

Physics

Question No. 01

A pond of clear water appears less deep than it really is. This is due to

- (A) Refraction
- (B) Reflection
- (C) The transparency of water
- (D) Dispersion

Answer: Option A

Question No. 02

Stars appears to move from east to west because

- (A) All stars move from east to west
- (B) The earth rotates from west to east
- (C) The earth rotates from east to west
- (D) The background of the stars moves from west to east

Answer: Option B

Question No. 03

Convex lenses are used for the correction of

- (A) Long-Sightedness
- (B) Short- Sightedness
- (C) Cataract
- (D) None of these

Answer: Option A

Question No. 04

Red light is used in traffic signals because

- (A) It has the longest wavelength
- (B) It is beautiful
- (C) It is visible to people even with bad eyesight
- (D) None of these

Answer: Option A

Question No. 05

Pencil "lead" is made up of

- (A) Graphite
- (B) Charcoal
- (C) Lead oxide
- (D) Lampblack

Answer: Option A

Question No. 06

Solar Cell converts

- (A) Light energy into heat energy
- (B) Solar energy into electrical energy
- (C) Solar energy into sound energy
- (D) Solar energy into heat energy

Answer: Option B

Question No. 07

The image formed on the retina of the eye is

- (A) Real and Inverted
- (B) Upright and Real
- (C) Virtual and Upright
- (D) Enlarged and Real

Answer: Option A

Question No. 08

The blue colour of the water in the sea is due to

- (A) Refraction of the blue light by the impurities in sea water
- (B) Reflection of blue sky by the sea water
- (C) Absorption of other colours except the blue colour by water molecules
- (D) Scattering of blue light by water molecules

Answer: Option B

Question No. 09

Rainbow is due to

- (A) Absorption of sunlight in minute water droplets
- (B) Diffusion of sunlight through water droplets
- (C) Ionisation of water deposits
- (D) Refraction and reflection of sunlight by water droplets

Answer: Option D

Question No. 10

The oil in the wick of a lamp rises up due to

- (A) Pressure difference
- (B) Low viscosity of oil
- (C) Capillary action
- (D) Gravitational force

Answer: Option C

Question No. 11

Food is cooked in a pressure cooker quickly because

- (A) Boiling point of water decreases
- (B) Boiling point of water increases
- (C) It absorbs heat quickly

(D) It retains heat for a longer duration

Answer: Option B

Question No. 12

A glass tumbler containing ice shows droplets of water on the outer surface because

- (A) The outer surface of the tumbler shows hygroscopic effect
- (B) The moisture in the air on coming in contact with the cold surface of the tumbler condenses in the form of droplets of water
- (C) Water from inside oozes out through minute porous wall of the tumbler
- (D) Both (A) and (C)

Answer: Option B

Question No. 13

The sky appears blue because

- (A) It is actually blue
- (B) The atmosphere scatters blue light more than the others
- (C) All colours interface to produce blue
- (D) In white light, blue colour dominates

Answer: Option B

Question No. 14

A thick glass tumbler cracks more easily than a thin one when hot water is poured into it. Why?

- (A) Thick glass is more brittle than thin glass.
- (B) Thick glass is of inferior quality.
- (C) The inner surface of the tumbler expands more than its outer surface.
- (D) The outer surface of the tumbler expands more than its inner surface.

Answer: Option C

Question No. 15

Let a thin capillary tube be replaced with another tube of insufficient length then, we find water

- (A) Will overflow
- (B) Will not rise
- (C) Depressed
- (D) Change its meniscus

Answer: Option B

Question No. 16

Rectifiers are used to convert

- (A) Direct current to Alternating current
- (B) Alternating current to Direct current
- (C) High voltage to low voltage
- (D) Low voltage to high voltage

Answer: Option B

Question No. 17

Magnetism at the centre of a bar magnet is

- (A) Minimum
- (B) Maximum
- (C) Zero
- (D) Minimum or maximum

Answer: Option C

Question No. 18

Point 'A' is at a lower electrical potential than point 'B'. An electron between them on the line joining them will

- (A) Move towards A
- (B) Move towards B
- (C) Move at right angles to the line joining A and B
- (D) Remain at rest

