SYLLABUS OF ECONOMICS FOR CLASS XII / 2018-19	
TERM I	
2nd April – 30th April	Macro Economics • Govt. Budget • National Income Accounting
1st May – 12th May	Micro Economics • Production Possibility Curve • Opportunity cost • Marginal Utility Theory
2nd July – 19th July	Micro Economics • Indifference Curves Macro Economics • Theory of income & Employment
20th July – 7th August	Macro Economics • Theory of Income & Employment Micro Economics • Theory of demand
8th August – 30th August	Micro Economics • Theory of demand & elasticity • Theory of supply & elasticity
31st August – 7th September	Revision
TERM II	
26th September – 12th October	Micro Economics • Market Equilibrium • Production • Cost
22nd October – 17th November	Micro Economics • Market forms & Revenue • Producer's Equilibrium Macro Economics • Money
19th November – 13th December	Micro Economics • Production • Cost
24th December – 19th January	Macro Economics • Banking • Balance of Payment • Foreign Exchange
30th November – 13th December	Revision

BUSINESS STUDIES SYALLABUS / XII

TERM I

2 April – 30 April	Chapter 1 - Nature & Significance of Management
	Chapter 2 - Principles of Management
1 May-12 May	Business Environment
2 July – 19 July	Financial Management
20 July – 07 August	Financial Markets
8 August – 30 August	i) Marketing Management
	ii) Project Discussion
31 August – 7 September	Revision

TERM II

26 September – 12 October	i) Consumer Protection
	ii) Planning
22 October – 17 November	i) Organising
	ii) Staffing
19 November – 8 December	i) Directing
	ii) Controlling

TERM I / 2018-2019 / HOME SCIENCE SYLLABUS FOR CLASSES 12th

CLASS 12 (Theory + Practical)

2 April to 12 May

Unit II: Nutrition for Self, Family and Community

2 July to 7 August

Unit II: Contd.

Unit V: Community Development and Extension(Part II)

b) Salient features of income generating schemes DWCRA (Development of Women and Children in Rural Area)

MGNREGA (Mahatma Gandhi National Rural Employment Guarantee Act, 2005)

8 August to 7 September

Unit VI: Career Options after Home Science Education

Revision

ENGLISH SYLLABUS / XII

Term I	Term II
2nd April – 30th April Keeping Quiet Going Places Elementary School Classroom A thing of Beauty Advertisements Formal / Informal invite & replay **1st May – 11th May** Speech & Debate **2nd July – 19th July** Notice Poster Reading Comprehension Deep Water Mother at 66 **20th July – 7th August** Should Wizard Hit mommy The Tiger King Report Writing – Factual & Newspaper **8th August – 30th August** Lost Spring Letter of Enquiry & Complaint The invisible man Ch. 1 – 12 Letter of Order & Editor **31st August – 7th September** Notemaking Reading Comprehension Literature Revision The invisible Man - Revision	**26th September – 12th October** The Rat Trap Indigo The Invisible Man (Ch 13 – 16) Job Application - Letter **22nd October – 17th November** Evans Irvin an O level Aunt Jennifer's Tigers The Invisible Man (Ch 17 – 20) Article Writing **18th November – 30th November** Memories of Childhood On the face of fit The Invisible Man (Ch 21 – 25) Notemaking Revision **01st December – 8th December** The Invisible Man (Ch 26 – 28) The Last Lesson Revision of Writing Skills

SYLLABUS PLANNING CLASS XII SOCIOLOGY 2018-19

TIME PERIOD	CHAPTERS TO BE COVERED	NAME OF THE CHAPTERS/TOPICS
2nd April – 30th April	Book 1 Ch. 1 - Introducing Indian Society Book 1 Ch.2 - Demographic Structure & Indian Society	Intro First half Individual Research files discussions
1st May – 12th May	Book 1 Ch.3 - Social Institutions- Continuity & Change	Individual Research files discussions
2nd July – 19th July	Book 1 Ch. 3 - Social Institutions - Continuity & Change Book 1 Ch. 4- Market as a Social Insritution	Complete Complete Individual Research files discussions
20th July – 7th August	Book 1 Ch.5 - Patterns of Social Inequality & Exclusion	Complete Individual Research files discussions
8th August – 30thAug	Book 1 Ch.6- Patterns of Cultural Diversity Book 2 Ch.2 - Cultural Change	Complete Individual Research files discussions
31st August – 7th Sept	Revision	Individual Research files discussions
1 OCT - 31 OCT	Chapter 3 (book2) Chapter 5 (book 2) Individual File Discussions	Story of Indian Democracy Change and Development in Rural Society
1 NOV - 15 NOV	Chapter 5 (book 2) Chapter 6 (book 2) Individual File Discussions	Change and Development in Industrial Society Globalization and Social Change
16 NOV - 30 NOV	Chapter 7 (book 2) Chapter 8 (book 2) Individual File Discussions	Mass Media and Communications Social Movements
1 DEC - 11 DEC	Revision Individual File Discussions	
11 Dec - 31 Dec	Revision	
7 Jan - 20 Jan	Revision	

