

## Bihar DELED Science Questions Free PDF

**Q1.** Sound waves are characterized by which of the following properties?

- (a) Amplitude and frequency
- (b) Wavelength and speed
- (c) Reflection and refraction
- (d) Diffraction and interference

**Q2.** The unit of measurement for frequency is:

- (a) Decibel
- (b) Hertz
- (c) Watt
- (d) Pascal

**Q3.** Pulses are a rich source of which of the following?

- (a) Carbohydrates
- (b) Proteins
- (c) Minerals
- (d) Vitamin A

**Q4.** Plant cell wall is made up of -

- (a) Cellulose
- (b) Glucose
- (c) Sucrose
- (d) Fructose

**Q5.** The study of Fungi is also known as -

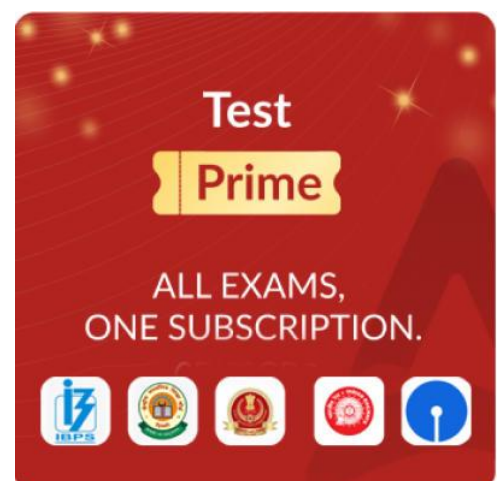
- (a) Cytology
- (b) Myology
- (c) Mycology
- (d) Neurology

**Q6.** The outermost layer of skin is -

- (a) Epidermis
- (b) Dermis
- (c) Tissues
- (d) Hypodermis


**Q7.** \_\_\_\_\_ is the movement of molecules across a cell membrane from a region of their lower concentration to a region of their higher concentration.

- (a) Diffusion
- (b) Osmosis
- (c) Active Transport
- (d) Passive Transport



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**Q8.** Study of classification of organisms is known as \_\_\_\_\_.

- (a) Serpentology
- (b) Virology
- (c) Taxonomy
- (d) Physiology

**Q9.** Which drug is used as an Antidiabetic drug?

- (a) Metformin
- (b) Zolpidem
- (c) Promethazine
- (d) Hydralazine

**Q10.** Meter in a vehicle that calculates distance covered by the vehicle is called \_\_\_\_\_.

- (a) Speedometer
- (b) Odometer
- (c) Thermometer
- (d) TDS meter

**Q11.** What is the SI unit of pressure?

- (a) Newton
- (b) Weber
- (c) Pascal
- (d) Henry

**Q12.** The time taken by a pendulum to complete one oscillation is called its?

- (a) Maximum speed
- (b) Average speed
- (c) Time period
- (d) Time interval

**Q13.** Mass of an object is 60 kg on the surface of the earth. Find its mass and weight on the surface on the moon.  
(N=Newton)

- (a) 60N
- (b) 600N
- (c) 100N
- (d) 1000N

**Q14.** The side mirrors of vehicles are of which type of mirrors?

- (a) Convex
- (b) Concave
- (c) Plane
- (d) Inverted

**Q15.** UV rays coming from Sun, majorly causes which cancer?

- (a) Lungs cancer
- (b) Liver cancer
- (c) Mouth cancer
- (d) Skin cancer

**Q16.** Which of the following is not a vector quantity?

- (a) Acceleration
- (b) Electric current
- (c) Force
- (d) Velocity

**Q17.** The phenomena of raising the outer edge of the curved roads, above the inner edge to provide necessary centripetal force to the vehicles to take a safe turn is called \_\_\_\_.

