KOL

Sent-up Examination– 2018

Class–X

Subject–Physical Science

Time : 3 Hrs. 15 mins   Full Marks – 90

Group–A

1. Multiple choice questions. Four alternatives answer are given for each of the following questions write the correct one :   1x15=15

1.1 Name the lowest strata of the Atmosphere

     a) Troposphere   (b) Stratosphere

     c) Ozonosphere   (d) ionosphere

1.2 Which of the following temperature is greater between 30°C and 300 K

     a) 300 K   (b) 30°C

     c) Both are equal   (d) None of three

1.3 Linear expansion of which of the following metal is lowerst :

     a) Gold   (b) Silver   (c) Copper   (d) Zinc

1.4 A write of 10Ω resistance is stretched by 10% the present resistance is :

     a) 10.1Ω   (b) 11.1Ω   (c) 12.1Ω   (d) 13.1Ω

1.5 The ratio of forces experienced by 1 MC & 5MC charges each other separated by distance 'd' is :

     a) 1:5   (b) 1:1   (c) 1:25   (d) 5:1

1.6 Minimum distance for distinct vision of human healthy eye is :

     a) 20 cm   (b) 25 cm

     c) 30 cm   (d) 35 cm

1.7 Electric current in a circuit can be measured by :

     a) Ammeter   (b) galvenometer

     c) voltmeter   (d) potentiometer

1.8 Magnitude of Electromotive force than that of potential difference is :

     a) Higher   (b) lower

     c) equal   (c) None of these

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1.9 When light travels from Rarar to denser medium the Angle of deviation is :

(a) $\sigma = i - r$ (b) $\sigma = r - i$ (c) $\sigma = 2i - r$ (d) $\sigma = i + r$

1.9 Example of Triple co-valent Bond is :

a) CH_4 (b) NH_3 (c) N_2 (d) O_2

1.10 The Atomic number of an element is 11, In modern periodic Table, the element is placed in

a) 1st period (b) 2nd period

c) 3rd period (d) 4th period

1.11 Bronze is an ore of :

a) fron (b) Zinc

c) Aluminium (d) Copper

1.12 Mass of α, β, γ rays arranged in decreasing order is given below, which of then is correct

a) $\alpha > \beta > \gamma$ (b) $\beta > \gamma > \alpha$

c) $\alpha > \gamma > \beta$ (c) $\gamma > \alpha > \beta$

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1.13 Haematite is an ore of which metal

a) Copper (b) Zinc

c) Iron (d) Aluminium

1.14 Functional group of Aldehyde is :

a) $-CHO$ (b) $-COOH$ (c) $-OH$ (d) $>CO$

1.15 Which of the following is an Alkane :

a) C_2H_4 (b) C_2H_2 (c) CH_4 (d) C_3H_6

Group—B

2. Answer the following question (Alternative are to be noted)

2.1 Give an example of non-conventional source of energy.

2.2 What is the molar volume of any gas at S.T.P.

2.3 What is calorific value

2.4 What is the S.I. Unit of resistivity

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2.5 Define linear magnification of an object

Or

What is Dioptre

2.6 What is Kilowatt Hour

2.7 Where an object is to be placed to get an erect, virtual and magnified image of the object by a convex lens

2.8 The Thermal conductivity of which metal is Highest.

2.9 Write the Name of the metal present in stainless steel other than Fe and C.

2.10. What will happen If a B-Particle is emitted from $_ZX^A$.

2.11. Give an example of fossil fuel.

2.12 Write relation between critical Angle and refractive index of a medium.

Or

Define Absolute Refractive index of a medium.

2.13 Name a physical quantity whose unit is Joule/Coulomb.

2.14 Name the most Electronegative element.

2.15 What is ohm.

2.16 Why resistance of semiconductor decreases with temperature.

Or

What are Extrinsic semiconductor.

2.17 Give an example of Hydrocarbon which shows substitution reaction.

2.18 Write the IUPAC name of CH_3CH_2OH

2.19 State one use of liquid Ammonia

Or

What is Nitrolim

2.20 Mention one use of Acitic Acid

2.21 Name the constituent Monomer of PVC

Group–C

3. Answer the following questions (alternatives are to be noted)   2×9=18

3.1 What are the effects of Global warming.

3.2 At S.T.P. the volume of a fixed mass of a gas is 700 ml. Find out its volume at 15°C and 400 mm of Hg pressure.

3.3 Define principal Focus of a convex lens.

Or

Why convex lens is called converging lens.

3.4 State Faraday laws of Electromagnetic Induction.

3.5 Write names of the chemicals required for the preparation of Nitrogen in the laboratory.

3.6 Write two industrial uses of Ammonia (NH_3)

3.7 What happens when H_2S reacts with acidified Potassium permanganate solution.

3.8 Write down–Harmful effects of Methanol and ethanol.

Or

Discuss briefly about polymerisation of ethylene.

3.9 With the help of Electron dot diagram discuss the bonding of H_2O.

Or

Discuss the addition reaction of Ethene with hydrogen.

Group–D

4. Answer the following questions (Alternatives are to be noted)   3×12=36

4.1 What is Absolute Zero temperature. State charle's law based on Absolute temperature.

Or

The volume of a fixed mass of a gas at constant pressure is 200 ml at 37°C. At what temperature its volume becomes 500 ml.

4.2 Find the amount of Potassium chlorate (KClO$_3$) required to produc 9.6 gm. of oxygen (O$_2$) (K=39, Cl=35.5, O=16)

Or

Find out the percentage of Copper, Sulphur and Oxygen in CuSO$_4$. 5H$_2$O. (Cu=63, S=32, H=1, O=16)

4.3 Define Co-efficient of volume expansion. On what factors does it depend.

Or

Why gases have two Co-efficient of expansion. What is relation between them.

4.4 Discuss with diagram the formation of image by a concave lens. Write down the nature, position and size of the image.

Or

For a prism, establish the relation

$\sigma = i_1 + i_2 - A$, $A = r_1 + r_2$. (Where the symbols have usual meaning.

4.5 What is Total Internal Reflection. Write down the conditions for Total internal reflection. What is critical Angle.

4.6 Establish Joules law for heating effect of current.

Or

Mention the factors on which the resistance of a conductor depends. What is specific resitance.

4.7 Two coils have an equivalent resistance of 12 Ohm. When connected in series and 5/3 Ohm when connected in parallel. What is the resistance of each wire.

Or

Show that if 'n' identical wires are Joined in Series the combined resistance is "n^2" times as great as when they are joined in parallel.

4.8 State Fleming's left hand Rule.- State the Working principle of Electric motor.

4.9 Discuss the position of Halogen and Alkali metals in periodic Table.

4.10 Discuss briefly the laboratory method of preparation of Ammonia. How it is collected.

Or

What happen when : http://www.wbbseonline.com

i) Ammonia reacts with Hot Copper Oxide

ii) H_2S passed through solution of silver Nitrate.

iii) Nitrogen reacts with calcium carbide.

4.11 What is mass defect. B-rays comes out from which part of an atom.

Or

Discuss the Extraction of aluminium metal by electrolysis.

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4.12 Draw the structure of :

a) C_2H_5OH

b) C_2H_2

c) C_3H_8

X ——— X

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