॥ॐ॥

NARENDERA®

DAWN

GUESS PAPER

Strictly as per New Rationalised and Reduced Syllabus issued by JKBOSE

NCERTGUESS.COM
MODEL PAPERS, NCERT BOOKS, EXEMPLAR & OTHER PDF

10th Class

1. ENGLISH
2. MATHEMATICS
3. SCIENCE
4. SOCIAL SCIENCE
5. HINDI
6. URDU

By
PANEL OF EXPERTS

For BEST RESULTS

2024

NARENDERA PUBLISHING HOUSE

Price: ₹150.00

SCIENCE

(Physics, Chemistry and Life Science)

Time: 3 Hours *Maximum Marks: 80*

SECTION - A

Multiple Choice Questions

(Q 15 × 1 M = 15 marks)

Q.1. The radius of curvature of a spherical mirror is 20 cm. What is its focal length?
(a) 12 cm (b) 10 cm (c) –10 cm (d) 2 cm

Q.2. Power of Concave lens of focal length 200 cm is:
(a) 0.8 D (b) 1.5D (c)- 0.5 D (d) 5 D

Q.3. The change is focal length of eye lens is caused by the action of:
(a) Pupil (b) Retina (c) Ciliary muscles (d) Iris

Q.4. How much work is done in moving a charge of 2C across two points having potential difference of 12v?
(a) 24J (b) 26J (c) 12J (d) 2.4J

Q.5. The device used for producing electric current is called
(a) Generator (b) Ammeter (c) Galvanometer (d) Motor

Q.6. A solution turns red litmus blue, its pH is likely to be
(a) 1 (b) 5 (c) 4 (d) 10

Q.7. In order to balance the following chemical equation, the value of cofficients x and y resp. are

$$xPb(NO_3)_2 \xrightarrow{Heat} 2PbO+yNO_2+O_2$$

Q.8. Ethane with molecular formula C_2H_6 has
(a) 6 Covalent bonds (b) 8 Covalent bonds (c) 7 Covalent bonds (d) 9 Covalent bonds

Q.9. Food cans are coated with tin and not with zinc because
(a) Zinc is more reactive than Tin
(b) Zinc is less reactive than Tin
(c) zinc is costlier than Tin
(d) Zinc has higher melting point than Tin

Q.10. Melting point of Acetic acid is:
(a) 290 K (b) 209 K (c) 391 K (d) 211K

Q.11. The kidneys in human beings are part of which system:
(a) Nutrition (b) Respiration (c) Excretion (d) Transportation

Q.12. The brain is responsible for
(a) Thinking (b) Balancing body
(c) Regulating the heart beat (d) All of the above

Q.13. The Anther contains:
(a) Sepal (b) Pistil (c) Ovules (d) pollen grains

NCERTGUESS.COM MODEL PAPERS, NCERT BOOKS, EXEMPLAR & OTHER PDF

Q.14. In evolutionary terms, we have more in common with:

(a) a chinese school boy (b) a spider

(c) a chimpanzee (d) a bacterium

Q.15. ..... living has always been part of India's tradition and Culture.

(a) Sustainable (b) Sad (c) Happy (d) Economic

****

* **Which natural phenomenon among the following takes place because of scattering of light?**

(A) Blue colour of the sky (B) Twinkling of stars

(C) Advanced sunrise and delayed sunset (D) Both (B) and (C)

* **The chemical formula of Plaster of Paris is:**

(A) $CaSO_2.H_2O$ (B) $2CaSO_4.3H_2O$

(C) $2CaSO_4.H_2O$ (D) $CaSO_4.\frac{1}{2}H_2O$

* **Barium chloride reacts with sodium sulphate to form barium sulphate and sodium chloride:**

$BaCl_2(aq.) + Na_2SO_4(aq.) \longrightarrow BaSO_4(s) + 2NaCl(aq.)$

The above reaction is an example of:

(A) Combination reaction (B) Decomposition reaction

(C) Displacement reaction (D) Double-displacement reaction

* **The S.I. unit of electric current is:-**

(A) Ampere 'A' (B) Coulomb 'C'

(C) Watt 'W' (D) Volt 'V'

* **Formation of rainbow is an example of:**

(A) Atmospheric refraction (B) Scattering of light

(C) Dispersion of light (D) Both (A) and (B)

* **The fertilized egg, the zygote, gets implanted in the lining of:**

(A) Uterus (B) Ovary

(C) Vas deferens (D) Fallopian tube

* **Which natural phenomenon among the following takes place because of atmospheric refraction?**