- (a) Banking of roads
- (b) Cornering of roads
- (c) Elevation of roads
- (d) Tempering of roads

**Q18.** For which of the following game, players must have the knowledge of Pascal's law?

- (a) Climbing
- (b) Paragliding
- (c) Rafting
- (d) Scuba diving

**Q19.** What is the largest component of lower atmosphere, by total volume?

- (a) Oxygen
- (b) Nitrogen
- (c) Helium
- (d) Water Vapour

**Q20.** Acetic Acid is another name for which of the following?

- (a) Vinegar
- (b) Baking Soda
- (c) Copper Sulphate
- (d) Magnesium Oxide

**Q21.** The reaction of Copper Sulphate and Iron produces Iron Sulphate and \_\_\_\_\_.

- (a) Vinegar
- (b) Ash
- (c) Baking Soda
- (d) Copper

**Q22.** A \_\_\_\_\_ thread is actually stronger than a steel wire.

- (a) Wool
- (b) Cotton
- (c) Jute
- (d) Nylon

**Q23.** The process of depositing a layer of any desired metal on another material by means of electricity is called \_\_\_\_\_.

- (a) Electroplating
- (b) Galvanisation
- (c) Rusting
- (d) Crystallisation

**Q24.** Heat is transmitted from higher temperature to lower temperature through the actual motion of the molecules in -

- (a) Conduction
- (b) Convection
- (c) Radiation
- (d) Both conduction and convection

**Q25.** Silver gets corroded due to \_\_\_\_\_ in air.

- (a) Oxygen
- (b) Hydrogen Sulphide
- (c) Carbon dioxide
- (d) Nitrogen

**Q26.** Which of the following is a viral disease?

- (a) Polio
- (b) Tetanus
- (c) Leprosy
- (d) Plague

**Q27.** Contraction of heart is also known as -

- (a) Systole
- (b) Aristotle
- (c) Diastole
- (d) Lub

**Q28.** *Azadirachta indica* is the botanical name of which of the following?

- (a) Rose plant
- (b) Apple tree
- (c) Neem
- (d) Mango

**Q29.** Which of the following is the main end product of carbohydrate digestion?

- (a) Fats
- (b) Lipids
- (c) Glucose
- (d) Cellulose

**Q30.** Which of the following glands is a source of the enzyme Ptyalin?

- (a) Pancreas
- (b) Thyroid Gland
- (c) Pituitary Gland
- (d) Salivary Glands

**Q31.** Which of the following is responsible for transport of food and other substances in plants?

- (a) Xylem
- (b) Phloem
- (c) Chloroplast
- (d) None of these

**Q32.** Which lobe of human brain is associated with hearing?

- (a) Frontal lobe
- (b) Parietal lobe
- (c) Temporal lobe
- (d) Occipital lobe

**Q33.** In mammals, an important role of excretion is played by\_\_\_\_\_.

- (a) Large intestine
- (b) Kidneys
- (c) Lungs
- (d) Liver

**Q34.** Which of the following is a radioactive element?

- (a) Cobalt
- (b) Uranium
- (c) Argon
- (d) Chromium

**Q35.** The 'solid waste' is also known as

- (a) Sedge
- (b) Toxic waste
- (c) Sludge
- (d) Scrubber

**Q36.** The antiparticle of an electron is -

- (a) Positron
- (b) Proton
- (c) Alpha particles
- (d) Beta particles

**Q37.** Which of the following is used as non-stick coating for cooking utensils?

- (a) Perspex
- (b) Styrofoam
- (c) Polystyrene
- (d) Teflon

**Q38.** The purest form of iron is -

- (a) Cast iron
- (b) Steel
- (c) Pig iron
- (d) Wrought iron

**Q39.** Now-a-days yellow lamps are frequently used as street lights. Which of the following gases is used in these lamps?

- (a) Sodium
- (b) Neon
- (c) Hydrogen
- (d) Nitrogen

**Q40.** Burning pyrites ore gives out -

- (a) Carbon dioxide gas
- (b) Sulphur dioxide gas
- (c) Nitrogen dioxide gas
- (d) Nitric oxide gas

**Q41.** Which one of the following fuels causes minimum air pollution?

- (a) Kerosene oil
- (b) Hydrogen
- (c) Coal
- (d) Diesel

**Q42.** Which gas is used in the purification of drinking water?

- (a) Helium
- (b) Chlorine
- (c) Fluorine
- (d) Carbon Dioxide

**Q43.** What is the value of the Least Distance of Distinct vision (in cm) for a normal human being?

- (a) 2.5
- (b) 25
- (c) 58
- (d) 60

**Q44.** Who invented the Centigrade scale?

- (a) Anders Celsius
- (b) Daniel Gabriel Fahrenheit
- (c) William Thomson
- (d) Wright Brothers

