AKAL ACADEMY

The Real Education

SYLLABUS BOOKLET

Grade : X

2019 - 2020

CLASS:X **SUBJECT: English**

Name of the books :
Name of the publisher: Pearsons

Unit I (Pre Mid-Term)

Duration	Content	Subject Enrichment Activity
07/03/2019 To 17/05/2019	**Month-1** **Literature** : A letter to God (First Flight) : Dust of Snow (First Flight) : Fire and Ice ((First flight) : A Triumph of Surgery (Foot prints without feet) : The Thief's Story (Foot print without feet) **Grammar** : Tenses, Relative Clauses, Use of negative for emphasis. **Writing Skill:** Story writing, Letter placing orders **Month-2** **Literature** : A long walk to freedom : Tiger in the zoo (first flight) : The Midnight Visitor (Foot prints without feet) **Grammar** : Verb form, Noun Forms, Formation of Verbs nouns, Formation of nouns from verbs, Definite articles and idiomatic expressions. **Writing Skill:** Story writing , Letter of inquiry	**Listening:** Page 13 (First Flight) **Speaking:** Speaking about an instance from one's own life or from the life of someone you know. **Speaking :** Presentation : 'what you can do' Page 28 (First Flight)
Pre Mid- Term Exam (18/05/2019 – 27/05/2019)		
Unit II (Mid-Term)		
01/07/2019 To 03/09/2019	**Month-1** **Literature** : His first flight : Black Aeroplane : How to tell wild animals : The Ball Poem (First Flight) : A question of trust : Foot prints without feet (Foot print…) **Grammar** : Voices, (Use of passive), Determiners, modals **Writing** : Letter of complaint , Letter to the Editor **Month-2** **Literature** : From the Diary of Ann Frank : Amanda : The Hundred Dresses – 1 : The hundred dresses – II : Animals (First Flight) : Making of a scientist : The Necklace (Foot print…) **Grammar** : Compound Nouns, Compound adjectives and phrasal verbs, contracted forms of verbs, Idioms and their meanings, Reporting Clauses – defining and restrictive clauses , Narrative Voice and adverbs and	**Speaking activity:** Page 36 – First Flight Dictionary Practice – Words and their meanings according to the context. **Listening activity:** Exercise on Page 59 of First Flight. **Speaking activity:** Speaking exercise page 58 of First Flight. Role Play : Page 82 of First Flight.

	adjectives **Writing Task:** Article Writing,. Story writing	
Mid- Term Exam (4/09/2019 - 14/09/2019)		
Unit III (Post Mid-Term)		
21/09/2019 to 10/12/2019	**Month-1** **Literature** : A Baker from Goa **:** Coorg : Tea from Assam : The trees (First Flight) : Mijbill the Otter : Fog : The Hack Driver : Bholi (Foot print …….) **Grammar** **:** Subject Verb Concord, Noun clauses, Adverb clauses, Relative clauses, Noun modifier **Writing** : Letter of complaint **:** Story writing **Month-2** **Literature** **:** Madam Rides the Bus : The Tale of Custard the dragon : Sermon at Benares : For Anne Gregory : The Proposal (First Flight) : The Book that Saved the Earth (foot..) **Grammar** **:** Reported Speech : Preposition **Writing** : Story writing, : Revision of all writing task.	**Listening activity:** Page 89 & Exercise on Page 97 of First Flight. **Speaking activity:** Exercise on page 136 of First Flight Exercise on page 159 of First Flight
Post Mid- Term Exam (11/12/2019-20/12/2019)		
Unit IV (Final Exam)		
21/12/2019 to 20/02/2020	Revision	
20/02/2020 – 01/03/2020	**Revision**	
Final Exam		

CLASS: X **SUBJECT: Maths**

Name of the books :
Name of the publisher:

Unit I (Pre Mid-Term)