SYLLABUS OF CLASS 12TH ACCOUNTANCY (2018-19)	
DURATION	COURSE CONTENT PLANNED
MARCH 2 DAYS BLOCK CLASSES	1.PRESENTATION OF FINANCIAL STATEMENTS AS PER SCHEDULE 3. 2.ANALYSIS OF FINANCIAL STATEMENTS 3.COMPARITIVE AND COMMON SIZE STATEMENTS.
9TH APR-30TH APR	1.RATIOS ANALYSIS. 2.CASH FLOW STATEMENT
1ST MAY-12TH MAY & BLOCK CLASSES	1. CASH FLOW STATEMENT (CONTD) 2.FUNDAMENTALS OF PARTNERSHIP ACCOUNTING(FIRST HALF OF THE CHAPTER) 3.NPO FORMULA BASED QUESTIONS.
2ND JULY-19TH	1. FUNDAMENTALS OF PARTNERSHIP ACCOUNTING(SECOND HALF OF THE CHAPTER) 2.GOODWILL VALUATION 3.ADMISSION OF PARTNER
20TH JULY-7TH AUG	1. ADMISSION OF PARTNER(CONTD) 2.RETIREMENT OF PARTNER
8TH AUG-30TH AUG	1.DEATH OF A PARTNER 2.CHANGE IN PROFIT SHARING RATIO. 2.DISSOLUTION OF PARTNERSHIP FIRM
31ST AUG-7TH SEPT	REVISION OF NPO AND OTHER TOPICS
26TH SEPT-12THOCT	ISSUE OF SHARES
22NDOCT-17TH NOV	1.ISSUE OF DEBENTURES 2. REDEMPTION OF DEBENTURES
19TH NOV-30TH NOV	NPO
1ST DEC-13TH DEC	REVISION

CLASS XII-PHYSICS 2018-2019

2 April – 30th April 2018

Unit I: Electrostatics

Electric Charges; Conservation of charge, Coulomb's law-force between two point charges, forces between multiple charges; superposition principle and continuous charge distribution.

Electric field, electric field due to a point charge, electric field lines, electric dipole, electric field due to a dipole, torque on a dipole in uniform electric fleld.

Electric flux, statement of Gauss's theorem and its applications to find field due to infinitely long straight wire, uniformly charged infinite plane sheet and uniformly charged thin spherical shell (field inside and outside).

Electric potential, potential difference, electric potential due to a point charge, a dipole and system of charges; equipotential surfaces, electrical potential energy of a system of two point charges and of electric dipole in an electrostatic field.

1 MAY – 12 May 2018

Conductors and insulators, free charges and bound charges inside a conductor. Dielectrics and electric polarisation, capacitors and capacitance, combination of capacitors in series and

in parallel, capacitance of a parallel plate capacitor with and without dielectric medium between the plates, energy stored in a capacitor.

Unit II: Current Electricity

Electric current, flow of electric charges in a metallic conductor, drift velocity, mobility and their relation with electric current; Ohm's law, electrical resistance, V-I characteristics (linear and non-linear), electrical energy and power, electrical resistivity and conductivity. Carbon resistors, colour code for carbon resistors; series and parallel combinations of resistors; temperature dependence of resistance.

Internal resistance of a cell, potential difference and emf of a cell, combination of cells in series and in parallel. Kirchhoff's laws and simple applications. Wheatstone bridge, metre bridge.

Potentiometer - principle and its applications to measure potential difference and for comparing emf of two cells; measurement of internal resistance of a cell.

Ray Optics : Reflection of light, spherical mirrors, mirror formula, refraction of light, total internal reflection and its applications, optical fibres, refraction at spherical surfaces, lenses, thin lens formula.