Answer: Option B

Question No. 19

It takes much longer to cook food in the hills than in the plains, because

- (A) In the hills the atmospheric pressure is lower than that in the plains and therefore water boils at a temperature lower than 100°C causing an increase in cooking time
- (B) Due to low atmospheric pressure on the hills, the water boils at a temperature higher than 100°C and therefore water takes longer to boil
- (C) In the hills the atmospheric density is low and therefore a lot of heat is lost to the atmosphere
- (D) In the hills the humidity is high and therefore a lot of heat is absorbed by the atmosphere leaving very little heat for cooking

Answer: Option A

Question No. 20

Oil raise up the wick in a lamp. The principle involves

- (A) The diffusion of oil through the wick
- (B) The liquid state of oil
- (C) Capillary action phenomenon
- (D) Volatility of oil

Answer: Option C

Question No. 21

Intensity of sound at a point is _____ its distance from the source.

- (A) Directly proportional to
- (B) Inversely proportional to
- (C) Directly proportional to square of
- (D) Inversely proportional to square of

Answer: Option D

Question No. 22

Out of the following pairs, which one does not have identical dimension?

- (A) Moment of inertia and moment of a force
- (B) Work and Torque
- (C) Angular momentum and Planck's constant
- (D) Impulse and Momentum

Answer: Option A

Question No. 23

On a stationary sail boat, air is blown from a fan attached to the boat. The boat

- (A) Moves in opposite direction in which the air is blown
- (B) Does not move
- (C) Moves in the same direction in which air blows
- (D) Spins around

Answer: Option B

Question No. 24

Isotopes of an element contain

- (A) The same number of protons but different number of neutrons
- (B) The same number of neutrons but different number of protons
- (C) Equal number of protons and electrons
- (D) Equal number of nucleons

Answer: Option A

Question No. 25

Identify the vector quantity from the following

- (A) Heat
- (B) Angular momentum
- (C) Time
- (D) Work

Answer: Option B

Question No. 26

An aeroplane is flying horizontally with a velocity of 600 km/h and at a height of 1960 m. When it is vertically at a point 'A' on the ground a bomb is released from it. The bomb strikes the ground at point 'B'. The distance 'AB' is

- (A) 1200 m
- (B) 0.33 km
- (C) 3.33 km
- (D) 33 km

Answer: Option C

Question No. 27

Photosynthesis takes place faster in

- (A) Yellow light

- (B) White light
- (C) Red light
- (D) Darkness

Answer: Option B

Question No. 28

It is more difficult to walk on a sandy road than on a concrete road because

- (A) Sand is soft and concrete is hard
- (B) The friction between sand and feet is less than that between concrete and feet
- (C) The friction between sand and feet is more than that between concrete and feet
- (D) The sand is grainy but concrete is smooth

Answer: Option B

Question No. 29

Radiocarbon is produced in the atmosphere as a result of

- (A) Collision between fast neutrons and nitrogen nuclei present in the atmosphere
- (B) Action of ultraviolet light from the sun on atmospheric oxygen
- (C) Action of solar radiations particularly cosmic rays on carbon dioxide present in the atmosphere
- (D) Lightning discharge in atmosphere

Answer: Option A

Question No. 30

Large transformers, when used for some time, become very hot and are cooled by circulating oil.

The heating of the transformer is due to

- (A) The heating effect of current alone
- (B) Hysteresis loss alone
- (C) Both the heating effect of current and hysteresis loss
- (D) Intense sunlight at noon

Answer: Option C

Question No. 31

Study of life in outer space is known as

- (A) Endobiology
- (B) Exobiology
- (C) Entrobiology
- (D) Neobiology

Answer: Option B

Question No. 32

If two bodies of different masses, initially at rest, are acted upon by the same force for the same time, then the both bodies acquire the same

- (A) Velocity
- (B) Momentum
- (C) Acceleration

(D) Kinetic energy

Answer: Option B

Question No. 33

Of the following properties of a wave, the one that is independent of the other is its

(A) Amplitude

(B) Velocity

(C) Wavelength

(D) Frequency

Answer: Option A

Question No. 34

RADAR is used for

(A) Locating submerged submarines

(B) Receiving a signals in a radio receiver

(C) Locating geostationary satellites

(D) Detecting and locating the position of objects such as aeroplanes

Answer: Option D

Question No. 35

Stars twinkle because

(A) The intensity of light emitted by them changes with time

(B) The distance of the stars from the earth changes with time

(C) The refractive index of the different layers of the earth's atmosphere changes continuously, consequently the position of the image of a start changes with time

(D) The light from the star is scattered by the dust particles and air molecules in the earth's atmosphere

Answer: Option C

Question No. 36

Sound travels with a different speed in media. In what order does the velocity of sound increase in these media?

