PHYSICS PART – 1
MULTIPLE CHOICE QUESTIONS

1. The universal law of gravitation was propounded by
   a) Kepler
   b) Galileo
   c) Newton
   d) Copernicus
2. The gravitational force with which the sun attracts the earth
   a) Is less than the force with which the earth attracts the sun
   b) Is the same as the force with which earth attracts the sun
   c) Is more than the force with which the earth attracts the sun
   d) Is constant throughout the year
3. If the distance between the earth and the sun ware twice what it is now, the gravitational force exerted on the earth by the sun would be
   a) Twice as large as it is now
   b) Four time as large as it is now
   c) Half of what it is now
   d) One-fourth of what it is now
4. The mass of a body is different from its weight because
   a) Mass is a variable quantity whereas weight is constant
   b) Mass varies very little at different place whereas weight varies a lot
   c) Mass is constant but weight increase as the body move from poles to the equator
   d) Mass is a measure of the quantity of matter whereas weight is a force
5. The weight of a body is
   a) The same everywhere on the surface of the earth
   b) Maximum at the poles
   c) Maximum at the equator
   d) More on the hills than in the plains
6. A body weight slightly more at the poles than at the equator because
   a) The earth is flat at the poles
   b) The earth has maximum speed of rotation at the equator
   c) The attractive force at the poles increases due to the ice cap
   d) None of these is a complete explanation
7. Let $\mathbf{W_P}$ and $\mathbf{W_E}$ be the weights of a body at the north pole and at the equator respectively. If the earth were not rotating then
   a) $\mathbf{W_P}$ would be more
   b) $\mathbf{W_P}$ would remain unchanged
   c) $\mathbf{W_E}$ would remain unchanged
   d) $\mathbf{W_E}$ would be less
8. A person weight more in a lift, which is
   a) Moving up with a constant velocity
   b) Moving down with a constant velocity
   c) Accelerating upward
   d) Accelerating downward
9. If a body taken from the earth to the moon
   a) Its mass will be different but weight will remain the same
   b) Both mass and weight will be different
   c) Its mass will remain the same but weight will be different
   d) It mass and weight will remain unchanged
10. A ball tied with a string to a rotating shaft revolves an uniform speed. As the shaft is suddenly brought to rest the string starts getting round the shaft with the angular velocity of the ball
    a) Increasing
    b) Decreasing
    c) Remain constant
    d) Becoming zero
11. One find it more difficult to work on ice than on a concrete road because
    a) Ice is soft and spongy whereas concrete is hard
    b) The friction between the ice and the feet is less than that between the concrete and the feet
    c) There is more friction on ice than on concrete
    d) None of this
12. It is easier to roll a barrel than to pull it because
    a) The full weight of barrel comes into play when it is pulled
    b) Rolling friction is much less than sliding friction
    c) The surface area of the barrel in the concrete with the road is more in the case of pulling

d) Of a reason other than those mentioned

13. A sheet of paper can be pulled out quickly from under a glass of water without spilling the water. This phenomenon illustrates
    a) Lack of friction between paper and glass
    b) Newton's third law of motion
    c) Inertia
    d) Acceleration
14. A horse pulling a tonga move forward due to the force exerted by
    a) The tonga on the horse
    b) The horse on the tonga
    c) The horse on the ground with is feet
    d) The ground on the horse's feet
15. When the velocity of a body is doubled, its
    a) Acceleration is doubled
    b) Momentum is doubled
    c) Kinetic energy is doubled
    d) Potential energy is doubled
16. If two bodies, one heavy and one light, are act upon by the same force for the same time, then both bodies acquire the
    a) Same velocity
    b) Same momentum
    c) Same acceleration
    d) None of these
17. The work done in a weight of 20 kg at a height of 1 m above the ground is
    a) Zero
    b) 20 J
    c) 200 J
    d) None of these
18. When the speed of a body is doubled, its kinetic energy becomes
    a) Double
    b) Half
    c) Quadruple
    d) One-fourth
19. Winding a watch is actually the process of storing
    a) Electrical energy
    b) Pressure energy
    c) Kinetic energy
    d) Potential energy
20. A long thread suspended from a fixed point, has a small swinging to and fro at its lower end
    a) The potential energy is maximum in the middle of the swing
    b) The kinetic energy is maximum in the middle of the swing
    c) The potential energy is always equal to the kinetic energy
    d) The sum of the potential energy and the kinetic energy is maximum in the middle of the swing
21. Conservation of energy means that
    a) Energy can be created as well as destroyed
    b) Energy can be created but not destroyed
    c) Energy cannot be created but can be destroyed
    d) Energy can neither be created nor destroyed
22. A person climbing a hill bends forward in order to
    a) Avoid slipping
    b) Increase speed
    c) Reduce fatigue
    d) Increase stability
23. The period of revolution of a geostationary satellite is
    a) 24 hours
    b) 30 days
    c) 365 days
    d) Changing continuously
24. If an apple is released from an orbiting spaceship, it will
    a) Fall towards the earth
    b) Move along with the spaceship at the same speed
    c) Move at the higher speed
    d) Move at the lower speed
25. The density of sea water increases as
    a) Depth and salinity decrease
    b) Depth decreases salinity increases
    c) Depth increases and salinity decreases
    d) Depth and salinity increases
26. When a ship enters a sea from a river
    a) It rice a little
    b) Its sinks a little
    c) It remain at the same level
    d) It rice or sinks depending on the material it is made of