2 July – 19 July 2018

Chapter-3: Magnetic Effects of Current and Magnetism

Concept of magnetic field, Oersted's experiment.

Biot - Savart law and its application to current carrying circular loop.

Ampere's law and its applications to infinitely long straight wire. Straight and toroidal solenoids, Force on a moving charge in uniform magnetic and electric fields. Cyclotron.

Force on a current-carrying conductor in a uniform magnetic field. Force between two parallel current-carrying conductors-definition of ampere. Torque experienced by a current loop in uniform magnetic field; moving coil galvanometer-its current sensitivity and conversion to ammeter and voltmeter.

Current loop as a magnetic dipole and its magnetic dipole moment. Magnetic dipole moment of a revolving electron. Magnetic field intensity due to a magnetic dipole (bar magnet) along its axis and perpendicular to its axis. Torque on a magnetic dipole (bar magnet) in a uniform magnetic field; bar magnet as an equivalent solenoid, magnetic field lines; Earth's magnetic field and magnetic elements.

20 JULY – 7 August 2018

Para-, dia- and ferro - magnetic substances, with examples. Electromagnets and factors affecting their strengths. Permanent magnets.

Unit IV: Electromagnetic Induction and Alternating Currents

Electromagnetic induction; Faraday's laws, induced emf and current; Lenz's Law, Eddy currents. Self and mutual induction.

8 August – 30 August 2018

Alternating currents, peak and rms value of alternating current/voltage; reactance and impedance; LC oscillations (qualitative treatment only), LCR series circuit, resonance; power in AC circuits, wattless current.

AC generator and transformer.

Unit V: Electromagnetic waves

Needs for displacement current, Electromagnetic waves, their characteristics, their transverse nature (qualitative ideas only).

Electromagnetic spectrum (radio waves, microwaves, infrared, visible, ultraviolet, X-rays, gamma rays) including elementary facts about their uses.

31 August – 7 September 2018

REVISION FOR SEMESTER I

26th September – 12th October 2018

Lensmaker's formula, magnification, power of a lens, combination of thin lenses in contact, combination of a lens and a mirror, refraction and dispersion of light through a prism.

Scattering of light – blue colour of sky and reddish apprearance of the sun at sunrise and sunset.

Optical instruments : Microscopes and astronomical telescopes (reflecting and refracting) and their magnifying powers.

13th October – 5th November 2018

Wave optics : Wave front and Huygen's principle, reflection and refraction of plane wave at a plane surface using wave fronts. Proof of laws of reflection and refraction using Huygen's principle. Interference, Young's double slit experiment and expression for fringe width, coherent sources and sustained interference of light, diffraction due to a single slit, width of central maximum, resolving power of microscope and astronomical telescope, polarisation, plane polarised light, Brewster's law, uses of plane polarised light and Polaroids.

6th November – 30th November 2018

Unit VII : Dual Nature of Matter and Radiation

Dual nature of radiation, Photoelectric effect, Hertz and Lenard's observations; Einstein's photoelectric equation-particle nature of light.

Matter waves-wave nature of particles, de-Broglie relation, Davisson-Germer experiment (experimental details should be omitted; only conclusion should be explained).

Unit VIII : Atoms and Nuclei

Alpha-particle scattering experiment; Rutherford's model of atom; Bohr model, energy levels, hydrogen spectrum.

Composition and size of nucleus, Radioactivity, alpha, beta and gamma particles/rays and their properties; radioactive decay law.

Mass-energy relation, mass defect; binding energy per nucleon and its variation with mass number; nuclear fission, nuclear fusion.

1st December – 12th December 2018

Unit IX : Electronic Devices

Energy bands in conductors, semiconductors and insulators (qualitative ideas only)

Semiconductor diode – I-V characteristics in forwards and reverse bias, diode as a rectifier;

Special purpose p-n junction diodes: LED, photodiode, solar cell and Zener diode and their characteristics, zener diode as a voltage regulator.