(A) Water, iron and air

(B) Iron, air and water

(C) Air, water and iron

(D) Iron, water and air

Answer: Option C

Question No. 37

Light travels at the fastest speed in

(A) Glass

(B) Water

(C) Hydrogen

(D) Vacuum

Answer: Option D

Question No. 38

Light Emitting Diodes (LED) is used in fancy electronic devices such as toys emit

- (A) X-rays
- (B) Ultraviolet light
- (C) Visible light
- (D) Radio waves

Answer: Option C

Question No. 39

Supersonic plane fly with the speed

- (A) Less than the speed of sound
- (B) Of sound
- (C) Greater than the speed of sound
- (D) Of light

Answer: Option C

Question No. 40

Primary rainbow is formed when light suffers

- (A) Two internal refractions before emerging out of the drop
- (B) One internal refractions before emerging out of the drop
- (C) No internal refraction
- (D) Either one or two internal refractions before emerging out of the drop

Answer: Option B

Question No. 41

Rainbow is produced when sunlight fall on drops of rain. Which of the following physical phenomena are responsible for this?

I. Diffusion

II. Refraction

III. Internal reflection

- (A) I, II and III
- (B) I and II
- (C) II and III
- (D) I and III

Answer: Option C

Question No. 42

Rain is falling vertically downwards. To a man running east-wards, the rain will appear to be coming from

- (A) East
- (B) West
- (C) Northeast
- (D) Southeast

Answer: Option A

Question No. 43

Planets are

- (A) Luminous heavenly bodies revolving around a star
- (B) Non-luminous heavenly bodies
- (C) Luminous heavenly bodies that twinkle
- (D) Luminous heavenly bodies that do not twinkle

Answer: Option B

Question No. 44

Intensity of sound has

- (A) An object existence
- (B) A subject existence
- (C) No existence
- (D) Both subjective and objective existence

Answer: Option A

Question No. 45

Metals are good conductors of electricity because

- (A) They contain free electrons
- (B) The atoms are lightly packed
- (C) They have high melting point
- (D) All of the above

Answer: Option A

Question No. 46

Find the maximum velocity for the overturn of a car moving on a circular track of radius 100 m.

The co-efficient of friction between the road and tyre is 0.2

- (A) 0.14 m/s
- (B) 140 m/s
- (C) 1.4 km/s
- (D) 14 m/s

Answer: Option D

Question No. 47

The ozone layer restricts

- (A) Visible light
- (B) Infrared radiation
- (C) X-rays and gamma rays
- (D) Ultraviolet radiation

Answer: Option D

Question No. 48

When a moving bus stops suddenly, the passenger are pushed forward because of the

- (A) Friction between the earth and the bus
- (B) Friction between the passengers and the earth

(C) Inertia of the passengers

(D) Inertia of the bus

Answer: Option C

Question No. 49

The velocity of sound in air (under normal condition) is

(A) 30 m/sec

(B) 320 m/sec

(C) 343 m/sec

(D) 3,320 m/sec

Answer: Option C

Question No. 50

Escape velocity of a rocket fired from the earth towards the moon is a velocity to get rid of the

(A) Earth's gravitational pull

(B) Moon's gravitational pull

(C) Centripetal force due to the earth's rotation

(D) Pressure of the atmosphere

Answer: Option A

Question No. 51

If force is expressed in Newton and the distance in metre, then the work done is expressed in

(A) Joule

(B) Kg wt

(C) Kg wt m

(D) Watt

Answer: Option A

Question No. 52

Which is the closest planet to Earth?