Duration	Content	Subject Enrichment Activity	
07/03/2019 To 17/05/2019	**Chapter 1 : Real Numbers.** **Sub Topics :** To find the LCM & HCF by prime factorization method, real numbers, rational as well as irrational numbers, Euclid division Lemma OR Euclid division algorithm. **Chapter 2 : Polynomials** **Sub Topics :** Types of polynomial & relation between zeros and coefficient of a polynomial, geometrical meaning of the zeros of the polynomial and division algorithm for polynomials. **Chapter 3 : Pair of linear equations in two Variables.** **Sub Topics :** To find solution of a pair of linear equation in two variables by graphical method, algebraic method (substitution method, Elimination method, cross multiplication method), Equations reducible to a pair of linear equation in two variables. **Chapter 4 : Quadratic Equations** **Topics :** To find solution of quadratic equation by factorization method, completing the square, nature of roots.	• To obtain the conditions for consistency of a system of linear equations in two variables by graphical method. .	
Pre Mid- Term Exam (18/05/2019 – 27/05/2019)			
Unit II (Mid-Term)			
01/07/2019 To 03/09/2019	**Chapter 5 : Arithmetic Progression** **Topics :** AP, n^{th} term of an AP, sum of first n terms of an AP. **Chapter 6 : Triangles** **Sub Topics :** Similar figures, similarity of triangle, criteria for similarity of triangles, Area of similar triangles, Pythagoras theorem. **Chapter 7 : Co-ordinate Geometry.** **Topics :** Distance formula, Section formula, midpoint formula, Area of triangle **Chapter 8 : Introduction to Trigonometry** **Sub Topics :** To find out trigonometric ratios, trigonometric ratios of some specific angles, complementary angles, trigonometric identities. .	• To verify that the sum of first n natural number is $\frac{n(n+1)}{2}$To verify the basic proportionality theorem experimentally OR. • To verify Pythagoras theorem by the method of paper cutting and pasting. • To verify the trigonometric identity : $Sin^2\theta + Cos^2\theta = 1$	

Mid- Term Exam (4/09/2019 - 14/09/2019)			
Unit III (Post Mid-Term)			
21/09/2019 to 10/12/2019	**Chapter 9 : Some Applications of Trigonometry** **Topics :** Line of sight, angle of elevation, angle of depression, height or distance between two distinct objects with the help of trigonometric ratios. **Chapter 10 : Circles** **Topics :** Tangent to a circle, number of tangents from a point on a circle. **Chapter 11 : Constructions** **Topics :** To construct triangles similar to given triangles, division of a line segment, construction of tangent to a circle **Chapter12 : Area related to circle** **Topics :** To find area of circle and Area of sector and segment of a circle and segment of a circle, area of combination of plane figure. **Chapter 13 : Surface area and volumes** **Topics :** To find surface area of combination of solid, volume of combination of solid, conversion of solid from one shape to another, frustum of a cone.	To verify that the length of tangent drawn from an external point are equal. • To obtain the frustum of a cone from a sector of a circle.	
Post Mid- Term Exam(11/12/2019-20/12/2019)			
Unit IV (Final Exam)			
21/12/2019 to 20/02/2020	**Chapter 14 : Statistics.** **Sub Topics :** Data, range, statistics, frequency distribution table, mean, mode, median of grouped data, graphical representation of cumulative frequency distribution. **Chapter15 : Probability** **Topics :** They will learn to find out the probability of an event, (probability – a theoretical approach)	• To find the median of the collected data graphically. • To study the outcomes related to the experiment of throwing the pair of dice simultaneously	
20/02/2020 – 01/03/2020	**Revision**		
Final Exam			

CLASS: X **SUBJECT: PHYSICS**

Name of the books : NCERT Science, H C Verma Physics.
Name of the publisher: NCERT AND BHARTI BHAWAN PUBLISHERS

Unit I (Pre Mid-Term)