Junction transistor, transistor action, characteristics of a transistor, transistor as an amplifier (common emitter configuration) basic idea of analog and digital singals Logic gates (OR, AND, NOT, NAND and Nor)

Unit X : Communication System

Elements of a communication system (block diagram only); bandwidth of signals (speech, TV and digital data); bandwidth of transmission medium. Propagation of electromagnetic waves in the atmosphere, sky and space wave propagation, satellite communication. Need for modulation, amplitude modulation and frequency modulation, advantages of frequency modulation ovar amplitude modulation. Basic ideas about internet, mobile telephony and global positioning system (GPS)

Political Science Syllabus / Class XII

Book I – Contemporary World Politics

Book II – Politics in India since Independence

TERM I		
2nd April – 30th April	Book I	Chapter 1 – The cold War Era Chapter 2 – The End of Bipolarity Chapter 3 – U.S. Hegemony in World Politics
1st May – 12th May	Book I	Chapter 3 – U.S. Hegemony in World Politics (contd) Chapter 4 – Alternative Centres of Power
2nd July – 19th July	Book II	Chapter 1 – Challenges to Nation Building Chapter 2 – Era of One Party Dominance Chapter 3 – Politics of Planned Development
20th July – 7th August	Book II	Chapter 3 – Politics of Planned Development (contd) Chapter 4 – India's External Relations
	Book I	Chapter 5 – Contemporary South Asia Chapter 6 – International Organisation
8th August – 30th August	Book II	Chapter 5 – Challenges to and Restoration of Congress Chapter 6 – The Crisis of Democratic Order
TERM II		
26th September – 12th October	Book II	Chapter 7 – Rise of popular movements Chapter 8 – Regional Aspirations Chapter 9 – Recent Development in Indian Politics
23rd October – 17th November	Book II	Chapter 9 – Recent Development in Indian Politics (contd)
	Book I	Chapter 7 – Security in the Contemporary World Chapter 8 – Environment & Natural Resources
19th November to Class XII Comes	Book I	Chapter 8 – Environment & Natural Resources (contd) Chapter 9 - Globalisation

FIRST TERMINAL SYLLABUS OF MATHS FOR CLASS 12	
2nd – 15th April	**Chapter 1** Inverse trigonometry **Chapter 5 started** Continuity Differentiability Introduction to Exponential, Loagrithmic and inverse trigonometric function (graph, domain, range and their derivatives)
16th April – 30th April	**Chapter 5 continued** Differentiation Rules Stress on chain rule for composition of functions which explicit Differentiation of implicit functions. Differentiation using inverse trig substitution Differentiation using logarithms Differentiation of parametric functions Higher order derivatives
1st May – 11th May	**Chapter 6** Mean Value theorem Rate of change using derivatives. Increasing and Decreasing functions. Maxima and minima Approximations using derivatives Tangent and normals using Derivatives.
2nd July- 19th July	**Chapter 7 started** Integration as anti derivative Substitution Method Special Integrals
20th July – 4th Aug	**Chapter 7 continued** Integration by partial fractions Integration By parts Area under a curve and definite integral
6th Aug – 20th Aug	**Chapter 7 continued** Definite integrals and their Properties **Chapter 8** Application of integral for finding area under curve
21th Aug – 4th Sept	**Chapter 9** Degree and order of DE Forming a DE Verifying solution of a DE 3 types of DE and finding their solutions.
29th Sept – 12th Oct	**Chapter 3 -** Matrices Definitions and types of Matrices Matrix addition, multiplication, elementary operations. **Chapter 4 - Determinants** Determinants and properties Adjoint and inverse of a Matrix Statement problems

22nd Oct – 17th Nov	**Chapter 12** Linear programming **Chapter 13** Probability of independent events Bayes theorem Random variable
19th Nov – 13th Dec	**Chapter 10** Vectors meaning and types Scalar product Vector Product Triple product **Chapter 11** 3D geometry Lines equations Planes equations **Chapter 2** Relations Functions Binary operations

FIRST TERMINAL SYLLABUS OF HISTORY FOR CLASS 12	
TERM I	
2nd April – 30th April	• Bricks, bead and bones • Kings, Farmers, towns • Kinship caste, class • Thinkers, beliefs and Buildings
1st May – 12th May	• Through the Eyes of Travellers
2nd July – 19th July	• Bhakti and Sufi Traditions • An imperial capital Vijaynagara
20th July - 7th August	• Peasant Zamindars and State • Kings and chronicles
8th August – 30th August	• Colonialism and the countryside • Rebels and the Raj
31st August – 7th September	Revision
Syllabus for the Ist Semester Exam	Unit 1 to 10
Project work submission	20th August
TERM II	
26th September – 12th October	• Colonial cities • Mahatma Gndhi
22nd October – 17th November	• Understanding Partition • Framing of the Constitution
19th November – 13th December	• Presentation of Project and Revision