(A) Adanced sunrise and delayed sunset (B) Twinkling of stars

(C) Blue colour of the sky (D) Both (A) and (B)

* **Which of the following processes involve chemical reactions?**

a. Storing of oxygen gas under pressure in a gas cylinder

b. Liquefaction of air

c. Keeping petrol in a china dish in the open

d. Heating copper wire in presence of air at high temperature

* **When calcium carbonate is heated, it gives calcium oxide and carbon dioxide:**

$CaCO_3(s) \xrightarrow{Heat} CaO(s) + CO_2(g)$

This reaction is an example of:

(A) Combination reaction (B) Decomposition reaction

(C) Displacement reaction (D) Double Displacement reaction

NCERTGUESS.COM
MODEL PAPERS, NCERT BOOKS, EXEMPLAR & OTHER PDF

* **Which salt among the following is used in fire extinguisher?**
(A) Sodium carbonate (B) Sodium bicarbonate
(C) Calcium carbonate (D) None of these

* **A person is wearing spectacles with a concave lens of suitable focal length. What kind of defect of vision is he having?**
(A) Myopia (B) Hypermetropia (C) Presbyopia (D) Both b & c

* **The testes in male human being produce:-**
(A) Egg (B) Sperms
(C) Both eggs and sperms (D) None of these

* **Which of the following is not a chemical change?**
(A) Burning of magnesium in air (B) Digestion of food in our body
(C) Melting of ice (D) Turning brown of a freshly cut apple

* **Which arrangement of metals among the following shows the increasing order of reactivity?**
(A) Gold < Potassium < Copper < Aluminium
(B) Potassium < Aluminium < Copper < Gold
(C) Copper < Gold < Aluminium < Potassium
(D) Gold < Copper < Aliminium < Potassium

* **The symbol ——(·)—— represents.**
(A) Plug key open (B) Plug key closed
(C) A wire joint (D) Electric bulb

NCERTGUESS.COM

****

Note: For Q.No's 16 to 18, two statements (Assertion 'A' and Reason 'R') are given. Select the correct answer to these questions from the Codes (a), (b), (c) and (d) as given below:-

(3 Q × 1 M =3 Marks)

Code (a) : A and R are true and R is correct explanation of A.
Code (b) : Both A and R are true and R is not correct explanation of A.
Code (c) : A is true but R is false.
Code (d) : A is false but R is true.

Q.16. **Assertion (A):** Magnetic field lines don't intersect each other
Reason (R): Magnetic field lines are imaginary lines, the tangents to which any point gives the direction of the field at that point.

Q.17. **Assertion (A):** Metalloids are classified as semi-metals.
Reason (R): Metalloids are intermediate in properties and exhibits properties of both metals and non-metals.

Q.18. **Assertion (A):** In Anaerobic respiration, one of the end product is alcohol.
Reason (R): There is an incomplete breakdown of glucose.

* **Assertion (A):** Mendel selected the pea plant for his experiments.
Reason (R): Pea plant is cross-pollinating and has unisexual flowers.

* **Assertion (A):** Ozone is both beneficial and damaging.
Reason (R): Stop the release of chlorofluorocarbons to protect the ozone.

* **Assertion (A):** Decomposers act as cleaning agents of the environment.
Reason (R): The decomposers recycle waste material in the hydrosphere.

* **Assertion (A):** When zinc is dipped in copper sulphate solution, reddish brown particles are found to settle at the bottom.
* **Reason (R):** Zinc displaces copper to form zinc sulphate and reddish brown particles of copper settle at the bottom of the beaker.
* **Assertion (A):** Pea plant having violet flowers is crossed with a pea plant having white flowers. All the flowers in the first generation are violet.
Reason (R): White colour gene is not passed on to next generation.
* **Assertion (A):** Food chain is responsible for the entry of harmful chemicals in our bodies.
Reason: The length and complexity of food chain vary greatly.
* **Assertion (A) :** If any food item containing oil or fat is left for a long time, it develops a bad taste and bad smell.
Reason (R): Food item goes under decomposition to produce gases, that result the bad smell.
* **Assertion (A) :** Without variations, evolution is impossible.
Reason (R): Only useful variations are transmitted to the next generation.
* **Assertion (A):** Autotrophs are also called as transducers.
Reason (R): They change one form of energy into another.
* **Assertion (A):** When silver bromide is exposed to sunlight,. it changes its colour from light yellow to grey colour,
Reason (R): Silver bromide burns and becomes grey.
* **Assertion (A):** Pea plant is an ideal plant for hybridisation experiments.
Reason (R): Pea plant is not easy to grow and has long life cycle.
* **Assertion (A):** Agricultural residue is a biodegradable waste.
Reason (R): It can easily be degraded by natural means.
* **Assertion (A) :** When a copper object remains exposed to air for a long time, it loses its lustre.
Reason (R): Copper reacts with atmospheric gases to form green coating of copper carbonate on its surface.
* **Assertion (A):** In a monohybrid cross, offsprings of F_1 generation express dominant character.
Reason (R): Dominance occurs only in heterozygous state.
* **Assertion (A):** A sanctuary is formed for the conservation of animals only.
Reason (R): Restricted human activities are allowed in sanctuaries.

