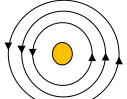


MAXIMUM PROBABILITY QUESTIONS LIST FROM PHYSICS & CHEMISTRY FOR SSC MARCH 2017

Name of the lesson	AS-1 (Differences)	AS-1 (Understanding/Explanations/....)
1. Heat	1. Differences between evaporation and boiling 2. Differences between specific heat and latent heat	1. Examples of evaporation 2. Why dogs panting during hot days ? 3. Reason for water droplets formed on tomato when bring out from fridge
3. Reflection of Light	1. Differences between convex mirror and concave mirror 2. Differences between real image and virtual image	1. Laws of reflection 2. Sign convention rule 3. Why convex mirror used as rear view mirror ? 4. Magnification
5. Refraction at Plane surfaces	1. Differences between mirrors and lenses	1. Formation of mirages 2. Critical angle 3. Total internal reflection 4. Which are not change in refraction
6. Refraction at Curved surfaces	1. Differences between Convex lens and concave lens	1. Taking photo of a zebra by placing stripes glass before lens of camera – Properties of image
7. Human eye and Colourful world	1. Differences between scattering and dispersion 2. Differences between reflection and refraction	1. Explain Myopia – How to correct the defect ? 2. Explain Hypermetropia – How to correct it ? 3. Explain Presbyopia 4. Lens power 5. Formation of Rainbow in water drop
11. Electric Current	1. Differences between ohmic and non ohmic conductors 2. Differences between series combination and parallel combination of resistors 3. Differences between emf and potential difference	1. Working of battery 2. Laws of resistance ($R = \frac{\rho l}{A}$) 3. Electric shock 4. Kirchoff's junction law and loop law 5. Formula for resultant resistance when three resistors are connected in series 6. Formula for resultant resistance when three resistors are connected in parallel 7. KWH
12. Electro-magnetism	1. Differences between motor and generator	1. Are magnetic lines of forces closed ? 2. Working of Motor 3. Working of A.C. Generator 4. Working of D.C. Generator 5. What happened when bar magnet kept neat a TV ? 6. Magnetic flux density – Units 7. Examples for transformation of energy

Name of the lesson	AS-3 (Activities/Experiments – 4 Marks)	AS-5 (Diagrams/Figures – 4 Marks)
1. Heat	1. Thermal equilibrium 2. Different substances have different specific heat Values 3. Finding Specific heat of solid lead shots 4. Factors effect the Rate of Evaporation	1. Thermal equilibrium 2. Different substances have different specific heat values
3. Reflection of Light	1. Pin hole camera 2. Verification of Laws of reflection (Plane mirror) 3. Finding focal length of a concave mirror 4. Image distances for object at different places (Concave mirror)	1. Pin hole Camera 2. Finding focal length of a concave mirror 3. Useful rays to draw ray diagrams (Mirrors) 4. Ray diagrams for concave mirror / convex mirror
5. Refraction at Plane surfaces	1. Relation between angle of incidence and refraction (From Rarer to Denser medium) 2. Relation between angle of incidence and refraction (From Denser to Rarer medium) 3. Observing Total internal reflection 4. Finding refractive index of a glass slab	1. Optical fiber – Total internal reflection 2. Refraction through Glass slab
6. Refraction at Curved surfaces	1. Finding focal length of a convex lens 2. Image distances for object at different places (Convex lens) 3. Focal length of lens changes with respect to medium	1. Useful rays to draw ray diagrams (Lenses) 2. Ray diagrams for convex lens / concave lens
7. Human eye and Colourful world	1. Finding refractive index of Prism 2. Formation of Rainbow in Class room (2 Activities)	1. Human eye - structure 2. Myopia – property – Correction 3. Hypermetropia – property – Correction 4. Refraction through Prism 5. Formation of Rainbow
11. Electric Current	1. Experimental verification of Ohm's law 2. Resistance dependence upon Length /Area of cross section / Nature / Temperature	1. Experimental set up of Ohm's law / Graphs 2. Series / Parallel combination of Resistances
12. Electro-magnetism	1. Oersted Experiment 2. Experiment to prove Faraday's law	1. Block diagram of Electric motor 2. Block diagram of A.C. Generator 3. Block diagram of D.C. Generator