27. A steel ball floats on mercury because
    a) Mercury does not allow any metallic ball to sink in it
    b) Mercury is also a metal in the liquid form
    c) The density of mercury is higher than that of steel
    d) A steel ball can be made to float on any liquid by suitable adjustment

28. Inside the aeroplane, flying at a high altitude
    a) The pressure is the same as that outside
    b) Normal atmospheric pressure is maintained by the use of air pumps
    c) The pressure inside is less than the pressure outside
    d) Normal humidity and partial vacuum are maintained

29. Atmospheric pressure is measured with a
    a) Hydrometer
    b) Barometer
    c) Hygrometer
    d) Altimeter

30. The atmospheric exerts enormous pressure on us. But we do not feel it because
a) We are used to it
b) Our bone are very strong and can withstand this pressure
c) The surface area of our head is very small
d) Our blood exerts a pressure slightly more than that of the atmosphere

31. In a barometer, mercury is preferred over water because
    a) Mercury is good conduct of heat
    b) Mercury is shining and therefore it level can be read easily
    c) Mercury is available in pure form
    d) Mercury has high density and low vapour pressure

32. An object weight maximum in
    a) Air
    b) Water
    c) Hydrogen
    d) Vacuum

33. Four solid cubes of different metals, each one having a mass of 1kg, are weighed in water
    a) All cubes weight equal
    b) Cubes with minimum density weight minimum
    c) Cubes with minimum density weight maximum
    d) None of these is correct

34. Which one of the following would a hydrogen balloon find easiest to lift?
    a) 1 kg of water
    b) 1 kg of copper
    c) 1 kg of loosely packed feather
    d) All of this

35. A stone is thrown into a deep lake. As it sinks deeper and deeper into the water, the upthrust acting into it
    a) Increase
    b) Decrease
    c) Fast decrease then increase
    d) Remain constant

36. Raindrops are spherical due to
    a) Viscosity of water
    b) Surface tension
    c) Continuous evaporation
    d) Air friction

37. When to mercury drops are brought into contact, they merge to form a bigger drops because liquid have a tendency to possess
    a) Minimum volume
    b) Maximum surface area
    c) Minimum surface area
    d) Maximum volume

38. On a clean glass plate a drop of water spreads to fro a thin layer whereas a drops a drop od mercury remains almost spherical because
    a) Mercury is a metal
    b) Density of mercury is greater than that of water
    c) Cohesion of mercury is greater than its adhesion with glass
    d) Cohesion of water is greater than its adhesion with glass

39. The swing of a spinning cricket ball in the air can be explained on the basis of
    a) Sudden change in wind direction
    b) Buoyancy of air
    c) Turbulence caused by wind
    d) Bernoulli's therorem

40. A train goes past a railway station at a high speed. A young boy standing on the edge of the platform is likely to

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a) Remain unaffected
b) Fall way from the train
c) Fall way from or towards the train depending on its speed

41. In a sprayer the liquid rise in the tube due to
a) Capillary
b) Evaporation
c) Lower pressure at the upper end
d) Unknown reason

42. A football bounce when its falls on the ground because
a) It is made up rubber
b) It is hollow
c) It is very light and is able to overcome the resistance of air
d) Of its property of elasticity

43. The science dealing with a study of phenomena at very low temperatures is known as
a) Refrigenics
b) Cytogenics
c) Frozenics
d) Cryogenics

44. In cold countries alcohol is preferred to mercury as a thermometric liquid because
a) Alcohol is a better conductor of heat
b) Alcohol can be coloured and its level seen easily
c) Alcohol has a very low freezing point
d) Alcohol is cheaper than mercury

45. On heating a circular metallic dise with a circular at the centre, the diameter of the hole will
a) Decrease
b) Remain the same
c) Increase
d) First increase then decrease

46. When a certain mass of liquid is heated in a glass flask
a) The density of the liquid remain unchanged
b) The density of the liquid increase
c) The liquid level starts rising at once
d) The liquid level falls first and then starts rising

47. When a cube of ice floating on water in a beaker melts, the level of water in the beaker
a) Rises
b) Falls
c) Remain the same
d) First rise and then falls

48. If water in a lake were to behave like other liquids then in extremely cold weather it would freeze
a) From top to bottom
b) From bottom to top
c) Simultaneously throughout the depth
d) First on the surface, bottom and side then in the interior

49. The temperature of the top of the frozen lake is -15^{o}C. What is the temperature of the water in the lake in contact with the ice layer?
a) 0^{o}C
b) 4^{o}c
c) -15^{o}C
d) -7.5^{o}C

50. Fish can survive inside a frozen lake because
a) Fish are warm blooded animals
b) Fish hibernate in ice
c) Water near the bottom dose not frozen
d) Ice is a good conductor of heat

Answers

1. c	2. b	3. d	4. d	5. b
6. d	7. b	8. c	9. c	10. a
11. b	12. b	13. c	14. d	15. b
16. b	17. a	18. c	19. d	20. b
21. d	22. d	23. a	24. b	25. d
26. a	27. c	28. b	29. b	30. d
31. d	32. d	33. b	34. c	35. d
36. b	37. c	38. c	39. d	40. c
41. c	42. d	43. d	44. c	45. c
46. d	47. c	48. b	49. a	50. c