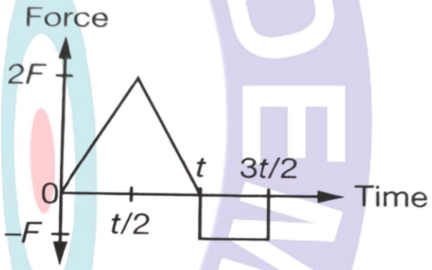
1. A stone tied to one end of a string is revolved in a horizontal circular path. The work done by the force of tension (T) in the string is
   a. T× 2πr b. Tπr²
   c. Tπr d. Zero
2. Two bodies of mass m and 4m are moving with equal kinetic energies. What is the ratio of their linear momenta?
   a. 2:1 b. 1:4
   c. 1:2 d. 1:6
3. A woman pushes a trunk on a railway platform that has a rough surface. She applies a variable force F over a distance of 20 m, as shown in the graph. The work done by the woman is



   a. 1,500 J b. 1,750 J
   c. 2,000 J d. None of these
4. A block resting on a smooth horizontal floor is being pushed by a constant horizontal force. If the kinetic energy gained by the block at first, second and third second are K_1 ; K_2 and K_3 respectively, then (K_1 : K_2 K_3 would be equal to
   a. 1:1:1. b. 1:3:5
   c. 1:4:9 d. 1:2:3
5. A ball is dropped from a height as shown in the figure. Ignoring the effects of air resistance, the total mechanical energy of the ball is



   a.Greatest at point b. Greatest at point3
   c. Same at all points d. None of these
6. A body of mass m, initially at rest, is acted upon by only one force as indicated in the figure. Then the total work done by the force is:

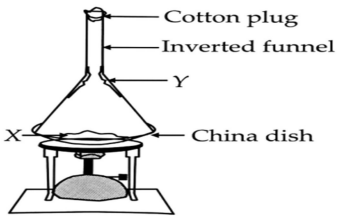


   a. $F2t^2/2m$ b. $3F^2t^2/8m$
   c. $F^2r^2/8m$ d. $9F^2t^2/8m$
7. Statement I: Kinetic energy of a system can be increased without applying any external force on the system.
   Statement II: Single external force acting on a particle necessarily changes its kinetic energy.
   a. Both statements I and II are true and II is the correct explanation of statement 1.
   b. Both statements I and II are true and II is not the correct explanation of statement I.
   c. Statement I is true and statement II is false.
   d. Both statements I and II are false.
8. Which of the following does not possess potential energy?
   a. A stretched spring b. A stretched bow
   c. Water kept in the reservoir at a height
   d. A dice kept on the ground

9. The momentum of a body is numerically equal to the kinetic energy of the body. The velocity of the body is
   a. $1/\sqrt{2}$ unit b. 2 unit
   c. $1/\sqrt{3}$ unit d. $\sqrt{3}$ unit
10. Two bodies X and Y have the same momentum. The mass of X is greater than the mass of Y. Which of the two bodies will have higher kinetic energy?
   a. X b. Y
   c. Both will have the same KE
   d. Both will have zero KE
11. A body is falling from a height h. After it has fallen a height h/2, it will possess
   a. only potential energy
   b. only kinetic energy
   c. half potential and half kinetic energy
   d. more potential and less kinetic energy
12. A car is accelerated on a levelled road and attains a velocity 3 times of its initial velocity. The potential energy of the car
   a. does not change
   b. increases by 3 times
   c. becomes one-third
   d. increases by 9 times
13. When the mass and the speed of a body are doubled, the kinetic energy of the body
   a. becomes double
   b. becomes four times
   c. becomes eight times
   d. remains unchanged
14. In case of negative work done, the angle between the force and the displacement is
   a. 0° b. 45°
   c. 90° d. 180°
15. If force and displacement of an object (in the direction of force) are doubled, work should be
   a. halved b. doubled
   c. quadrupled
   d. reduced to one-fourth

CHEMISTRY

16. Identify X and Y in the given figure.



   (a) X = Mixture of naphthalene and anthracene Y = Solid naphthalene
   (b) X = Mixture of NaCl and water Y = Solid NaCl
   (c) X = Mixture of NaCl and anthracene Y = Solid anthracene
   (d) X = Mixture of sugar and NaCl Y = Solid sugar.
17. When two liquids in a mixture differ by their boiling points. Which of the following is the best method to separate these liquids?
   (a) Evaporation (b) Distillation
   (c) Chromatography (d) Filtration

In this section, each question has two matching lists. Choices for the correct combination of elements from List-I and List-II are given as options (a), (b), (c) and (d) out of which one is correct.

18.