SECTION - B

(10 Q × 2 M = 20 Marks)

Q.19. Why planets don't twinkle?
Q.20. The refractive index of diamond is 2.42. What is the meaning of this statement?
Q.21. Why do acids don't show acidic behaviour in the absenceof water.
Q.22. An electric motor takes 5A from a 220V line. Determine the power of the motor and energy consumed in 2 hours?
Q.23. Define Ohm's law and draw the Circuit diagram.
Q.24. How would you able to check if the water is hard by using detergent?
Q.25. What criteria do we use to decide whether something is alive?
Q.26. Why is DNA copying an essential part of the process of reproduction?
Q.27. How do Mendel's experiment show that traits may be dominant or recessive?
Q.28. How does our body respond when adrenaline is secreted into blood?

* Give any two examples of food chain.
* Name the substance which on treatment with chlorine yields bleaching powder.
* Draw a flow chart depicting a reflex action.
* The image formed by a concave mirror is real, inverted and larger than the object. What is the position of an object?
* Define centre of curvature of a spherical mirror.
* A convex mirror is used as a reflector in street lights. Why?
* Concave lens is also called is diverging lens. Why?
* Write a balanced chemical equation for a reaction involving decomposition of calcium carbonate into calcium oxide and carbon dioxide.
* From an alkane containing three carbon atoms, one hydrogen atom is replaced by chlorine to form a new compound. Name the newly formed compound and write its molecular formula.
* Name any two non-biodegradable pollutants.
* Name the plant hormone that promote ripenigs of fruits.
* Name the substance which on treatment with chlorine yields bleaching powder.
* Homologous series is a family of organic compounds having same functional group and their adjacent members differ by a CH_2 unit. Give the formulae of first three homologues of carboxylic acids.
* Soup molecules consists of two parts having different properties. Name the part of the soup molecule that is hydrophilic.
* Name any two biodegradable pollutants.
* Name the plant hormone that inhibits plant growth.
* Name the substance which on treatment with chlorine yields bleaching powder.
* Draw a ray diagram to show the image formation by an object which held at $2F_1$ of a convex lens.
* Define principal focus of a concave mirror.
* For what position of an object, a concave mirror forms a real image equal in size to the object?
* Give any one condition when no refraction takes place.
* Write used in electric fitting are mostly made up of copper. Why?
* Write a balanced chemical equation for a reaction involving the combination between hydrogen and chlorine to form hydrogen chloride.

NCERTGUESS.COM
MODEL PAPERS, NCERT BOOKS, EXEMPLAR & OTHER PDF

SECTION - C

(9 Q × 3 M = 27 Makrs)

Q.29. Write Sign Convention for spherical mirrors?

Or

.. A Concave lens has focal length of 15 cm. At which distance should the object from the lens be placed so that it forms an image at 10cm from the lens? Also find the magnefication produced by the lens.

Q.30. Explain Myopia with its Occurence and Correction.

Or

Explain Hypermetropia with Occurence and Correction.

Q.31. 100J of heat is produced each second in a 4Ω resistence. Find the potenital difference across the Resistor.

Or

Why is the series arrangement not used for domestic circuits.

Q.32. How would you distinguish experimentally between an Alcohol and a Carboxylic acid?

Or

Explain oxidising agents with examples.

Q.33. Why pure gold is not suitable for making jewellery?

Or

Define the following terms

(a) Mineral

(b) Ore

(c) Gangue

Q.34. Why magnesium ribbion is cleaned before heating.

Or

Balance the following reaction

(a) $Zn + CuSO_4 \rightarrow ZnSO_4 + Cu$

(b) $Na + O_2 \rightarrow Na_2O$

(c) $HNO_3 + Ca(OH)_2 \rightarrow Ca(NO_3)_2 + H_2O$

NCERTGUESS.COM
MODEL PAPERS, NCERT BOOKS, EXEMPLAR & OTHER PDF

Q.35. What are the difference between the transport of materials in Xylem and pholem?