Name of the lesson	AS-2 (Questioning/Prediction)	AS-6 (Daily life uses)
1. Heat	1. Hot coffee cools down after some time. Guess 2. Water on the floor disappears after some time. Guess the reason. 3. Your friend is unable to find difference between Evaporation and boiling. Ask some questions.	1. Uses of evaporation in daily life 2. Appreciate the role of specific heat 3. Role of specific heat in keeping a watermelon cool for a long time after removing it from a fridge on a hot day? 4. If you are chilly outside the shower stall, why do you feel warm after the bath if you stay in the bathroom?
3. Reflection of Light	1. What happened if there are no mirrors ? Predict. 2. Concave mirror is not used as rearview mirror. Why ?	1. Uses of convex mirror and concave mirror 2. Appreciate the role of spherical mirrors 3. Why convex mirror used as rear view mirror ?
5. Refraction at Plane surfaces	1. Take a bright metal ball and make it black with soot in a candle flame. Immerse it in water. How does it appear and why? (Make hypothesis). 2. Predict some reasons that we can't shoot a swimming fish with out practice.	1. How do you appreciate the role of Fermat principle in drawing ray diagrams. 2. Why stars twinkling? 3. Why the objects behind fire appears swaying? 4. Why Diamonds glitters ? 5. Guess the situations that refractive ray doesn't deviate.
6. Refraction at Curved surfaces	1. Dinesh said, The convex lens made with glass behaves like concave lens when kept in water. What do you say ? 2. A convex lens is made up of three different materials. How many of images does it form? 3. Assertion (A): A person standing on land appears taller than his actual height to a fish inside a pond. Reason (R): Light bends away from the normal as it enters air from water. Explain.	1. Uses of convex lens and concave lens
7. Human eye and Colourful world	1. Why sky is blue ? 2. Why sky is white on sunny day ? 3. Why Sun is red in mornings and evenings ?	1. Role of Ciliary muscles 2. What happened when white paper is stained with oil ?
11. Electric Current	1. Why does a bird can't get shock even it sit on an electric wire ? 2. Why Filament is made with Tungsten ? 3. Which material is used to make fuses ? Why it should be used ?	1. How to overcome the problem of over load of electricity in daily life? 2. How do you appreciate the role of fuse in houses ?
12. Electro-magnetism	1. Observe the figure given. Magnetic lines are shown. What is the direction of the current flowing through the wire?. 	1. Applications of Faraday's law 2. How the world change due to relation between electric field and magnetic field.

Name of the lesson	AS-4 (Information Skills)	
1. Heat	1. Table of specific heat values Questions related to which gain heat quickly, Which takes more time to raise temperature, Which are used for cooking utensils	
3. Reflection of Light	1. Tabular information having u, v and f values for concave mirror experiment Questions to find f, relation between u and v 2. Magnification values Vs Properties of images and Types of mirrors table	
5. Refraction at Plane surfaces	1. Table of Refractive index values Questions related to which has more value, in which light travel slowly, which has less critical angle,	
6. Refraction at Curved surfaces	1. Tabular information having u, v and f values for concave mirror experiment Questions to find f, relation between u and v	
7. Human eye and Colourful world	1. Table contains defects of eye and correction methods	
11. Electric Current	1. Table of Specific resistance (Resistivity) values Questions related to which is best conductor, Which has more resistance, Which is used for filament, 2. Table contains measurements in Ohm's law experiment. Questions like which is ohmic, What is R value, relation between V and I.....	
12. Electro-magnetism	*****	