(A) Mars

(B) Venus

(C) Jupiter

(D) Mercury

Answer: Option B

Question No. 53

The planet which is farthest from the Sun is

(A) Uranus

(B) Saturn

(C) Pluto

(D) Neptune

Answer: Option C

Question No. 54

Mach number is used in connection with the speed of

- (A) Sound
- (B) Aircraft
- (C) Spacecraft
- (D) Ships

Answer: Option B

Question No. 55

Stars which appear single to the naked eye but are double when seen through a telescope are

- (A) Novas and supernovas
- (B) Binaries
- (C) Asteroids
- (D) Quasars

Answer: Option B

Question No. 56

Solar eclipse will take place when

- (A) The sun is between the moon and the earth
- (B) The earth is between the moon and the sun
- (C) The moon is between the sun and the earth
- (D) The moon does not lie on the line joining the sun and the earth

Answer: Option C

Question No. 57

In which of the following industries is mica as a raw material?

- (A) Cement
- (B) Glass and Pottery
- (C) Iron and Steel
- (D) Electrical

Answer: Option D

Question No. 58

Radiocarbon dating technique is used to estimate the age of

- (A) Rocks
- (B) Monuments
- (C) Soil
- (D) Fossils

Answer: Option D

Question No. 59

Natural radioactivity was discovered by

- (A) Marie Curie
- (B) Ernest Rutherford
- (C) Henri Becquerel

(D) Enrico Fermi
Answer: Option C

Question No. 60

Mica is used in electrical appliances such as electric iron because mica is

- (A) A good conductor of heat but a bad conductor of electricity
- (B) A bad conductor of heat but a good conductor of electricity
- (C) A good conductor of heat as well as electricity
- (D) A bad conductor of heat as well as electricity

Answer: Option A

Question No. 61

The 'pulse' of the aquatic environment can be ascertained by measuring

- (A) Nitrogen
- (B) Oxygen
- (C) Alkalinity
- (D) Conductivity

Answer: Option B

Question No. 62

What is the function of a dynamo?

- (A) To convert heat energy into light energy
- (B) To convert light energy into heat energy
- (C) To convert mechanical energy into electrical energy
- (D) To convert electrical energy into mechanical energy

Answer: Option C

Question No. 63

To produce sound it is necessary that

- (A) The source should execute longitudinal vibrations
- (B) The source should execute transverse vibrations
- (C) The source may execute any type of vibrations
- (D) The vibrations of source are not necessary

Answer: Option C

Question No. 64

Friction can be reduced by changing from

- (A) Sliding to rolling
- (B) Rolling to sliding
- (C) Potential energy to kinetic energy
- (D) Dynamic to static

Answer: Option A

Question No. 65

If the plane of the earth's equator were not inclined to the plane of the earth's orbit

- (A) The year would be longer
- (B) The winters would be longer
- (C) There would be no change of seasons
- (D) The summers would be warmer

Answer: Option C

Question No. 66

Change of seasons occur due to

I. Earth's rotation

II. Earth's revolution

III. Inclination of Earth's axis

- (A) I and II only
- (B) II and III only
- (C) I and III only
- (D) I, II and III

Answer: Option B

Question No. 67

When a ship crosses the International Date Line from West to East

- (A) It losses one day
- (B) It gains one day
- (C) It loses half a day
- (D) It gains half a day

Answer: Option A

Question No. 68

A lunar eclipse occurs when

- (A) Sun, Moon and Earth are not in the same line
- (B) Earth comes between the Sun and the Moon
- (C) Moon comes between the Sun and the Earth
- (D) Sun comes between the Earth and the Moon

Answer: Option B

Question No. 69

"Equinox" means

- (A) Days are longer than nights
- (B) Days and nights are equal
- (C) Days are shorter than nights
- (D) None of these

Answer: Option B

Question No. 70

The technique of recording and reproducing three-dimensional images of objects is known as

- (A) Audiography
 - (B) Lexicography
 - (C) Holography
 - (D) Photography
- Answer: Option C

Question No. 71

How much noise is produced when man breathes?

- (A) 35 Decibal
 - (B) 0.1 Decibal
 - (C) 0.5 Decibal
 - (D) 10 Decibal
- Answer: Option D

Question No. 72

Of the various non-conventional energy sources that are being tapped, which has the largest potential?