Duration	Content	Subject Enrichment Activity	
07/03/2019 To 17/05/2019	**Chapter 12: Electricity** Electric current and circuit, Electrical potential and potential difference, Circuit diagram. Ohm's law, Factors on which the resistance of a conductor depends, Resistance of a system of resistors in series and parallel, Heating effect of electric current & its practical applications, Electric power, interrelation between P, V, I and R. **Chapter 13 : Magnetic Effects of current** Magnetic field and field lines, magnetic field due to a current –Carrying conductor and a straight conductor. Right hand thumb rule, Magnetic field due to a current through a circular loop and in a solenoid.	• Electric current, Ohm's law • Series and Parallel Combinations. • Field lines around a bar magnet	
Pre Mid- Term Exam (18/05/2019 – 27/05/2019)			
Unit II (Mid-Term)			
01/07/2019 To 03/09/2019	**Chapter 13 : Magnetic Effects of current (contd....)** Force on a current carrying conductor in a magnetic field, Electric motor, electromagnetic induction, electric generator, Direct current, Alternating Current, frequency of AC, Advantages of AC over DC, domestic electric circuits. **Chapter: 10 Light(Reflection and Refraction of light)** Spherical mirrors, Image formation and ray diagrams by spherical mirrors (both concave and convex), Mirror Formula, magnification.	• To determine focal length of concave mirror of a distant object.	
Mid- Term Exam (4/09/2019 - 14/09/2019)			
Unit III (Post Mid-Term)			
21/09/2019 to 10/12/2019	**Chapter: 10 Light(Reflection and Refraction of light)(Contd.)** Refraction of lights, Refraction through a rectangular glass slab, Refractive index, Refraction by spherical lenses, Image formation by lenses (Using Ray diagrams) Lens formula, magnification, power of lens. **Chapter 11: The human eye & the colourful world.** Human eye, Power of accommodation, Defects of vision and their correction (a) Myopia (b) Hpyermetropia, Presbyopia, Refraction of light through a prism.	• To determine the focal length of a convex lens. • Refraction through a glass slab, glass prism. • 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.	
Post Mid- Term Exam(11/12/2019-20/12/2019)			
Unit IV (Final Exam)			
21/12/2019 to 20/02/2020	**Chapter 14: Sources of Energy** Good source of energy, Conventional sources of energy, Improvement in the technology for using conventional sources of energy, Alternative sources of energy, Environmental consequences & long will energy sources lost, Renewable versus non-renewable sources of energy.		
20/02/2020 – 01/03/2020	**Revision**		
Final Exam			

CLASS: X **SUBJECT: CHEMISTRY**

Name of the books : Science X
Name of the publisher: NCERT

Unit I (Pre Mid-Term)

Duration	Content	Subject Enrichment Activity
07/03/2019 To 17/05/2019	**Chapter 1: Chemical Reactions & Equations.** **Topics/Sub topics:** Physical & Chemical changes, Chemical equations, Types of chemical reaction- combination Reaction, Decomposition reaction, displacement reaction, Double displacement Reaction, Oxidation- Reduction reaction, Rancidity, and corrosion. **Chapter 2: Acids, Bases & Salts** **Topics/Sub topics:** Physical properties of Acid & base. Chemical properties: Reaction with metal, reaction with sodium carbonate and sodium hydrogen carbonate. What do all acids and Bases have in common? How strong are acid or base solutions?, Importance of pH in everyday life. More abut salts.	**Experiment 1:** Performing and observing the types reactions and classifying them into: a) Combination. b) Decomposition. c) Displacement. d) Double displacement. **Experiment 2:** To find the pH of the given samples by using pH paper / universal indicator: **Experiment 3:** Studying the properties of acids and bases (HCl & NaOH).
Pre Mid- Term Exam (18/05/2019 – 27/05/2019)		
Unit II (Mid-Term)		