Or

Describe double Circulation of blood in human beings. Why is it necessary?

Q.36. How does binary fission differe from multiple fission?

Or

Why is vegetative propagation practised for growing some types of plants.

Q.37. What will happen if we kill all th organisms in one tropic level.

Or

What is Ozome and how does it affect any ecosystem?

* In electric fittings we mostly use copper wires. Why?
* In presence of sunlight, silver chloride decomposes to give silver and chlorine gas. Write a balanced chemical equation for it.
* Name any four common waste disposal methods.
* What is a universal indicator?
* The image formed by a concave mirror is virtual, erect and larger than the size of the object. What is the position of an object and where the image is formed?
* Define principal axis of a spherical mirror.
* When light goes from one transparent medium to another, the direction of propagation of light changes. This phenomenon is called refraction of light. What is the cause of this phenomenon?
* Convex lens is also called a converging lens. Why?
* Write a balanced chemical equation for a reaction involving the displacement of hydrogen from sulphuric acid by zinc to form zinc sulphate and hydrogen gas.

SECTION - D

(3 Q × 5 M = 15 Marks)

Q.38. Define Power of Lens and its S.I unit. Also describe mangification produced by lens.

Or

Answer the following questions

(a) Explain Snell's law.

(b) Why Sky appear dark instead of blue to an astronaut?

(c) How is voltmeter connected in the circuit to measure the potential difference between two points?

Q.39. What is an Estertification Reaction? Describe an activity to show esterification.

Or

Answer the following questions

(a) Write the uses of Baking Soda.

(b) Draw electron dot structure for Ethanoci acid.

(c) Why is respiration considered as an exothermic reaction.

Q.40. Answer the following questions

(a) How and where does fat digest?

(b) Why pitutary glands is called Master gland?

(c) Name two biodegradable susbtances.

Answer the following questions

(a) What is photosynthesis and write its reaction?

(b) Define Reflex arc.

(c) Name two non-biodegradable substances.

NCERTGUESS.COM
ALL PAPERS, NCERT BOOKS, EXEMPLAR & OTHER PDF

* Draw electron dot structure for ammonia molecule.
* Write the structural formula of Cyclohexane.
* How is power of a lens related to its focal length?
* Write the mirror formula.
* If the magnification has a minus sign, then what is the nature of image formed?

What is the unit of refractive index?

* What is the nature of an image formed on the retina of the eye?
* Name the commercial unit of electrical energy.
* Why should magnesium ribbon be cleaned before burning in air?
* Write the balanced chemical equation for the following reaction:

Zinc + Silver → Zinc nitrate + Silver

* What is the general formula for alkyne?
* Write the structural formula of butane.
* Which noble gas has only two electrons in its valence shell?
* Name a carbon containing molecule which has two double bonds.
* What would be the colour of litmus in a solution of sodium carbonate?
* Name the gland which produces testosterone.

* Name the physical quantity whose unit is dioptre.
* What is the speed of light in air?
* If an object is palced at the focus of a convex lens, where is the image formed?
* What type of lens would you use as a magnifying glass?
* Which part of the eye contains cells which are sensitive to light?
* Which quantity has the unit of watt?
* On what basis is a chemical equation balanced?
* Name an anti-oxidant which is usually added to fat and oil containing foods to prevent rancidity.
* Write the structural formula of propene.
* Name the form of carbon which is known as black lead.
* Draw electron dot structure of H_2O.
* What do we call those particles which have less electrons than the normal atoms?
* Name one metal which is extracted by electrolytic reduction.
* What do all acids have in common?
* Which part of the brain maintains posture and balance of the body?
* What type of image is formed in a plane mirror?
* State the relation between object distance, image distance and focal length of a spherical mirror.
* Why does a ray of light bend when it travels from one medium to another?
* Which has more power : a thick convex lens or a thin convex lens made of same glass?
* Name the phenomenon which causes the twinkling of stars.
* Which effect of current is utilised in an electric light bulb?
* What type of reaction is represented by equation?

$$CaO + H_2O \rightarrow Ca(OH)_2$$

* What special name is given to the corrosion of iron?
* Give the IUPAC name of ethylene.
* What is the common name of propanone?
* Name the metal which is used for galvanising iron.
* What is the number of electrons in Na^+?
* Which property of graphite is utilised in making electrodes?
* Which animal's sting contain formic acid?
* Which plant hormone makes a stem bend towards light?

———

NCERTGUESS.COM
MODEL PAPERS, NCERT BOOKS, EXEMPLAR & OTHER PDF