**Q45.** On which principle does the hydraulic lift works?

- (a) Newton's law
- (b) Pascal's law
- (c) Archimedes's law
- (d) Joule's law

**Q46.** The coil wire in the electric room heater or electric cooking heater is called \_\_\_\_\_.

- (a) Circuit
- (b) Element
- (c) Filament
- (d) Cells

**Q47.** Energy in the form of heat is wasted when a machine is operated. This heat is generated due to \_\_\_\_\_.

- (a) Burning
- (b) Friction
- (c) Combustion
- (d) Lubrication

**Q48.** The incident ray, the \_\_\_\_\_ at the point of incidence and the reflected ray all lie in the same plane.

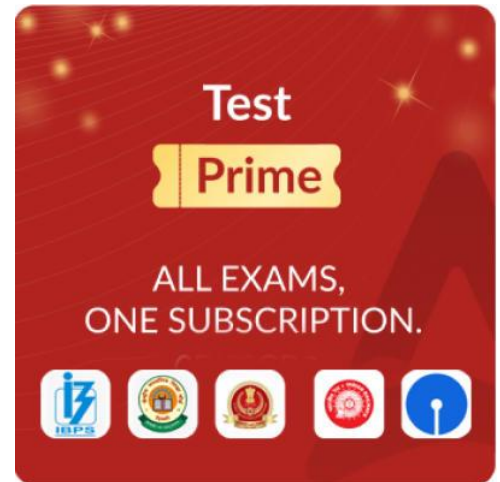
- (a) Surface
- (b) Tangent
- (c) Normal
- (d) Angle of reflection

**Q49.** Seismometer was invented by -

- (a) Alexander Parkes
- (b) Luigi Palmieri
- (c) Alexey Pajitnov
- (d) Ransom Eli Olds

**Q50.** For every action, there is an equal and opposite reaction, is Newton's

- (a) First law
- (b) Second law
- (c) Third law
- (d) Fourth law



## SOLUTIONS:

**S1. Ans.(a)**

**Sol.** Amplitude refers to the maximum displacement of particles in the medium from their rest position, while frequency represents the number of oscillations or cycles of the wave per second.

**S2. Ans.(b)**

**Sol.** Frequency is measured in hertz (Hz), which represents the number of cycles or vibrations per second.

**S3. Ans.(b)**

**Sol.** Pulses are rich sources of proteins. Proteins are essential macromolecules that play a vital role in numerous physiological processes.

- They are involved in cell structure, function, and regulation, and they help in repairing tissues and synthesizing important enzymes and hormones.

**S4. Ans.(a)**

**Sol.** The plant cell wall is composed of cellulose. Cellulose is a structural carbohydrate and is considered a complex sugar because it is used in both protection and structure.

**S5. Ans.(c)**

**Sol.** Mycology is the branch of biology concerned with the study of fungi, including their genetic and biochemical properties, their taxonomy and their use to humans.

**S6. Ans.(a)**

**Sol.** The epidermis, the outermost layer of skin, provides a waterproof barrier and creates our skin tone.

**S7. Ans.(c)**

**Sol.** Active transport is the movement of molecules across a membrane from a region of their lower concentration to a region of their higher concentration in the direction against the concentration gradient.

**S8. Ans.(c)**

**Sol.** Study of classification of organisms is known Taxonomy.

**S9. Ans.(a)**

**Sol.** Metformin is an oral antidiabetic drug for the treatment of diabetes.

**S10. Ans.(b)**

**Sol.** An odometer or odograph is an instrument for measuring the distance travelled by a vehicle, such as a bicycle or car. The device may be electronic, mechanical, or a combination of the two.