- (A) Water power
 - (B) Wind power
 - (C) Solar power
 - (D) Biomass power
- Answer: Option C

Question No. 73

The absorption of ink by blotting paper involves

- (A) Viscosity of ink
 - (B) Capillary action phenomenon
 - (C) Diffusion of ink through the blotting
 - (D) Siphon action
- Answer: Option B

Question No. 74

Nuclear sizes are expressed in a unit named

- (A) Fermi
 - (B) Angstrom
 - (C) Newton
 - (D) Tesla
- Answer: Option A

Question No. 75

Planets do not twinkle because

- (A) They emit light of a constant intensity
- (B) Their distance from the earth does not change with time
- (C) They are very far away from the earth resulting in decrease in intensity of light

(D) They are nearer to earth and hence we receive a greater amount of light and, therefore minor variations in the intensity are not noticeable

Answer: Option D

Question No. 76

Out of the following pairs, choose the pair in which the physical quantities do not have identical dimension?

- (A) Pressure and Young's modulus
- (B) Planck's constant and Angular momentum
- (C) Impulse and moment of force
- (D) Force and rate of change of linear momentum

Answer: Option C

Question No. 77

Sound of frequency below 20 Hz is called

- (A) Audio sounds
- (B) Infrasonic
- (C) Ultrasonic
- (D) Supersonics

Answer: Option B

Question No. 78

On a clean glass plate a drop of water spreads to form a thin layer whereas a drop of 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

Answer: Option C

Question No. 79

Sound travels at the fastest speed in

- (A) Steel
- (B) Water
- (C) Air
- (D) Vacuum

Answer: Option A

Question No. 80

Superconductors are substances which

- (A) Conduct electricity at low temperature
- (B) Offer high resistance to the flow of current
- (C) Offer no resistance to the flow of electricity
- (D) Conduct electricity at high temperatures

Answer: Option C

Question No. 81

Radio telescopes are better than optical telescopes because

- (A) They can detect faint galaxies which no optical telescope can
- (B) They can work even in cloudy conditions
- (C) They can work during the day and night
- (D) All of the above

Answer: Option D

Question No. 82

Mercury is commonly used as a thermometric fluid rather than water because

- (A) Specific heat of mercury is less than water
- (B) Specific heat of mercury is more than water
- (C) Mercury has greater visibility than water
- (D) Density of mercury is more than the water

Answer: Option C

Question No. 83

When light passes from air into glass it experiences change of

- (A) Frequency and wavelength
- (B) Frequency and speed
- (C) Wavelength and speed
- (D) Frequency, wavelength and speed

Answer: Option C

Question No. 84

When a given amount of air is cooled

- (A) The amount of moisture it can hold decreases
- (B) Its absolute humidity decreases
- (C) Its relative humidity remains constant
- (D) Its absolute humidity increases

Answer: Option A

Question No. 85

When cream is separated from milk

- (A) The density of milk increases
- (B) The density of milk decreases
- (C) The density of milk remains unchanged
- (D) It becomes more viscous

Answer: Option A

Question No. 86

Weight of an object put in a satellite orbiting in space around the earth is

- (A) The same as on the earth
- (B) Slightly more than that on the earth
- (C) Less than that on the earth

(D) Reduced to zero

Answer: Option D

Question No. 87

The three abundant elements in the earth's crust are aluminium, oxygen and silicon. The correct order of their abundance is

(A) Oxygen, aluminium, silicon

(B) Aluminium, silicon, oxygen

(C) Oxygen, silicon, aluminium

(D) Silicon, oxygen, aluminium

Answer: Option C

Question No. 88

Out of the following, which is not emitted by radioactive substance?

(A) Electrons

(B) Electromagnetic radiations

(C) Alpha particles

(D) Neutrons

Answer: Option D

Question No. 89

Materials for rain-proof coats and tents owe their water-proof properties to

(A) Surface tension

(B) Viscosity

(C) Specific gravity

(D) Elasticity

Answer: Option A

Question No. 90

Pick out the scalar quantity

(A) Force

(B) Pressure

(C) Velocity

(D) Acceleration

Answer: Option B

Question No. 91

Of the following natural phenomena, tell which one known in Sanskrit as 'deer's thirst'?