Class – XII / **Chemistry Syllabus** / 2018-19

CYCLE	UNIT	TITLE
2nd April – 30th April	10 11 12	• Haloalkanes and Haloarenes • Alcohols, phenols and ethers • Aldehydes, Ketones and Carboxylic acids
1st May – 12th May	12 13 15	• Aldehydes, Ketones and Carboxylic acids (ctd) • Organic Compounds containing nitrogen • Polymers
2nd July – 19th July	15 16 1	• Polymers (ctd) • Chemistry in everyday life • Solid state
20th July – 7th August	2 14	• Solutions • Biomolecules
8th August – 30th August	3 4	• Electrochemistry • Chemical Kinetics
31st August – 7th September		Revision
26th September – 12th Oct.	5 6	• Surface Chemistry • General Principles and Processes of Isolation of Elements
22nd October – 17th Nov.	7 8 9	• Some p-block elements • d and f-block elements • coordination compound
19th November – 30th Nov.	9	• coordination compounds (ctd.)
1st December – 13th Dec.		Revision

SYLLABUS OF CLASS 12TH PHYSICAL EDUCATION (2018-19)

UNIT N0.	UNIT NAME	DATE	TOPICS
1	PLANNING IN SPORTS	2 APRIL – 30 APRIL	Meaning and objectives of planning Various committees and their responsibilities (pre, during and post) Tournament -knock-out, league or round robin and combination Procedure to draw fixtures - knock-out (bye and seeding) and league (stair case and cyclic) Intramural and extramural - meaning , objective and its significance Specific sports programme (sports day, health run, run for fun, run for a specific cause and run for unity)
2	SPORTS AND NUTRITION	1 MAY – 12 MAY	Balanced diet and nutrition : macro and micro nutrients Nutritive and non-nutritive components of diet Eating for weight control - a health, weight , the pitfall of dieting , food intolerance and myths Sports nutrition and its effect on performance (fluid and meal intake , pre , during and post competition) Food supplement for children
3	YOGA AND LIFESTYLE	2 JULY – 15 JULY	Asanas : as preventive measures Obesity: procedure benefits and contraindications for vajrasana, pada hastasana trikonasana, ardhmatseyendrasana Diabetes : procedure, benefits and contraindications for bhujangasana, paschimottanasana, pawanmuktasana, ardhmatseyendrasana Asthma : procedure, benefits, contraindications for

			sukhasana,chakrasana,gomukhasana,parvatasana,bhujangasana, paschimottanasana, matsyasana Hypertension : procedure, benefits and contraindications tadasana, vajrasana, pawanmuktasana, ardha, chakrasana, bhujangasana, shavasana Back pain :procedure, benefits, contraindications, tadasana, ardhmatseyendrasana, vakrasana, shalabhasana, bhujangasana
4	PHYSICAL EDUCATION AND SPORTS FOR DIFFERENTLY ABLED	16 JULY - 31 JULY	Concept of disability, their cause and nature (cognitive disabilty, intellectual disability, physical disability) Types of disorder, their causes and nature (ADHD,SPD,ASD,ODD,OCD) Disability etiquettes Advantage of physical activites for children with special needs Strategies to make physical activities accesible for children with special needs
5	CHILDREN AND SPORTS	1 AUG. – 14 AUG.	Motor development and factors affecting it Exercise guidelines at different stages of growth and development Advantage and disadvantage of wieght training Concept and advantage of correct posture Cause of bad posture Common postural deformities (knock-knees, flatfoot, round shoulders, lordosis, kyphosis, scoliosis, bowlegs) Corrective measures for postural deformities
6	WOMEN AND SPORTS	16 AUG. - 30 AUG.	Sports participation of women in india Special consideration (menarche, menstrual dysfunction) Female athlete traid (osteoporosis, amenorrhea and eating disorders Psychological aspects of women athletes Sociological aspects of particulars in sports
7		31 AUG. – 7 SEPT	REVISION

SEM II / PHYSICAL EDUCATION

26th September – 12th October 2018

Unit VII : TEST AND MEASUREMENT IN SPORTS

- Measurement of muscular strength – Kraus Weber test.
- Motor fitness test- AAPHER
- Measurement of Cardio Vascular fitness – Harvard step test / Rockport test
- Measurement of flexibility – Sit & Reach test
- Rikli & Jones – Senior citizen fitness test.