Name of the lesson	AS-1 (Differences)	AS-1 (Understanding/Explanations/....)
2. Chemical Reactions and Equations	<ol style="list-style-type: none"> Differences between chemical decomposition and displacement reactions. Differences between chemical displacement and double displacement reactions. Differences between oxidation and reduction 	<ol style="list-style-type: none"> Corrosion of metals – change in colours Balancing chemical equations Precipitate reactions – Photo chemical reactions Rancidity
4. Acids, Bases and Salts	<ol style="list-style-type: none"> Difference between the properties of Acids and Bases 	<ol style="list-style-type: none"> Olfactory indicators Baking soda, Washing soda, POP, Gypsum - formulae Neutralisation reaction Dilution of acids and bases P^H effect on tooth decay Distilled water does not conduct electricity. Why ?
8. Structure of Atom	<ol style="list-style-type: none"> Differences between Quantum numbers(n, l, m_l, m_s) Differences between orbit and orbital 	<ol style="list-style-type: none"> Spectrum – Electromagnetic wave Planck's equation – Planck's constant Rainbow – continuous spectrum Aufbau Rule explanation with example Hund's rule explanation with example Pauli's law
9. Classification of Elements	<ol style="list-style-type: none"> Difference between Ionisation energy and Electron Affinity 	<ol style="list-style-type: none"> Changes in groups and periods <ol style="list-style-type: none"> Atomic radius Ionisation energy Electro negativity Metallic nature Properties of modern periodic table Defects in Mendeleef's periodic table
10. Chemical Bonding	<ol style="list-style-type: none"> Differences between Ionic compounds and covalent compounds Differences between Anion and cation Differences between valence electrons and valency Difference between ionic bond and covalent bond 	<ol style="list-style-type: none"> Valence electrons only participate in chemical bonds. Why ? Formation of BF_3 molecule by Hybridisation concept Formation of $BeCl_2$ molecule by Hybridisation concept Formation of $NaCl$ and $CaCl_2$ molecules
13. Principles of Metallurgy	<ol style="list-style-type: none"> Difference between calcination and roasting Differences between slag and gangue Differences between ore and mineral 	<ol style="list-style-type: none"> Concentration methods of ores Write some oxide ores Smelting
14. Carbon and its compounds	<ol style="list-style-type: none"> Differences between addition reactions and substitution reactions Differences between Alkanes, Alkenes and Alkynes Differences between Esterification and saponification 	<ol style="list-style-type: none"> Cleansing action of soap Homologous series - properties Formation of miscelle Ethanol preparation from Ethane

Name of the lesson	AS-3 (Activities/Experiments – 4 Marks)	AS-5 (Diagrams/Figures – 4 Marks)
2. Chemical Reactions and Equations	1. Decomposition of Calcium carbonate 2. Decomposition of Lead nitrate 3. Decomposition of water (Electrolysis of water) 4. Displacement reaction by using Copper sulphate and Iron nails 5. Double displacement reaction by using Lead nitrate and Potassium Iodide	1. Decomposition of Calcium carbonate 2. Decomposition of Lead nitrate 3. Decomposition of water (Electrolysis of water) 4. Reduction of Copper oxide by sending Hydrogen
4. Acids, Bases and Salts	1. HCl reacts with Zinc granules to liberate Hydrogen gas. 2. HCl reacts with Carbonates/bi carbonates to liberate Carbon di oxide gas. 3. Electric conductivity of Acids/Bases 4. Water of crystallization	1. HCl reacts with Zinc pieces to liberate Hydrogen gas. 2. HCl reacts with Carbonates/bi carbonates to liberate Carbon di oxide gas. 3. Electric conductivity of Acids/Bases 4. Chloro Alkali Process 5. Water of crystallization
8. Structure of Atom	1. Heating of Cupric chloride / Strontium chloride/ Sodium chloride	1. Electromagnetic wave 2. Shapes of s, p, d – orbitals 3. Moeller diagram (Diagram that shows the order of energy of orbitals)
9. Classification of Elements	*****	*****
10. Chemical Bonding	*****	1. Luwis dot structures of H ₂ O, NH ₃ , CH ₄ , BF ₃ , BeCl ₂ , H ₂ , F ₂ , HCl, O ₂ , N ₂ 2. Structure of molecules with respect to Hybridisation CH ₄ , BF ₃ , BeCl ₂ , NH ₃ , H ₂ O, C ₂ H ₄ , C ₂ H ₂
13. Principles of Metallurgy	1. Components that effect the rusting of Iron articles	1. Froth floatation 2. Magnetic separation 3. Blast furnace 4. Reverbaratory Furnace
14. Carbon and its compounds	*****	1. Structure of molecules with respect to Hybridisation CH ₄ , C ₂ H ₄ , C ₂ H ₂ 2. Structures of Diamond and Graphite 3. Micelle 4. Soap molecule
		<div style="border: 1px solid black; padding: 5px; text-align: right;"> <p>NAGA MURTHY- 9441786635 Contact at : nagamurthysir@gmail.com Visit at : ignitephysics.weebly.com</p> </div>