(A) Rainbow

(B) Earthshine

(C) Halo

(D) Mirage

Answer: Option D

Question No. 92

The buoyancy depends on

- (A) The shape of the body
- (B) The mass of the body
- (C) The mass of the liquid displaced
- (D) The depth to which the body is immersed

Answer: Option C

Question No. 93

The ozone layer is being destroyed by chlorofluorocarbons. In this regard which do you consider as the most harmful?

- (A) Carbon atom
- (B) Chlorine atom
- (C) Fluorine atom
- (D) The entire compound

Answer: Option B

Question No. 94

Venturi tube is used for

- (A) Measuring intensity of earthquakes
- (B) Measuring specific gravity
- (C) Measuring density
- (D) Measuring flow of a fluid

Answer: Option D

Question No. 95

The ozone layer restricts

- (A) Visible light
- (B) Infrared radiation
- (C) X-rays and gamma rays
- (D) Ultraviolet radiation

Answer: Option D

Question No. 96

Free surface of a liquid behaves like a sheet and tends to contract to the smallest possible area due to the

- (A) Force of adhesion
- (B) Force of friction
- (C) Centrifugal force
- (D) Force of cohesion

Answer: Option D

Question No. 97

The Halley's Comet will be visible again in the year

- (A) 2066 A.D.

(B) 2064 A.D.

(C) 2062 A.D.

(D) 2060 A.D.

Answer: Option C

Question No. 98

Summer solstice occurs in the Northern hemisphere

(A) March 21

(B) April 21

(C) May 21

(D) June 21

Answer: Option D

Question No. 99

The ozone layer of the earth is useful for living beings because

(A) It serves as the source of oxygen by decomposing air

(B) It maintains the nitrogen cycle of the earth

(C) It maintains the temperature of the earth

(D) It protects them from excessive ultraviolet rays of the sun

Answer: Option D

Question No. 100

When the Sun reaches its maximum distance from the equator, it is known as

(A) Solstice

(B) Eclipse

(C) Equinox

(D) Sidereal Day

Answer: Option A

Question No. 101

Imaginary lines drawn on a global map from pole to pole and from the perpendicular to the equator are called

(A) Contours

(B) Isobars

(C) Meridians

(D) Steppes

Answer: Option C

Question No. 102

Gravity setting chambers are used in industries to remove

(A) SO_x

(B) NO_x

(C) Suspended particulate matter

(D) CO

Answer: Option C

Question No. 103

A pond may be referred to as

- (A) An artificial eco-system
- (B) A natural eco-system
- (C) A biome
- (D) A community of plants and animals

Answer: Option B

Question No. 104

Fathometer is used to measure

- (A) Earthquakes
- (B) Rainfall
- (C) Ocean depth
- (D) Sound intensity

Answer: Option C

Question No. 105

At the equator, the duration of a day is

- (A) 10 hrs
- (B) 12 hrs
- (C) 14 hrs
- (D) 16 hrs

Answer: Option A

Question No. 106

The term "Refraction of light" means

- (A) Bending of light rays when they enter from one medium to another medium
- (B) Bending of light round the corners of obstacles and apertures
- (C) Coming back of light from a bright smooth surface
- (D) None of these

Answer: Option A

Question No. 107

Fish plates in Railway tracks are used to

- (A) Connect two rails
- (B) Join two coaches
- (C) Guide the wheels
- (D) Avoid fishes on the track

Answer: Option A

Question No. 108

On a night when the sky is clear, the temperature may dip considerably; on a cloudy night the temperature will usually dip much less. The reason for this difference is that

- (A) The clear sky allows radiant energy to escape readily from the earth
- (B) On a cloudy night the clouds are warm and therefore retard the cooling

- (C) The clear sky allows the cold of outer space to reach the earth
- (D) Current of air carries the heat away from the earth on a clear night

Answer: Option A

Question No. 109

Of the four locations mentioned below the highest inside temperature will be attained in the pressure cooker operated with the pressure valve open

- (A) At sea level
- (B) At the top of Mt. Everest
- (C) At a place in a valley below sea level
- (D) In an aeroplane flying at a height of 10,000 m with inside pressure maintained at the sea level

Answer: Option C

Question No. 110

Optical fibre works on the

- (A) Principle of refraction
- (B) Total internal reflection
- (C) Scattering
- (D) Interference