UNIT VIII : PHYSIOLOGY AND SPORTS

- Gender difference in physical & physiological parameter.
- Physiological factors determining component of physical fitness.
- Effects of exercise on cardio vascular system
- Effects of exercise on respiratory system
- Effects of exercise on Muscular system
- Physiological changes due to Ageing
- Role of physical activity in maintaining functional fitness in Aged population.

22nd September – 17th November 2018

UNIT IX : SPORTS MEDICINE

- Concept and definition, aims and scope of sports medicine
- Sports injuries : classification, causes & prevention
- First Aid : Aim and objectives

- Management of Injuries : Soft tissue injuries : (Abrasion, contusion, laceration, incision, sprain & strain)
- Bone & joint injuries : (dislocation, fractures : stress fractures, green stick, comminuted, transverse oblique and impacted)

UNIT X : BIOMECHANICS AND SPORTS

- Projectile and factors affecting projectile trajectory.
- Newton's Laws of motion and their Application in Sports
- Friction and Sports
- Introduction to Axes and Planes
- Types f movements (Herion, Extension, Abduction and Adduction)
- Major muscles of involved in running, jumping, throwing

18th November – 30th November 2018

UNIT XI : PSYCHOLOGY AND SPORTS

- Understanding stress and coping strategies (Problem focused & emotional focussed)
- Personality, its definition and types Trait and types (sheldon and jung classification) and big five theory
- Motivation, its types and technique
- Exercise Adherence; reason to exercise, benefits of exercise
- Strategies for enhancing adherence to exercise
- Psychological Benefits of Exercise
- Meaning, concept and types of Aggression in sports.

UNIT XII : TRAINING IN SPORTS

- Strength-definition, types and methods of improving strength-isometric, isotonic & isokinetic.
- Endurance-definition, types & methods to develop endurance continuous training, interval training & fartlek training.
- Speed-definition, types & methods to develop speed-acceleration run & pace run
- Flexibility-definition, types and methods to improve flexibility
- Coordinative abilities – definition and types
- Circuit training, introduction and its importance

1st December – 8th December 2018
Revision

SYLLABUS OF PSYCHOLOGY FOR CLASS XII / 2018-19	
TERM I	
2nd April – 30th April	Chapter 1 : Variations in Psychological Attributes Practical work : Experimental file & introduction to be profile (to be completed during summer break)
1st May – 12th May	Chapter 2 : Self & Personality Practice of board questions
2nd July – 19th July	Chapter 4 : Psychological disorders Completion of Practical work Field visit to clinical psychologist
20th July – 7th August	Chapter 5 – Therapeutic Approaches
8th August – 30th August	Chapter 3 – Meeting life challenges
31st August – 7th September	Revision

TERM II	
26th September – 12th October	Chapter 6 : Attitude of social cognition Chapter 7 : Social influence & group processes
22nd October – 17th November	Chapter 8 : Psychology & life Chapter 9 : Decloping Psychology of skills
19th November – 30th November	Chapter wise doubt classification; tests
1st December – 13th December	Revision / Mock papers

SYLLABUS OF BIOLOGY FOR CLASS XII / 2018-19	
TERM I	
2nd April – 30th April	Chapter 1 : Reproduction in Organisms Chapter 2 : Sexual Reproduction in Flowering Plants
1st May – 12th May	Chapter 3 : Human Reproduction Chapter 4 : Reproduction Health
14th May – 18th May	Chapter 5 : Principles of Inheritance and variation
2nd July – 19th July	Chapter 6 : Molecular Basis of Inheritance
20th July – 7th August	Chapter 7 : Evolution and completion of Project work.
8th August – 30th August	Chapter 8 : Human Health and Diseases
31st August – 7th September	Revision
TERM II	
26th September – 12th October	Chapter 9 : Strategies for enhancement in Food Production Chapter 10 : Microbes in Human welfare
22nd October – 17th November	Chapter 11 : Biotechnology – principles and Processes Chapter 12 : Biotechnology and its Applications Chapter 13 : Organisms and Population
19th November – 30th November	Chapter 14 : Ecosystem Chapter 15 : Biodiversity and Conservation Chapter 16 : Environmental Issues
1st December – 13th December	Revision