List-I	List-II
(P) Fog	1. Solid in gas
(Q) Smoke	2. Solid in solid
(R) Steel	3. Solid in liquid
(S) Toothpaste	4. Liquid in gas

   (a) P-1, Q-2, R-4, S-3
   (b) P - 4, Q - 1, R - 2, S - 3
   (c) P - 1, Q - 3, R - 2, S - 4
   (d) P - 1, Q - 4, R - 3, S – 2

19.

List-I	List-II
(P) Salt solution	1. Suspension
(Q) Blood	2. Aerosol
(R) Smoke	3. True solution
(S) Chalk water	4. Emulsion

   (a) P - 3, Q - 4, R - 2, S - 1
   (b) P - 2, Q - 4, R - 3, S - 1
   (c) P - 3, Q - 2, R - 1, S - 4
   (d) P - 2, Q - 4, R - 1, S - 3

20.

List-I	List-II
(P) Miscible liquids	1. Distillation
(Q) Immiscible liquids	2. Crystallisation
(R) Impure copper sulphate	3. Sublimation
(S) Salt and ammonium chloride	4. Separating Funnel

   (a) P - 1, Q - 3, R - 2, S - 4
   (b) P - 1, Q - 4, R - 2, S - 3

(c) P - 3, Q - 4, R - 1, S - 2

(d) P - 2, Q - 4, R - 3, S – 1

21. Alloys are the mixtures of
(a) two non-metals
(b) two metals
(c) one metal and one non-metal
(d) both (b) and (c).

22. Identify the correct statement.
(1) Alloys are mixtures of two or more metals or a metal and a non-metal.
(2) Alloys cannot be separated into their components by physical methods.
(3) An alloy is considered as a mixture because it shows the property of its constituents and can have variable composition.
(a) 2 and 3 only (b) 1 only
(c) 1 and 3 only (d) All are correct.

23. Which of the following statements are true for pure substances?
(i) Pure substances contain only one kind of particles.
(ii) Pure substances may be compounds or mixtures.
(iii) Pure substances have the same composition throughout.
(iv) Pure substances can be exemplified by all elements other than nickel.
(a) (i) and (ii) (b) (i) and (iii)
(c) (iii) and (iv) (d) (ii) and (iii)

24. The mass of water and mass of glucose required to make 250g of 40% solution of glucose, respectively is
(a) 50 g, 200 g (b) 150 g, 100 g
(c) 100 g, 150 g (d) 200 g, 50 g.

25. The mass of sodium sulphate required to prepare its 40% (mass percent) solution in 100 g of water is
(a) 40 (b) 66.7
(c) 100 (d) 50

26. The zig-zag movement of dispersed phase particle in a colloidal system is known as
(a) Brownian motion
(b) translational motion
(c) circular motion
(d) linear motion.

27. Which of the following is not true for a compound?
(a) A compound is heterogeneous in nature.
(b) A compound contains different elements in a fixed ratio.
(c) Properties of a compound are entirely different from those of the elements present in it.
(d) Constituents of a compound cannot be separated by simple physical methods.

28. Rusting of an article made up of iron is called
(a) corrosion and it is a physical as well as chemical change
(b) dissolution and it is a physical change
(c) corrosion and it is a chemical change
(d) dissolution and it is a chemical change.

29. Which of the following are chemical changes?
(i) Decaying of wood
(ii) Burning of wood
(iii) Sawing of wood
(iv) Hammering of a nail into a piece of wood
(a) (i) and (ii) (b) (ii) and (iii)
(c) (iii) and (iv) (d) (i) and (iv)

30. The properties of compounds X and Y are shown below. Their liquids are miscible with each other.

Compound	Melting point/°C	Boiling point/°C
X	–95	69
Y	–91	88

Which method is most suitable for separating compound X from a solution of compounds X and Y?
(a) Evaporation to dryness
(b) Filtration
(c) Simple distillation
(d) Fractional distillation

BIOLOGY

31. Which is not a function of epidermis?
(a) Protection from adverse condition
(b) Gaseous exchange
(c) Conduction of water
(d) Transpiration

32. Cells of squamous epithelium are
(a) Columnar
(b) Tall with elongated nuclei
(c) Flat plate-like
(d) Cube like

33. Which of the following is present in the alveoli of lungs?
(a) Simple columnar epithelium
(b) Simple cuboidal epithelium

(c) Simple squamous epithelium
(d) Sensory epithelium

34. Bone forming cells are
(a) Osteoblasts (b) Osteoclasts
(c) Chondroblasts (d) Chondroclasts

35. Striated muscles are found in
(a) Gall bladder (b) Wall of bronchi
(c) Leg muscles (d) Lungs

36. Cardiac muscle is made up of branched fibres that are
(a) Nonstriated and under voluntary control
(b) Striated and not under voluntary control
(c) Nonstriated and not under voluntary control
(d) Striated and under voluntary control