Answer: Option B

Question No. 111

Minimum numbers of unequal vectors which can give zero resultant are

- (A) Two
- (B) Three
- (C) Four
- (D) More than four

Answer: Option B

Question No. 112

One should not connect a number of electrical appliances to the same power socket because

- (A) This can damage the appliances due to overloading
- (B) This can damage the domestic wiring due to overloading
- (C) This can damage the electrical meter
- (D) The appliance will not get full voltage

Answer: Option B

Question No. 113

It is easier to roll a stone up a sloping road than to lift it vertical upwards because

- (A) Work done in rolling is more than in lifting
- (B) Work done in lifting the stone is equal to rolling it
- (C) Work done in both is same but the rate of doing work is less in rolling
- (D) Work done in rolling a stone is less than in lifting it

Answer: Option D

Question No. 114

Sir C.V. Raman was awarded Nobel Prize for his work connected with which of the following phenomenon of radiation?

- (A) Scattering
- (B) Diffraction
- (C) Interference
- (D) Polarization

Answer: Option A

Question No. 115

Mirage is due to

- (A) Unequal heating of different parts of the atmosphere
- (B) Magnetic disturbances in the atmosphere
- (C) Depletion of ozone layer in the atmosphere
- (D) Equal heating of different parts of the atmosphere

Answer: Option A

Question No. 116

Sound waves in air are

- (A) Transverse
- (B) Longitudinal
- (C) Electromagnetic
- (D) Polarised

Answer: Option B

Question No. 117

Suitable impurities are added to a semiconductor depending on its use. This is done in order to

- (A) Increase its life
- (B) Enable it to withstand higher voltages
- (C) Increase its electrical conductivity
- (D) Increase its electrical resistivity

Answer: Option C

Question No. 118

Railway tracks are banked on curves

- (A) Necessary centrifugal force may be obtained from the horizontal component weight of the train
- (B) To avoid frictional force between the tracks and wheels
- (C) Necessary centripetal force may be obtained from the horizontal component of the weight of the train
- (D) The train may not fly off in the opposite direction

Answer: Option C

Question No. 119

Light from the star, Alpha Centauri, which is nearest to the earth after the sun, reaches the earth in

- (A) 4.2 seconds
- (B) 42 seconds
- (C) 4.2 years
- (D) 42 years

Answer: Option C

Question No. 120

ML^2T^{-2} is the dimensional formula for

- (A) Moment of inertia
- (B) Pressure
- (C) Elasticity
- (D) Couple acting on a body

Answer: Option D

Question No. 121

Large astronomical telescopes always use as objective

- (A) Lens
- (B) Mirror
- (C) Combinations of lenses
- (D) None of the above

Answer: Option C

Question No. 122

It is easier to roll a barrel full of coal tar than to pull it because

- (A) The full weight of the barrel comes into play when it is pulled
- (B) The rolling friction is much less than the sliding friction
- (C) More surface area of the barrel is in contact with the road when it is pulled
- (D) Coal tar is a liquid and it flows in the barrel when it is rolled

Answer: Option B

Question No. 123

Sound produced at a point is heard by a person after 5 second, while the same sound is heard by another person after 6 seconds. If the speed of sound is 300 m/s, what could be the maximum and minimum distances between the two persons?

- (A) 1.8 km, 0.15 km
- (B) 2.2 km, 0.20 km
- (C) 2.8 km, 0.25 km
- (D) 3.3 km, 0.30 km

Answer: Option D

Question No. 124

Siphon will fail to work if

- (A) The densities of the liquid in the two vessels are equal
- (B) The level of the liquid in the two vessels is at the same height
- (C) Both its limbs are of unequal length
- (D) The temperature of the liquids in the two vessels is the same

Answer: Option B

Question No. 125

Light from the Sun reaches us in nearly

- (A) 2 minutes
- (B) 4 minutes
- (C) 8 minutes
- (D) 16 minutes

Answer: Option C

Question No. 126

On a rainy day, small oil films on water show brilliant colours. This is due to

- (A) Dispersion
- (B) Interference
- (C) Diffraction
- (D) Polarization

Answer: Option B

Question No. 127

Inside an 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

Answer: Option B

Question No. 128

The $23\frac{1}{2}^\circ$ South latitude is known as

- (A) The Tropic of Cancer
- (B) The Tropic of Capricorn
- (C) The Equator
- (D) The Prime Meridian

Answer: Option B

Question No. 129

A man weighing 65 kg jumps from a 100 ft high building with a load of 35 kg. What will be the load experienced by him?