**S11. Ans.(c)**

**Sol.** The SI unit for pressure is the pascal (Pa), equal to one newton per square metre ( $\text{N/m}^2$ , or  $\text{kg}\cdot\text{m}^{-1}\cdot\text{s}^{-2}$ ). This name for the unit was added in 1971. It is named after the French polymath Blaise Pascal.

**S12. Ans.(c)**

**Sol.** The time taken by a pendulum to complete one oscillation is called its Time Period.

**S13. Ans.(c)**

**Sol.** Acceleration due to gravity on the moon is  $1/6$  times as that on the earth and we know that mass is property of the material it always remains same and weight is measure of gravitational force, hence mass of object on moon is  $60\text{kg}$  and weight  $=60\text{g}/6=10\times 10=100\text{N}$

**S14. Ans.(a)**

**Sol.** The convex mirror produces an upright image of any object and offers a wide viewing area as compared to the plane mirror. The usage of this type of mirror can be perceived on the car rear-view mirror, side-view mirror and even the motorcycles.

**S15. Ans.(d)**

**Sol.** Ultraviolet (UV) radiation from the sun or sunbeds is the main cause of skin cancer.

**S16. Ans.(b)**

**Sol.** **Electric current** is referred to as a **scalar quantity**. It is termed scalar quantity because many factors give us a hint that electric currents do not possess both magnitude and direction.

If it had possessed both magnitude and direction then it would have been termed as a vector quantity.

**S17. Ans.(a)**

**Sol.** The phenomenon of raising outer edge of the curved road above the inner edge is to provide necessary centripetal force to the vehicles to take a safer turn and the curved road is called Banking of Roads.

**S18. Ans.(d)**

**Sol.** Pascal's principle states that "a change in the pressure of an enclosed incompressible fluid is conveyed undiminished to every part of the fluid and to the surfaces of its container." For every 10m depth the pressure on the diver increases by 1 atm so at a depth of 10 meters under water, pressure is twice the atmospheric pressure at sea level. Thus, during Scuba diving players must have the knowledge of Pascal's law.



**S19. Ans.(b)**

**Sol.** By volume, Nitrogen is the largest component of the lower atmosphere.

**S20. Ans.(a)**

**Sol.** Acetic acid is also known as vinegar.

**S21. Ans.(d)**

**Sol.** The reaction of Copper Sulphate and Iron produces Iron Sulphate and Copper. It is a single displacement reaction.

**S22. Ans.(d)**

**Sol.** Nylon is an artificial fibre. It has high tensile strength, stiffness, excellent heat deflection temperature, and superior abrasion and wear resistance. Nylon thread is actually stronger than a steel wire.

**S23. Ans.(a)**

**Sol.** Electroplating is the process of plating(depositing) one metal onto another by means of electricity, most commonly for decorative purposes or to prevent corrosion of a metal.

**S24. Ans.(b)**

**Sol.** In the convection process, heat is transferred in the liquid and gases from a region of higher temperature to a region of lower temperature. Convection heat transfer occurs partly due to the actual movement of molecules or due to the mass transfer.

**S25. Ans.(b)**

**Sol.** Silver react with Hydrogen Sulphide in air to form Silver Sulphide. This is corrosion of silver.

**S26. Ans.(a)**

**Sol.** Poliomyelitis (polio) is an acute communicable disease of humans caused by a human enterovirus of the Picornaviridae family.

- Tetanus is an infection caused by bacteria called Clostridium tetani. Leprosy is a disfiguring disease caused by the Mycobacterium leprae bacteria. Plague is caused by the bacteria Yersinia pestis.

**S27. Ans.(a)**

**Sol.** Diastole is that part of the cardiac cycle during which the heart refills with blood after the emptying done during systole which is also known as contraction.

**S28. Ans.(c)**

**Sol.** Azadirachta indica is botanical name of Neem. It is a multipurpose tree that is highly popular in India, where it provides food and insecticide, and is used for its great number of ethnomedicinal properties.

**S29. Ans.(c)**

**Sol.** End products of digestion of carbohydrates are Glucose, fructose and galactose.

**S30. Ans.(d)**

**Sol.** Salivary gland is a source of enzyme Ptyalin. The enzyme ptyalin, or salivary amylase acts on starches and converts them to maltose. It helps in the predigestion of starches.