01/07/2019 To 03/09/2019	**Chapter 2: Acids, Bases & Salts** **Topics/Sub topics:** Chemicals from common salt(Sodium hydroxide, Bleaching Powder, Baking Soda, Washing Soda) Are the crystals of Salts really Dry? **Chapter 3: Metals & Non-Metals** **Topics/Sub topics:** Physical Properties of Metals and Non-Metals, Chemical Properties of Metals and Non –Metals. Occurrence of Metals, corrosion and alloys. **Chapter 5: Periodic Classification of Elements** **Topics/Sub topics:** classification – early attempts – (Dobereiner's triad, Newland's Law of Octave). Mendeleev's periodic table – its achievements and limitations.	**Experiment 4:** 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) $Al_2(SO_4)_3$ (aq)
Mid- Term Exam (4/09/2019 - 14/09/2019)		
Unit III (Post Mid-Term)		
21/09/2019 to 10/12/2019	**Chapter 5: Periodic Classification of Elements** **Topics/Sub topics:** Modern periodic table, Position of elements in Modern periodic table, Trends in the Modern periodic table, valances, Atomic size, Metallic and Non – metallic properties etc. **Chapter 4: Carbon and its Compounds** **Topics/Sub topics:** Introduction of the chapter, Bonding in carbon- the covalent bond, versatile nature of carbon, Saturated and unsaturated carbon compounds, Electron dot bond structure, chain, branches and rings, functional groups and homologous series. Nomenclature of carbon compounds.	**Experiment 5:** 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
Post Mid- Term Exam(11/12/2019-20/12/2019)		
Unit IV (Final Exam)		
21/12/2019 to 20/02/2020	**Chapter 4: Carbon and its Compounds** **Topics/Sub topics: C**hemical properties of carbon compounds, chemical properties of carbon compounds (Combustion, Oxidation, Addition reaction and Substitution reaction), Some important carbon compounds Ethanol and Ethanoic acid, Properties of Ethanol, Properties of Ethanoic acid. Soaps and Detergents (Process of saponification of esters a process of making soap), Micelles (cleansing action of soaps), hardness of water, effect of hard water on soaps and detergents, softening of hard water.	**Experiment 6:** Study of the comparative cleaning capacity of a sample of soap in soft and hard water.
20/02/2020 – 01/03/2020	**Revision**	
Final Exam		

CLASS: X **SUBJECT: Biology**

Name of the books :
Name of the publisher:

Unit I (Pre Mid-Term)

Duration	Content	Subject Enrichment Activity
07/03/2019 To 17/05/2019	- **Life Processes** **Topic/Subtopic :** Introduction of the chapter, What are Life processes, Nutrition (Autotrophic), Heterotrophic nutrition, How do organisms obtain their nutrition, Nutrition in Human beings?, Nutrition in Human beings, Respiration. Transportation in Human being and in plants, Excretion in Human being and in plants. **How do organisms reproduce** **Topics :** Do organisms create exact copies of themselves? The importance of variation, modes of reproduction used by single organisms, fission, fragmentation, Regeneration, budding, vegetative propagation, spore formation, sexual reproduction, why the sexual mode of reproduction,	**Activity :** - (i) To prepare a temporary mount of leaf to show its stomata. (ii) To show experimentally that light is necessary for photosynthesis. - To show experimentally that carbon dioxide is given out during aerobic respiration **Activity** - To study binary fission in Amoeba and Budding in Yeast and hydra with the help of prepared slides.
Pre Mid- Term Exam (18/05/2019 – 27/05/2019)		
Unit II (Mid-Term)		
01/07/2019 To 03/09/2019	**How do organisms reproduce (contd…)** Sexual reproduction in plants, Reproduction in human beings, Male and female reproductive system, what happens when egg is not fertilized, reproductive health – Need and methods of planning, safe sex vs HIV/AIDS. Child bearing and women's health. **Heredity & Evolution** **Topics :** Evolution, acquired and inherited traits, speciation, and Darwin's theory of evolution, Accumulation of variation during reproduction, heredity, inherited traits, rules of inheritance. How do these traits get expressed, sex determination, Evolution and classification, tracing, evolutionary relationships, fossils, evolution by stages, evolution should not be equated with progress, Human evolution.	**Activity** - . To study homology and analogy with the help of charts/specimens of either animals or plants.
Mid- Term Exam (4/09/2019 - 14/09/2019)		
Unit III (Post Mid-Term)		