37. A unit of the nervous system is
(a) Cyton (b) Axon
(c) Neuron (d) Dendrite

38. Sprain is caused by excessive pulling of
(a) Muscles (b) Ligaments
(c) Tendons (d) Nerves

39. Which of the following statements is not true about involuntary muscles present in our body?
(a) These are found in the walls of stomach.
(b) These are of two types and both types contain intercalated discs which function like boosters for quick transmission of impulse.
(c) These muscles do not get fatigued easily.
(d) These muscles contain uninucleated muscle. fibres with centrally placed oval nuclei

40. Tendon connects a
(a) Ligament with muscle
(b) Bone with muscle
(c) Cartilage with muscle
(d) Bone with bone

41. Commercial fibres like jute and flax are derived from
(a) Xylem (b) Surface hair
(c) Collenchyma (d) Sclerenchyma

42. Tissue is defined as
(a) Group of similar cells having a common function.
(b) Different types of cells performing the same functions.
(c) Different types of cells performing different functions.
(d) Organised group of cells performing many functions.

43. Which of these types of cells is most likely to divide?
(a) Epidermis
(b) Parenchyma
(c) Meristematic
(d) Xylem

44. Which of the following is made up of dead cells?
(a) Sclerenchyma (b) Tracheids
(c) Vessels (d) All of the above

45. Name the tissue where the cells are living, thin walled, isodiametric with intercellular spaces.
(a) Collenchyma (b) Parenchyma
(c) Blood (d) Sclerenchyma

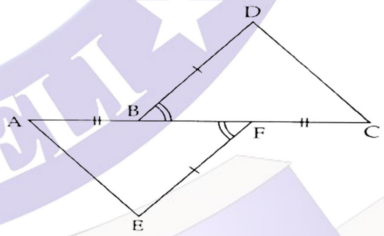
MATHS

46. Which of the following is not a criterion for congruency of triangles?
(a) SAS (b) ASA
(c) SSA (d) SSS

47. The 10^{th} term of the A.P.5,8,11,14,…. Is
(a) 32 (b) 35
(c) 38 (d) 185

48. If the common difference of an A.P. is 5 then a_{18}-a_{13} is
(a) 5 (b) 20
(c) 25 (d) 30

49. In the adjoining figure, AB = FC and EF = BD and ∠AFE = ∠CBD. Then the rule by which ΔAFE ≅ ΔCBD is

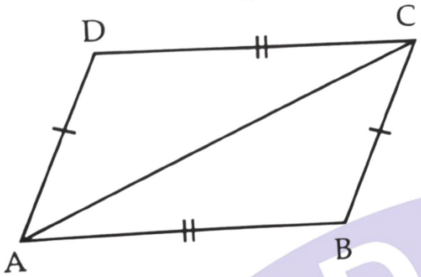


(a) SAS (b) ASA
(c) SSS (d) AAS

50. In the adjoining figure, AB = AC and AD is median of triangle ABC , then angle ADC is equal to

(a) 60° (b) 120°
(c) 90° (d) 75°

51. In the adjoining figure, ABCD is a quadrilateral in which AD = CB and AB = CD then ∠ACB is equal to



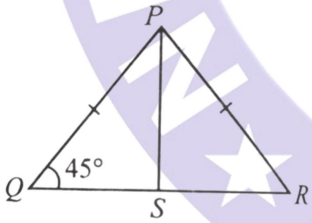
(a) ∠ ACD (b) ∠BAC
(c) ∠ CAD (d) ∠ BAD

52. In an A.P., if d = - 4 n = 7, a_n = 4 then a is
(a) 6 (b) 7
(c) 20 (d) 28

53. Which term of the A.P. 21, 42, 63, 84, ... is 210?
(a) 9^{th} (b) 10^{th}
(c) 11^{th} (d) 12^{th}

54. In ΔABC and ΔPQR, AB = AC, ∠C = ∠P and ∠B = ∠Q. The two triangles are
(a) isosceles but not congruent
(b) isosceles and congruent
(c) congruent but isosceles
(d) neither congruent nor isosceles

55. In the given figure, PS is the median, bisecting angle P, then angle QPS is



(a) 110° (b) 70°
(c) 45° (d) 55°

56. The 21st term of an A.P. whose first two terms are -3 and 4 is
(a) 17 (b) 137
(c) 143 (d) -143

57. The 11th term of the G.P 1/8, - 1/4, 1/2, - 1… is
(a) 64 (b)-64
(c) 128 (d)-128

58. In a ΔABC if AB = AC and ∠B = 70° find ∠A.
(a) 40° (b) 70°
(c) 60° (d) 90°

59. The vertical angle of an isosceles triangle is 100°. Find its base angles.
(a) 100° (c) 80°
(b) 40° (d) 90°

60. If k, 2(k+1), 3(k + 1) are three consecutive terms of a G.P., then the value of k is
(a) -1 (b) -4
(c) 1 (d) 4