**S31. Ans.(b)**

**Sol.** Phloem is responsible for transport of food and other substances in plants. Xylem transport water and solutes from the roots to the leaves.

**S32. Ans.(c)**

**Sol.** Temporal lobe of human brain is associated with hearing and are related to smell, taste and short- term memory.

**S33. Ans.(b)**

**Sol.** In mammals, an important role of excretion is played by Kidney. Kidney extract waste from blood, balance body fluid from urine.

**S34. Ans.(b)**

**Sol.** Uranium is a radioactive element. Uranium is a chemical element with symbol U and atomic number 92.

**S35. Ans.(c)**

**Sol.** Sewage sludge refers to the residual, semi-solid material that is produced as a by-product during sewage treatment of industrial or municipal wastewater.

**S36. Ans.(a)**

**Sol.** Every type of particle has a corresponding antiparticle, for example; the positron is the antiparticle of the electron. the antiproton is the antiparticle of the proton. the antineutron is the antiparticle of the neutron. the antineutrino is the antiparticle of the neutrino.

**S37. Ans.(d)**

**Sol.** Non-stick cookware is a common application, where the non-stick coating allows food to brown without sticking to the pan. Non-stick is often used to refer to surfaces coated with "Teflon."

**S38. Ans.(d)**

**Sol.** Wrought iron contains 0.12 to 0.25% carbon and it is the purest form of iron.

- Wrought iron is an exceptionally pure form of iron, with an iron content approximately around 99.5%. It's manufactured by reprocessing pig iron, and may contain trace amounts of silicon, sulfur, or phosphorus.

**S39. Ans.(a)**

**Sol.** Now-a-days yellow lamps are frequently used as street lights. Sodium gas are used as street lamp.

**S40. Ans.(b)**

**Sol.** The mineral pyrite, or iron pyrite, is an iron sulphide with the molecular formula  $FeS_2$ . Pyrite is used in commercial production of sulphur dioxide, for use in the paper industry and in the manufacture of sulphuric acid.

**S41. Ans.(b)**

**Sol.** Hydrogen is the purest combustion fuel. Water is generated from burning of Hydrogen. While coal, kerosene oil and diesel are known as fossil fuel which generates, Carbon dioxide and many other harmful gases when it burns.

**S42. Ans.(b)**

**Sol.** Chlorine is presently an important chemical for water purification (such as in water treatment plants), disinfectants and in bleach.

**S43. Ans.(b)**

**Sol.** Least distance of distinct vision is defined as the minimum distance between the eye lens and the object to form a clear image. For a healthy human eye, the least distance of distinct vision is 25 cm, however it varies with age.

**S44. Ans.(a)**

**Sol.** In 1742, Swedish astronomer, Anders Celsius invented the Celsius(Centigrade) temperature scale, which was named after the inventor.

**S45. Ans.(b)**

**Sol.** Pascal's Law states that pressure that is applied to an enclosed fluid is transmitted equally to all other points. A hydraulic pump is a water pump that uses the kinetic energy of flowing water to force a small fraction of that water to a reservoir at a higher level. The hydraulic lift works because of Pascal's law. If force is put on (according to Pascal's Law), that force should be entirely felt on all points throughout the liquid.

**S46. Ans.(b)**

**Sol.** The coil wire is heating element in electric room heater or electric cooking heater to convert electricity into heat through the process of resistive or Joule heating. Electric current passing through the element encounters resistance, resulting in heating of the element.

**S47. Ans.(b)**

**Sol.** Energy in the form of heat is wasted when a machine is operated. This heat is generated due to Friction between two parts.

**S48. Ans.(c)**

**Sol.** The law of reflection states that the incident ray, the reflected ray, and the normal at the point of incidence all lie in the same plane.

**S49. Ans.(b)**

**Sol.** A Seismometer is an instrument that measures motion of the ground, caused by, for example, an earthquake, a volcanic eruption, or the use of explosives. It was invented by Italian scientist Luigi Palmieri.

**S50. Ans.(c)**

**Sol.** Newton third law states that for every action there is an equal and opposite reaction.