21/09/2019 to 10/12/2019	**Control and coordination** **Topics:** Introduction of the chapter, Animals, nervous system and reflex action, Human brain, How are these Tissues protected, How does the nervous tissue cause action?, Coordination in plants and Hormones in animals.	**Activity** - To check various stimuli (heat, cold, light, smell, taste and touch) present in body and to find their location and name of the receptors.
Post Mid- Term Exam(11/12/2019-20/12/2019)		
Unit IV (Final Exam)		
21/12/2019 to 20/02/2020	- **Management of natural resources** **Topics :** Introduction, Ganga action plan, 3R's, Why do we need to manage wastes, forests and wildlife, stakeholders, sustainable management, water for all, Dams, water harvesting, coal and petroleum, natural resource management. **Our environment** **Topics :** What happens when we add waste to the environment? Eco system components, Food chain and food web, How do human activities affect environment, Ozone layer and its depletion, managing the garbage.	**Activity** Group discussion on waste production and waste management
20/02/2020 – 01/03/2020	**Revision**	
Final Exam		

CLASS: X **SUBJECT: Social Science**

Name of the books : NCERT

Unit I (Pre Mid-Term)

Duration	Content	Subject Enrichment Activity
07/03/2019 To 17/05/2019	**Democratic Politics:** Chapter 1 : Power Sharing Chapter2 : Federalism Chapter 3 : Democracy and Diversity (***This chapter to be assessed in the Periodic test only and will not be evaluated in Board exam)*** **Economics** Chapter1 : Development Chapter 2 : Sectors of Indian Economy **Geography** Chapter 1 : Resources and Development **History** Chapter 3 : Nationalism in India	**Activity** : Graph analysis on different sectors of Indian economy and their contribution to India's GDP and employment. (2 days)
Pre Mid- Term Exam (18/05/2019 – 27/05/2019)		
Unit II (Mid-Term)		

01/07/2019 To 03/09/2019	**History** Chapter 2 : The rise of Nationalism in Europe. **Democratic Politics** Chapter4 : Gender, Religion and caste Chapter 5 : Popular Struggles and Movements (***This chapter to be assessed in the Periodic test only and will not be evaluated in Board exam)*** Chapter 6 : Political Parties **Geography** Chapter 2 &3 : Forest and Wildlife, Water Resources (***These chapters to be assessed in the Periodic test only and will not be evaluated in Board exam)*** Chapter4 : Agricultures (**6** days) Chapter 5 : Minerals and Energy Resources **Economics** Chapter 3 : Money & Credit	**Poster Making** : • Pollution of water in the locality (any similar activity may be taken up) • Deflation of forest and the green house effect. **Report Writing** - Visit to Bank and discuss various activities that you have observed in Bank.
Mid- Term Exam (4/09/2019 - 14/09/2019)		
Unit III (Post Mid-Term)		
21/09/2019 to 10/12/2019	**History** Chapter7 : Print Culture and the Modern world **Democratic Politics** Chapter 7 : Outcomes of Democracy Chapter: 8 : Challenges to Democracy (***This chapter to be assessed in the Periodic test only and will not be evaluated in Board exam)*** **Economics** Chapter 4 : Globalization and the Indian Economy **Geography** Chapter 6 : Manufacturing Industries. Chapter 7 : Lifelines of National Economy	**Activity:** Collect information related to the different regional parties of India along with their symbols. **Activity :** Make a collage of leading MNCs with the help of newspaper and magazines.
Post Mid- Term Exam(11/12/2019-20/12/2019)		
Unit IV (Final Exam)		
21/12/2019 to 20/02/2020	**Economics** Chapter 5 : Consumer Awareness. (4 days) ***(This chapter to be done as Project Work)*** **History** Chapter 5 : The Age of Industrialization	**Activity :** • **C**ollect logos of standards available for various goods and services. • Collect stories of consumer exploitation and grievances from newspapers and consumer courts.
20/2/2020 – 01/03/2020	**Revision**	

