SA - Physical Science 9th June 2025 Shift 2

PHYSICS BITS

Question No.41

Which type of Motion of the wheel of a bicycle?

a)Rotational
b)Both Rotational land Oscillatory
c)Both Rectilinear and Oscillatory
d)Both Rectilinear and Rotatory

Answer: Option d

Question No.42

1 gram/cm^3 = _____ kilogram/m^3

a) 1000
b) 1/1000
c) 100
d) 1/100

Answer: **Option a**

Question No.43

If the error found in the measurement of radius of sphere is 2%, calculate the error in the measurement of its Volume in _%?
a) 8
b) 6
c) 2\3
d) 4/3

Answer: Option b

Question No.44

If a girl walks with a speed of 5/3 ms^{-1} for 15 min, calculate the distance covered by the girl.

a) 1.5 km
b) 15 m
c) 0
d) 5/12 km

Answer: Option a

Question No.45

Unit of the physical quantity speed is

a) meter/sec
b) Kilometer/hour
c) Kilometer/sec
d) meter/hour

Answer: **Option a**

Question No.46

A physical quantity of a massive body is mentioned as – 3 meter/sec. It may be

a) Position of the massive body
b) Velocity of the massive body
c) Acceleration of the massive body
d) Speed of the massive body

Answer: Option b

Question No.47

For the area under a graph between two physical quantities SI unit is mentioned as meters. What are those physical quantities?

a) Distance and time
b) Acceleration and time
c) Speed and time
d) Velocity and distance

Answer: **Option c**

Question No.48

What is the angle between the vectors **A** and **B**, if $|A + B| = |A - B|$?
a) 0^0
b) 30^0
c) 45^0
d) 90^0

Answer: Option d

Question No.49

Which of the following factors increases the friction?

a) Sole of the shoe
b) Ball bearings
c) Smoothening the surface
d) Lubricants

Answer: Option a

Question No.50

When the Carpet is beaten with a stick, dust comes out from the Carpet. Is it an example of?

a) Newton's first law
b) Newton's law of cooling
c) Newton's second law
d) Newton's third law

Answer: Option a

Question No.51

What is the condition for a massive body to sink in a liquid? If its buoyant force is

a) Equal to its weight
b) Greater than its weight
c) Less than its weight
d) Zero

Answer: Option c

Question No.52

What is the unit of pressure?

a) Newton kg/meter^2
b) Newton meter/sec^2
c) Newton/meter^2
d) kg meter/sec^2

Answer: Option c

Question No.53

According to the gravitational force (F), the relation between two massive bodies and their distance is as follows:
a) d α 1/F^3
b) F α 1/d^2
c) d α 1/F^2
d) F α 1/d

Answer: **Option b**

Question No.54

When the mass and weight are equal? If g = _____

a) Infinity
b) Zero
c) 9.8 meter/sec^2
d) 1 meter/sec^2

Answer: Option d

Question No.55

Which of the following is not a conservative force?

a) Electrostatic force
b) Frictional force
c) Gravitational force
d) Spring force

Answer: Option b

Question No.56

What is the work done by the string if a stone is tied to a string and whirled in a horizontal circle?

a) Negative
b) Positive
c) Zero
d) Undefined

Answer: Option c

Question No.57

What is the energy consumed in 5 hr. by two devices of power 500 watt each?
a) 1.8×10^7 J
b) 9×10^6 J
c) 2.5 KJ
d) 5 KJ

Answer: Option a

Question No.58

By keeping the mass of the body constant, to double the kinetic energy of the massive body, the velocity must change to _____

a) V/3
b) 2V
c) 1.414 V
d) V/2

Answer: Option c

Question No.59

Condition for an inelastic collision?

a) Both kinetic energy and momentum are conserved
b) Only momentum is conserved
c) Neither kinetic energy nor momentum is conserved
d) Only kinetic energy is conserved

Answer: Option b

Question No.60

Sound produced in the following condition

a) Vibration
b) Multiple reflection
c) Refraction
d) Friction

Answer: Option a

Question No.61

Loudness of the sound unit?

a) No units
b) Hz
c) sec^{-1}
d) dB

Answer: Option d

Question No.62

Sound waves are?

