

Short Q/APhysics

- 1) Define Inertia.
- 2) Differentiate mass and weight.
- 3) Define moment of a couple.
- 4) State Newton's second law.
- 5) How does an astronaut float in a space shuttle?
- 6) State Snell's law.
- 7) Draw a ray diagram to show the image formed by a convex lens when the object is placed between  $F$  and  $2F$ .
- 8) State Rayleigh's law of scattering.
- 9) Differentiate convex lens and concave lens.
- 10) What are the causes of 'Myopia'?
- 11) Why does the sky appear in blue colour?
- 12) Define one calorie.
- 13) State Boyle's law.
- 14) Distinguish between ideal gas and real gas.
- 15) What is coefficient of real expansion?
- 16) Why is tungsten metal used in bulbs, but not in fuse wires?
- 17) Define electric potential and potential difference.
- 18) State Ohm's law.
- 19) What connection is used in domestic appliances and why?

- 20) What is the audible range of frequency?
- 21) Name three animals, which can hear ultrasonic vibrations.
- 22) Give the SI unit of radioactivity. Define critical mass.
- 23) State Hooke's and Hooke's displacement law.
- 24) What is stellar energy?
- 25) Give any two uses of radio isotopes in the field of agriculture?
- 26) Write the name of the electromagnetic radiation which is emitted during a natural radioactivity.

### Detail

- 1) State Newton's law of motion
- 2) State and prove the law of conservation of linear momentum.
- 3) Describe rocket propulsion.
- 4) Give the applications of universal law of gravitation.
- 5) List any five properties of light
- 6) Differentiate the eye defects: myopia and hypermetropia.
- 7) Explain the construction and working of a 'compound microscope'

8) Derive the ideal gas equation.

9) a) what is meant by electric current?

b) Name and define its unit.

c) which instrument is used to measure the electric current? How should it be connected in a circuit?

10) a) what are the advantages of LED TV over the normal TV?

b) List the merits of LED bulb

11) a) state Joule's law of heating

b) An alloy of nickel and Chromium is used as the heating element. why?

c) How does a fuse wire protect electrical appliances?

12) a) why does sound travel faster on a rainy day than on a dry day?

b) why does an empty vessel produce more sound than a filled one?

13) a) Explain why the ceilings of concert halls are curved.

b) mention two cases in which there is no Doppler effect in sound.

- 14) Compare the properties of alpha, beta and gamma radiations.
- 15) What is a nuclear reactor? Explain its essential parts with their functions.

### CHEMISTRY

#### Short Q/A:

- 1) Define Relative atomic mass.
- 2) Define Atomicity
- 3) What is Molar volume of a gas?
- 4) A is a silvery white metal. A combines with  $O_2$  to form B at  $800^\circ C$ , the alloy of A is used in making the aircraft. Find A and B.
- 5) What is rust? Give the equation for formation of rust.
- 6) Define the term: Solution
- 7) What is meant by binary solution.
- 8) The aquatic animals live more in cold region. Why?
- 9) Define volume percentage
- 10) Define Hydrated Salt.
- 11) A hot saturated solution of copper sulphate forms crystals as it cools. Why?

Class

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Subject

Science Revision

Exam No.

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- 12) Define combination reaction. Give one example for an exothermic combination reaction.
- 13) Differentiate reversible and irreversible reactions.
- 14) How is ethanoic acid prepared from ethanol? Give the chemical equation.
- 15) How do detergents cause water pollution? Suggest remedial measures to prevent this pollution.
- 16) Differentiate soaps and detergents

### Detail Q/A

- 1) Calcium Carbonate is decomposed on heating in the following reaction.



- i) How many moles of calcium carbonate are involved in this reaction?
  - ii) Calculate the gram molecular mass of calcium carbonate involved in the reaction
  - iii) How many moles of  $\text{CO}_2$ ?
- 2) Give the salient features of 'Modern Atomic theory'
  - 3) Derive the relationship between Relative molecular mass and vapour density.
  - 4) Explain Smelting process.

- 5) a) Identify the bond between H and F in HF molecule.  
b) What property forms the basis of identification?  
c) How does the property vary in periods and in groups?
- 6) Write notes on various factors affecting solubility.
- 7) a) What happens when  $MgSO_4 \cdot 7H_2O$  is heated? Write the appropriate equation.  
b) Define solubility.
- 8) Explain the factors influencing the rate of a reaction.
- 9) What is chemical equilibrium? What are its characteristics?
- 10) How is ethanol manufactured from sugarcane?
- 11) Explain the mechanism of cleansing action of soap.
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