MHS-GIRITHARANPET -2024-2025

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SCIENCE -UNIT TEST -1   [LN-1,2,3,7,8,9]

Unit – 1 LAWS OF MOTION   2 mark questions

1. Define inertia give its classification
2. Classify the types of force based on their application
3. If a 5N and a 15N forces are acting opposite to one another. find the resultant force under the direction of action of the resultant force
4. Differentiate mass and weight
5. Define moment of a couple
6. State the principle of moments
7. State Newton's second law

4 and 7 marks questions:

1. What are the types of inertia?give an example for each type.
2. State Newton's laws of motion?
3. Reduce the equation of a force using Newton's second law of motion
4. State and Prove the law of conservation of linear momentum
5. Describe rocket propulsion
6. Give the applications of universal law of gravitation

Unit - 2 optics   2 mark questions

1. 1.What is refractive index?
2. State snell's Law
3. State Rayleigh's Law of scattering
4. What are the causes of myopia?
5. Why does the sky appear in blue colour?
6. Why are traffic signals red in colour?

4 and 7 marks questions:

1. Differentiate convex lens and concave lens
2. Differentiate myopia and hypermetropia
3. List any five properties of light
4. Explain the rules for obtaining images formed by a convex lens with the help of ray diagram

Unit - 3 thermal physics   2 mark questions

1. Define one calorie
2. State Boyle's law
3. State the law of volume
4. State the Charles's law
5. State the Avogadro's law
6. Distinguish between ideal gas and real gas

4 and 7 marks questions:

1. Derive the ideal gas equation
2. Explain the experimental of measuring the real and Apparent expansion of a liquid with a neat diagram

Unit - 7 atoms and molecules   2 mark questions

1. Define atomicity

2.   Give any two examples for hetero diatomic molecules

3.   What is molar volume of a gas?

4 and 7 marks questions:

1. $N_2 + H_2 —$ NH_3
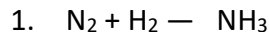
[The atomic mass of nitrogen is 14, and that of hydrogen is 1]

1 mole of nitrogen (------g)+

3 moles of hydrogen (------g)---

2 moles of ammonia   (------g)

  2.Calculate the number of moles in

    1.27g of Al

    2.1.51× 10^{23} moles of NH_4Cl

  3. Give the salient features of 'modern atomic theory '

  4.Derive the relationship between relative molecular mass and vapour density

 5. Calcium carbonate is decomposed on heating in the following reaction

  $CaCO_3 \rightarrow CaO + CO_2$

1.   How many moles of calcium carbonate are involved in this reactionreaction?

2.   Calculate the gram molecular mass of calcium carbonate involved in this reaction

3.   How many moles of CO_2 are there in this equation?

Unit - 8 periodic classification of elements   2 mark questions

1.   A is a red is brown metal, which combines with O2. Find A, B and C with reaction.

2.   A is a silvery white metal. Find aA and B

3.   What is rust? Give the equation for formation of Rust.

4.   State two conditions necessary for rusting of iron

5.   Explain smelting process

6.   Name the acid that renders aluminium passive.Why ?

Unit - 9 solutions   2 mark questions

1.   Define the term solution

2.   What is meant by binary solution

3.   What is aqueous and non aqueous solution? give an example

4.   Define volume percentage

5.   The aquatic animals live more in cold region.why?

6.   Define hydrated salt

7.   Classify the following substance into deliquescent, hygroscopic

    Conc. sulphuric acid, copper sulphate penta hydrate, Silica Gel, calcium chloride and Gypsum salt

 4 and 7 marks questions

1.   Write notes on 1.saturated solution. 2.unsaturated solution

2. Write notes on various factors affecting solubility

3.a) What happens when $MgSO_4.7H_2O$ is heated?write the appropriate equation   b) define solubility

4. In what way hygroscopic substances differ from daily questions substances.

5. A solution is prepared by dissolving 45g of sugar in 180g of water calculate the mass percentage of solute

7.   3.5 letters of Ethanol is present in 15 liters of aqua solution of Ethanol calculate volume percentage of

    Ethanol solution

7.'A' is a blue coloured crystalline Salt. On heating it loses blue colour and to give B when water is added

"B" gives a back to A identify A and B .write the equation

"B" gives a back to A identify A and B .write the equation