Name of the lesson	AS-2 (Questioning/Prediction)	AS-6 (Daily life uses)
2. Chemical Reactions and Equations	1. Write questions to prove $C + O_2 \rightarrow CO_2$ is a chemical combination reaction 2. Write questions to prove $H_2O \rightarrow 2H_2 + O_2$ is a chemical decomposition reaction 3. Write some questions on Rancidity 4. $Fe_2O_3 + 2Al \rightarrow 2Fe + Al_2O_3$ Ravi said this oxidation. Raghu said this is reduction. Whom do you support ?	1. What happened if the slices of potato kept in open air? Write a precaution. 2. Nitrogen filled in Potato chips flush bags. What is the use of Nitrogen ? 3. Write any two situations that you observe oxidation in daily life. 4. How do we preserve iron articles? Write four methods. 5. Why do we keep food articles in air tight containers?
4. Acids, Bases and Salts	1. Milk man adds Baking soda (Weak Base) in to milk. Can you guess the reason ? 2. Plaster of Paris kept in air tight bags. Can you guess the reason ?	1. Significance of P^H in daily life 2. Name four acidic/basic substances which we use in our daily life. 3. Uses of Bleaching powder 4. Uses of Baking soda (Eating soda/ $NaHCO_3$) 5. Uses of washing soda (Na_2CO_3) 6. Uses of Plaster of Paris (POP)
8. Structure of Atom	1. High energy level between K and L orbits. Predict. 2. Which rule is violated in the electronic configuration $1s^0 2s^2 2p^4$? Guess.	1. Uses of Electron configuration (What do we learn from electron configuration?)
9. Classification of Elements	1. Name One element having similar properties to that of Mg. How can you estimate ? 2. Guess the places of elements with atomic numbers 9 and 19 in modern periodic table. 3. Atomic number of X is 13 and Y is 17. Guess the formula of compound formed by X and Y.	1. Opinion on Hydrogen place in Modern Periodic table 2. Role of Electron configuration in the preparation of Modern periodic table 3. Role of place of element in Periodic table to remember the chemical properties.
10. Chemical Bonding	1. Ionic compounds have more melting points than covalent compounds. Guess any reason. 2. How bond energies and bond lengths of molecule helps us in predicting their chemical properties?	*****
13. Principles of Metallurgy	1. $Fe + CuSO_4 \rightarrow FeSO_4 + Cu$ But $Cu + FeSO_4$ is not possible. Guess the reason. (In the view of reactivity of metals)	1. Where do we use handpicking and washing methods in our daily life? Give examples. How do you correlate these examples with enrichment of ore?
14. Carbon and its compounds	1. Formula of X is C_4H_{10} and Y is $C_{10}H_{20}$. Guess which can participate in Addition reaction. 2. What happened if Sodium piece is dropped in Ethanol ? Predict the reason.	1. Uses of graphite 2. Role of Esters in daily life 3. Alcohol consumption – Effects – Precautions to aware

Name of the lesson	AS-4 (Information Skill)	
2. Chemical Reactions and Equations	1. $\text{Fe}_2\text{O}_3 + 2 \text{Al} \rightarrow 2 \text{Fe} + \text{Al}_2\text{O}_3$ Questions related to Oxidation, Type of reaction 2. $\text{H}_2\text{O} \rightarrow 2\text{H}_2 + \text{O}_2$ Questions related to Oxidation, Type of chemical Reaction, Reactants, Products, Moles of reactants and products, Mass of substances	
4. Acids, Bases and Salts	1. Table related to Reaction of acids, bases and neutrals with indicators like Blue litmus, red litmus, Methyl orange, Pheonolpthalene 2. Table related to P^{H} values of different substances - Questions related to data 3. Table related to P^{H} values of acids, bases, salts - Questions related to data	
8. Structure of Atom	1. Table related to Quantum numbers of different electrons 2. Data : Electron configuration of Atom – Questions related to Atomic number, Name of the element , Symbol , Valence electrons, Valency	
9. Classification of Elements	1. Data : Electron configuration of different elements – Questions related to group, Period, block, Metal/non metal, Formation of bonds 2. Data : Electron configuration of different elements – Questions related to Ionisation energy, Atomic radius, Electro negativity, Metallic nature	
10. Chemical Bonding	1. Table with Cations and anions. Write the formulae of Ionic compounds by Criss cross method 2. Table with Hybridisation and Bond angles and shapes of molecules	
13. Principles of Metallurgy	1. Minerals and ores formulae Questions related Types of ores, Concentration methods	NAGA MURTHY- 9441786635 Contact at : nagamurthysir@gmail.com Visit at : ignitephysics.weebly.com
14. Carbon and its compounds	1. Table of Alkanes, Alkenes and Alkynes/Homologous series Questions related to Formulae, Guess, reactions	