Final Exam

Unit 1

History	**Outline Political Map of India** **Lesson : 3 Nationalism in India** – (1918 – 1930). For **locating and labelling / Identification.** **1. Indian National Congress Sessions:** Calcutta (Sep. 1920), Nagpur (Dec. 1920), Madras (1927) **2. Important Centres of Indian National Movement** (Non-cooperation and Civil Disobedience Movement) (i) Champaran (Bihar) - Movement of Indigo Planters (ii) Kheda (Gujrat) - Peasant Satyagrah (iii) Ahmedabad (Gujarat) - Cotton Mill Workers Satyagraha (iv) Amritsar (Punjab) - Jallianwala Bagh Incident (v) Chauri Chaura (U.P.) - calling off the NCM. (vi) Dandi (Gujarat) - Civil Disobedience Movement
Geography	**Chapter 1: Resources and Development** **Identification** only: Major soil Types.

Unit 2

Geography	**Chapter 3: Water Resources** Locating and Labelling – **Dams:** Salal, Bhakra Nangal, Tehri, Rana Pratap Sagar, Sardar Sarovar, Hirakud, Nagarjuna Sagar, Tungabhadra. (Along with rivers) **Chapter 4: Agriculture** **Identification** only (a) Major areas of Rice and Wheat. (b) Largest / Major producer states of Sugarcane; Tea; Coffee; Rubber; Cotton and Jute. **Chapter: 5 Mineral and Energy Resources. Minerals:** (**Identification** only) **(I) Iron ore mines:** Mayurbhanj, Durg, Bailadila, Bellary, Kudremukh **(II) Coal mines :** Raniganj, Bokaro, Talcher, Neyvali **(III) Oil Fields :** Digboi, Naharkatia, Mumbai High, Bassien, Kalol, Ankaleshwar **Power Plants:** (**Locating and Labelling** only) **(a) Thermal :** Namrup, Singrauli, Ramagundam **(b) Nuclear:** Narora, , Kakrapara, Tarapur, Kalpakkam

Unit 3

Geography	**Chapter 6: Manufacturing Industries** **Locating and Labelling** Only **(1) Cotton Textile Industries:** Mumbai, Indore, Surat, Kanpur, Coimbatore **(2) Iron and Steel Plants:** Durgapur, Bokaro, Jamshedpur, Bhilai, Vijaynagar, Salem

	(3) Software Technology Parks: Noida, Gandhinagar, Mumbai, Pune, Hyderabad, Bangalore, Chennai, Thiruvanantapuram **Chapter 7 : Lifelines of National Economy.** **Locating and Labelling: Major Ports:** Kandla, Mumbai, Marmagao, New Mangalore Kochi, Tuticorin, Chennai, Vishakhapatnam, Paradip, Haldia **International Airports:** Amritsar (Raja Sansi), Delhi (Indira Gandhi International), Mumbai (Chhatrapati Shivaji), Chennai (Meenam Bakkam), Kolkata (Netaji Subhash Chandra Bose), Hyderabad (Rajiv Gandhi) **Note:** Items of Locating and Labelling may also be given for Identification.

Internal Assessment

Sl. No.	Description	M.M.: 20
1	Paper Pencil Test	5 marks
2	Assessment using multiple strategies; eg: Quiz, Debate, Role play, group discussion etc.	5 marks
3.	Portfolio (Notebook, Map work, Assignment)	5 marks
4.	Subject Enrichment Activity (Project)	5 marks

Marks Distribution

Sl. No.	Types of questions	Total Marks
1	Objective type questions (one mark)	20 ×1= 20
2	Short answer questions (3 marks)	8 × 3 = 24
3.	Long answer questions (5 marks)	6 × 5 = 30
4.	Map Skill (History – 3, Geography – 3)	3 + 3 = 6
	Total	**80**