- (A) 20 kg
- (B) 100 kg

(C) 200 kg

(D) Zero

Answer: Option D

Question No. 130

The universal law of gravitation was propounded by

(A) Kepler

(B) Galileo

(C) Newton

(D) Copernicus

Answer: Option C

Question No. 131

Summer solstice occurs in the Southern hemisphere on

(A) December 22

(B) January 22

(C) February 22

(D) February 28

Answer: Option A

Question No. 132

Microphone is used to convert

(A) Sound waves into electrical energy

(B) Sound waves into light rays

(C) Electrical energy into sound waves

(D) Sound waves into magnetic currents

Answer: Option A

Question No. 133

Steel is more elastic than Rubber because

(A) Its density is high

(B) It is a metal

(C) Ratio of stress to strain is more

(D) Ratio of stress to strain is less

Answer: Option C

Question No. 134

Pressure cooker cooks rice faster because

(A) It always lets the steam escape

(B) High pressure crushes the hard covering of rice grains

(C) It does not let the heat energy escape easily

(D) High pressure raises the boiling point of water

Answer: Option D

Question No. 135

The clear sky looks blue because

- (A) Reflection of light
- (B) Refraction of light
- (C) Diffraction of light
- (D) Dispersion of light

Answer: Option D

Question No. 136

The main reserves of phosphorus in the biosphere is in the

- (A) Hydrosphere
- (B) Atmosphere
- (C) Lithosphere
- (D) Troposphere

Answer: Option C

Question No. 137

The normal threshold of hearing is around

- (A) 60-80 db
- (B) 45-60 db
- (C) 100-120 db
- (D) 25-45 db

Answer: Option D

Question No. 138

Ozone hole refers to

- (A) Hole in ozone layer
- (B) Decrease in the ozone layer in troposphere
- (C) Decrease in thickness of ozone layer in stratosphere
- (D) Increase in the thickness of ozone layer in troposphere

Answer: Option C

Question No. 139

Super conductivity is a phenomenon in which the resistance of a substance

- (A) Increases with temperature
- (B) Decreases with temperature
- (C) Does not change with temperature
- (D) Becomes zero at very low temperature

Answer: Option D

Question No. 140

For seeing objects at the surface of water from a submarine under water, the instrument used is

- (A) Kaleidoscope
- (B) Periscope
- (C) Spectroscope

(D) Telescope
Answer: Option B

Question No. 141

If speed of rotation of the earth increases, weight of the body

- (A) Increases
 - (B) Remains unchanged
 - (C) Decreases
 - (D) May decrease or increase
- Answer: Option C

Question No. 142

The largest planet of the solar system is

- (A) Earth
 - (B) Mars
 - (C) Jupiter
 - (D) Saturn
- Answer: Option C

Question No. 143

Which is the closest planet to Sun?

- (A) Mars
 - (B) Venus
 - (C) Jupiter
 - (D) Mercury
- Answer: Option D

Question No. 144

What is the instrument that determines specific gravity of liquids?

- (A) Hygrometer
 - (B) Hydrometer
 - (C) Gravimeter
 - (D) Hypsometer
- Answer: Option C

Question No. 145

Primitive man first learnt

- (A) To make fire
 - (B) To tame animals
 - (C) To make a wheel
 - (D) To grow grain
- Answer: Option A

Question No. 146

In the visible spectrum, the colour having the shortest wavelength is

- (A) Green
- (B) Yellow
- (C) Violet
- (D) Blue

Answer: Option C

Question No. 147

On a cold day when a room temperature is 15°C , the metallic cap of a pen becomes much colder than its plastic body, though both are at the same temperature of 15°C , because

- (A) Metals have higher thermal capacity than plastics
- (B) Plastics have a lower density than metals
- (C) Metals are good conductor of heat
- (D) Plastics have a higher thermal conductivity than metals

Answer: Option C