a) Longitudinal waves
b) Electromagnetic waves
c) Transverse waves
d) Both longitudinal and transverse waves

Answer: Option a

Question No.63

If the fluid is at rest, what is Bernoulli's equation?

a) $P - 1/2\rho gh$ = constant
b) $P + 1/2\rho gh$ = constant
c) 0
d) $P + \rho gh$ = constant

Answer: Option d

Question No.64

Which option is correct regarding the order of refractive index of the material

a) Air, Diamond, Kerosene, Water
b) Air, Water, Kerosene, Diamond
c) Air, Kerosene, Diamond, Water
d) Water, Kerosene, Diamond, Air

Answer: Option b

Question No.65

What is the relation between the average kinetic energy of the molecule and temperature?
Kinetic energy is directly proportional to

a) Temperature in Reaumur
b) Temperature in Celsius
c) Temperature in Kelvin
d) Temperature in Fahrenheit

Answer: Option c

Question No.66

What is the resultant temperature if 100 grams of water at 60^0C is mixed with 100 grams of ice at 0^0C? (Specific heat of water is 1 Cal/gram °C, and the latent heat of ice is 80 Cal/gram)

a) 15^0
b) 30^0
c) 60^0
d) 0^0

Answer: Option d

Question No.67

Beats can be generated if the difference between frequencies is not more than

a) 20
b) 22
c) 10
d) 0

Answer: Option c

Question No.68

The shadow formed by the green tree will be

a) Red
b) Green
c) Colour less
d) White

Answer: Option c

Question No.69

Which is not a property of the image formed by a plane mirror as compared to the object?

a) Erect image
b) Same size
c) Same distance
d) Real image

Answer: Option d

Question No.70

If the refractive index of the glass with respect to air is 3/2, and the refractive index of water with respect to air is 4/3, then the refractive index of glass with respect to water will be

a) 1/2
b) 9/8
c) 2
d) 8/9

Answer: **Option b**

Question No.71

A prism of refractive index 1.414 produces a minimum deviation of x^0, then the value of x is? (Angle of the prism is 60^0)

a) 30
b) 90
c) 45
d) 60

Answer: Option a

Question No.72

Which of the following physical quantity remains same if a dielectric slab is introduced between the plates of a parallel plate capacitor?

a) Electric field
b) Capacitance
c) Potential difference
d) Free charge

Answer: Option d

Question No.73

Which of the following is used to break or connect an electric circuit?

a) Terminal
b) Fuse
c) Switch
d) Filment

Answer: Option c

Question No.74

Why is chromium used in electroplating
a) Resists scratches
b) Shiny appearance
c) Does not corrode
d) Cheaper metal

Answer: **Option d**

Question No.75

Tungsten metal is used as a filament in electric bulbs due to its

a) High resistivity and high melting point
b) Low resistivity and high melting point
c) Low resistivity and low melting point
d) High resistivity and low melting point

Answer: Option a

Question No.76

What is the resultant resistance, if 'n' identical resistors each of resistance R are connected in parallel?

a) 1/nR
b) R/n
c) nR
d) n/R

Answer: **Option b**

Question No.77

What is the ratio of power dissipation if two bulbs with a resistance ratio of 1:2 are connected in parallel to a source of constant voltage?

a) 3:1
b) 1:4
c) 2:1
d) 4:1

Answer: **Option c**

Question No.78

A conductor moving with a speed of 10 ms-1 in a direction perpendicular to the direction of the magnetic field of induction induces an emf of 8 V across its ends. Then, calculate its length.

a) 6.4 meter
b) 64 meter
c) 0.1 meter
d) 1 meter

Answer: Option d

Question No.79

What is the shape and direction of magnetic field lines if current flows in a straight wire vertically upward?

a) Circular, anti-clockwise
b) Elliptical, anti-clockwise
c) Elliptical, clockwise
d) Circular, clockwise

Answer: Option a

Question No.80

Calculate the flux through the coil if it is placed in a magnetic field of 0.02 T along the x-axis and area vector A = 30i + 16j + 23k in SI units.

a) 0.32 weber
b) 1.38 weber
c) 0.46 weber
d) 0.6 weber

Answer: Option d

THANK YOU