

Annual Syllabus -Session 2018-19

Class-X

Subject -Science

| Unit No. | Units | Marks |
|----------|---|-------|
| I | Chemical Substances - Nature & Behaviour | 25 |
| II | World of Living | 23 |
| III | Natural Phenomenon | 12 |
| IV | Effects of Current | 13 |
| V | Natural Resources | 07 |
| | Total | 80 |
| | Internal assessment | 20 |
| | Grand total | 100 |

Note: Above weightage includes the weightage of questions based on practical skills

Schedule for Periodic Assessments of session 2018-19

| Schedule | Months for PAs | Syllabus covered |
|--|-----------------------|--|
| Mid Term Examination - 2018 (Periodic Assessment-I) | September 2018 | Ch-1,Ch-2,Ch-3,Ch-6,Ch-7, Ch-12,Ch-13,Ch-14,Ch-15 (And all the practicals associated with the chapters) |
| Periodic Assessment-II | December 2018 | ❖ Ch-1,Ch-2,Ch-3,Ch-6,Ch-7, Ch-12,Ch-13,Ch-14,Ch-15 ❖ Ch-4,Ch-5,Ch-8,Ch-10, Ch-11,Ch-16 . ❖ Ch-9(And all the practicals associated with the chapters) |
| Periodic Assessment-III | January 2019 | Ch-1,Ch-2,Ch-3,Ch-6,Ch-7, Ch-12,Ch-13,Ch-14,Ch-15 Ch-4,Ch-5,Ch-8,Ch-10, Ch-11,Ch-16 And Ch-9 (And all the practicals associated with the chapters) |
| Annual Board Examination 2018-19 (CBSE) | March 2019 | Ch1 to Ch16 And all the practicals associated with the chapters |

The assessment format and weightage of marks for classes X will be as under:

| Class | P A-I | PA-II | Assessment Of Note book | Subject enrichment activity | CASE | Total |
|-------|-------|-------|-------------------------|-----------------------------|------|-------|
| X | 5 | 5 | 5 | 5 | 80 | 100 |

Note: Consider the marks of two best Periodic Assessments out of three Periodic

ASSESSMENTS FOR INTERNAL ASSESSMENT

Note book submission (05Marks) :

Notebook submission as a part of Internal Assessment is aimed at enhancing seriousness of students towards preparing notes on the topics being taught in the classroom as well as the assignments. This also addresses the critical aspect of regularity , punctuality neatness and notebook upkeep .

Subject Enrichment Activities (05 Marks):

The subject specific application activities imbed at enrichment of the understanding and skill development. These activities are to be recorded internally by the concerned subject teacher .

Guidelines issued by CBSE for classes IX & X to be followed by all the Govt & Govt Aided Schools.

TERM WISE SYLLABUS (Session 2018-19)

MID TERM EXAM (APRIL 2018 TO SEPT. 2018)

| Month | Content |
|---|--|
| April 2018 To September 2018 | <p><u>Unit -I Chemical Substances – Nature and Behaviour</u></p> <p>Ch-1 Chemical reactions: Chemical equation, Balanced chemical equation, implications of a balanced chemical equation, types of chemical reactions: combination, decomposition, displacement, double displacement, precipitation, neutralisation , oxidation and reduction.</p> <p>Practical No.2 : Performing and observing the following reactions and classifying them into:</p> <ul style="list-style-type: none"> • a) Combination reaction • b) Decomposition reaction • c) Displacement reaction • d) Double displacement reaction <ul style="list-style-type: none"> ○ (i) Action of water on quick lime ○ (ii) Action of heat on ferrous sulphate crystals ○ (iii) Iron nails kept in copper sulphate solution ○ (iv) Reaction between sodium sulphate and barium chloride solutions <p>Ch-2 Acids, bases and salts: Their definitions in terms of furnishing of H⁺ and OH⁻ ions, General properties, examples and uses, concept of pH scale (Definition relating to logarithm not required), importance of pH in everyday life; preparation and uses of sodium hydroxide, Bleaching powder, Baking soda, Washing soda and Plaster of Paris.</p> <p>Practical No.1 : Finding the pH of the following samples by using pH paper / universal</p> |

indicator:

- a) Dilute Hydrochloric Acid
- b) Dilute NaOH solution
- c) Dilute Ethanoic Acid Solution
- d) Lemon juice
- e) Water
- f) Dilute Hydrogen Carbonate solution

Studying the properties of acids and bases (HCl & NaOH) by their reaction with:

- a) Litmus solution (Blue/Red)
- b) Zinc metal
- c) Solid sodium carbonate

Ch-3 Metals and non metals: Properties of metals and non-metals, reactivity series, formation and properties of ionic compounds, basic metallurgical processes, corrosion and its prevention.

Practical No.3 : Observing the action of Zn, Fe, Cu and Al metals on the following salt solutions:

- a) ZnSO_4 (aq)
- b) FeSO_4 (aq)
- c) CuSO_4 (aq)
- d) $\text{Al}_2(\text{SO}_4)_3$ (aq)

Arranging Zn, Fe, Cu and Al (metals) in the decreasing order of reactivity based on the above result.

Unit V: Natural Resources

Ch-14 Sources of energy: Different forms of energy, conventional and non-conventional sources of energy: fossil fuels, solar energy; biogas; wind, water and tidal energy; nuclear energy. Renewable versus non-renewable sources.

Theme : The World of the Living Unit II: World of Living

Ch-6 Life processes: "living being". Basic concept of nutrition, respiration, transport and excretion in plants and animals.

Practical No.6 : Preparing a temporary mount of a leaf peel to show stomata.

Practical No.7 : Experimentally show that carbon dioxide is given out during respiration.

Ch-7 Control and co-ordination in animals and plants: Tropic movements in plants; Introduction to plant hormones; control and co-ordination in animals : nervous system; voluntary, involuntary and reflex action, chemical co-ordination: animal hormones.

Unit V: Natural Resources

Ch-15 Our environment: Eco-system, Environmental problems, Ozone depletion, waste production and their solutions. Biodegradable and non-biodegradable substances.

Unit IV: Effects of Current

Ch-12 Current Electricity: Electric current, potential difference and electric current. Ohm's law; Resistance, Resistivity, Factors on which the resistance of a conductor depends. Series combination of resistors, parallel combination of resistors and its applications in daily life. Heating effect of electric current and its applications in daily life. Electric power, Inter relation between P, V, I and R.

Practical No. 4 : Studying the dependence of potential difference (V) across a resistor on the current (I) passing through it and determine its resistance. Also plotting a graph between V and I.

Practical No. 5 : Determination of the equivalent resistance of two resistors when connected in series and parallel.

Ch-13 Magnetic effects of current: Magnetic field, field lines, field due to a current carrying conductor, field due to current carrying coil or solenoid; Force on current carrying conductor, Fleming's left hand rule. Electromagnetic induction. Induced potential difference, Induced current. Fleming's Right Hand Rule, Direct current. Alternating current : frequency of AC. Advantage of AC over DC. Domestic electric circuits.

September
2018

- **Revision of syllabus** (taught Since April to August 2018)
- **MID – TERM EXAM -2018 (Periodic Assessment -I)**

October
2018

And

November
2018

Term - II (October 2018 to February 2019)

Board Examination (2019) by CBSE

Unit I: Chemical Substances - Nature and Behaviour

Ch-4 Carbon compounds: Covalent bonding in carbon compounds. Versatile nature of carbon. Homologous series Nomenclature of carbon compounds containing functional groups (halogens, alcohol, ketones, aldehydes, alkanes and alkynes), difference between saturated hydrocarbons and unsaturated hydrocarbons. Chemical properties of carbon compounds (combustion, oxidation, addition and substitution reaction). Ethanol and Ethanoic acid (only properties and uses), soaps and detergents

Practical No.8 : Study of the following properties of acetic acid (ethanoic acid):

- i) odour
- ii) solubility in water
- iii) effect on litmus

- iv) reaction with sodium Hydrogen Carbonate

Practical No.9 : Study of the comparative cleaning capacity of a sample of soap in soft and hard water.

Ch-5 Periodic classification of elements: Need for classification, Early attempts at classification of elements (Dobereiner's Triads , Newland's Law of Octaves , Mendeleev 's Periodic table) , Modern periodic table, gradation in properties, valency, atomic number, metallic and non-metallic properties.

Unit III: Natural Phenomenon

Ch-10 Light: Reflection and Refraction

Reflection of light at curved surfaces, Images formed by spherical mirrors, centre of curvature, principal axis, principal focus, focal length, mirror formula (Derivation not required), magnification. applications of spherical mirrors.

Practical No.10: . Determination of the focal length of:

- Concave mirror
- Convex lens

by obtaining the image of a distant object.

Refraction: laws of refraction, refractive index.

Refraction of light by spherical lens, Image formed by spherical lenses, Lens formula (Derivation not required), Magnification. Power of a lens.

Practical No.11 : Tracing the path of a ray of light passing through a rectangular glass slab for different angles of incidence. Measure the angle of incidence, angle of refraction, angle of emergence and interpret the result.

Practical No.14 : Finding the image distance for varying object distances in case of a convex lens and drawing corresponding ray diagrams to show the nature of image formed.

Ch-11 The Human Eye and the Colourful World

Functioning of a lens in human eye, defects of vision and their corrections, applications of lenses.

Refraction of light through a prism, dispersion of light, scattering of light, applications in daily life.

Practical No.13 : Tracing the path of the rays of light through a glass prism.

Unit V: Natural Resources

Ch-16 Management of natural resources: Conservation and judicious use of natural resources. Forest and wild life; Coal and Petroleum conservation. Examples of people's participation for conservation of natural resources. Big dams: advantages and limitations; alternatives, if any. Water harvesting. Sustainability of natural resources.

Unit II: World of Living

Ch-8 Reproduction: Reproduction in animal and plants (asexual and sexual) reproductive health-need for and methods of family planning. safe sex vs HIV/AIDS. Child bearing and women's health.

Practical No.12 : Studying (a) binary fission in Amoeba, and (b) budding in yeast and

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|--------------------------------------|--|
| | <p>hydra with the help of prepared slides.</p> <p>Practical No.15 : Identification of the different parts of an embryo of a dicot seed (Pea, gram or red kidney bean)</p> <p>Ch-9 Heredity and evolution: Heredity; Mendel's contribution- Laws for inheritance of traits: Sex determination: brief introduction; Basic concepts of evolution.</p> <p>Note : Syllabus should be completed by the end of November 2018</p> |
| December 2018 | <ul style="list-style-type: none"> • Revision of Syllabus • Periodic Assessment -II • Practice of PBQs (Practical Based Questions) |
| January 2019 to February 2019 | <ul style="list-style-type: none"> • Revision of Syllabus • Periodic Assessment -III • Revision of Support Material • Practice of Sample Question Papers from CBSE and DoE . |
| March 2019 | ANNUAL BOARD EXAMINATION- 2019 |