SCHEME OF STUDIES

ETEA/LETEA (PHASE I) Virtual @ KIPSLMS

DAY #	DATE & DAY	BIOLOGY		PHYSICS		CHEMISTRY		ENGLISH	
		PREPARATION	PRACTICE	PREPARATION	PRACTICE	PREPARATION	PRACTICE	PREPARATION	PRACTICE
		SESSION ORIENTATION							
1	05-06-2020 (Friday)	**1. CELL STRUCTURE & FUNCTIONS** 2. Techniques Used in Cell Biology (Staining, Centrifugation, Tissue culture, Chromatography, Electrophoresis, Microdissection, Spectrophotometry, Microscopy, Micrometry) 3.Cell Wall 4. Plasma Membrane 5. Cytoplasm	10	**1. MEASUREMENTS** 1. Introduction to physics 2. Physical quantities 3. International system of units 4. Base units 5. Supplementary units 6. Derived units 7. Scientific notation 8. Conventions for using SI units 9. Errors and uncertainties 10. Personal error 11. Systematic error 12. Random error 13. Rounding off numbers 14. Significant figures	10	**1. Stoichiometry** 1.Stiochiometery 2.Mole and Avogadro's number 3.Mole caculation 4. Percentage composition 5. Excess and limiting reagents 6. Theoretical yield and actual yield as percentage	10	Agreement Mistakes	10
2	06-06-2020 (Saturday)	6. Cytoplasmic Organelles (Endoplasmic Reticulum, Ribosomes, Golgi Apparatus, Lysosomes, Peroxisomes & Glyoxisomes, Vacuoles, Cytoskeleton, Centrioles, Mitochondria, Plastids, Cilia & Flagella, Nucleus) 7.Prokaryotic and Eukaryotic Cell	10	15. Precision and accuracy 16. Indicating uncertainty 17. Calculating uncertainty in the final result 18. Rule for addition and ubtractions 19. Product and quotient rule 20. Power of a quantity 21. Uncertainty in average values of many measurements 22. Uncertainty in timing experiment 23. Dimensions 24. Dimensions of physical quantities 25. Some terms used with dimensions 26. Advantages of dimensional analysis .	10	**Test Level-1 Soichiometry** **Test Level-2 Soichiometry**	50	Agreement Mistakes	10
	07-06-2020 (Sunday)	HOLIDAY							
3	08-06-2020 (Monday)	**Test Level-1 (Cell Structure and Functions)** **Test Level-2 (Cell Structure and Functions)**	50	**Test Level-1 (Measurements)** **Test Level-2 (Measurements)**	50	DISCUSSION LECTURE TEST LEVEL-2 (Stoichiometry) **2. Atomic Structure** 1.Atomic structure 2.Discharge tube experiments 3.Planck's quantum theory 4.Bohr's model	10	Agreement Mistakes	10
4	09-06-2020 (Tuesday)	DISCUSSION LECTURE TEST LEVEL-2 (CELL STRUCTURE & FUNCTIONS) **2. BIOLOGICAL MOLECULES** 1. Introduction 2. Fundamental Biological Molecules 3. Condensation and Hydrolysis 4. Biological Importance of Water 5. Carbohydrates (Monosaccharides, Oligosaccharides, Polysaccharides)	10	DISCUSSION LECTURE TEST LEVEL-2 (MEASUREMENTS) **2. Vector and Equilibrium** 1. Vectors 2. Cartesian coordinate system or rectangular coordinate system 3. Addition of vectors 4. Vector subtraction 5. Multiplication of a vector by a number or scalar 6. Resolution of vector 7. Addition of vectors by rectangular components	10	5.X-rays and atomic number 6.Quantum numbers and shapes of orbitals 7.Rules and Electronic Configuration	10	**Test Level-1 (Agreement Mistakes)** **Test Level-2 (Agreement Mistakes)**	50
5	10-06-2020 (Wednesday)	6. Proteins 7. Lipids (Acylglycerols, Phospholipids, Waxes, Steroids, Terpenoids) 8. Nucleic Acids and Nucleotides (Mononucleotides, Dinucleotides, Deoxyribonucleic Acid, RNA & Its role, DNA as Heredity Material, Genetic Code) 9. Conjugated Molecules	10	8. Scalar product 9. Vector Product 10. Torque	10	**Test Level-1 Atomic Structure** **Test Level-2 Atomic Structure**	50	DISCUSSION LECTURE TEST LEVEL-2 (AGREEMENT MISTAKES) Sentence Completion	10
6	11-06-2020 (Thursday)	**Test Level-1 (Biological Molecules)** **Test Level-2 (Biological Molecules)**	50	11. Equilibrium 12. Conditions of Equilibrium 13. States of Equilibrium 14. Concurrent forces	10	DISCUSSION LECTURE TEST LEVEL-2 ATOMIC STRUCTURE **3. Theories of Covalent Bonds and Shapes of Molecules** 1.VSEPR Theory (Shapes and bond angles of molecules) 2. Resonance 3.Modren Theories of chemical bonding (VBT , Hybridization & MOT) 4.Bond characteristics [Bond energy, bond length and dipole moment (Polarity)] 5.Effect of bonding on physical and chemical properties	10	Sentence Completion	10
7	12-06-2020 (Friday)	DISCUSSION LECTURE TEST LEVEL-2 (BIOLOGICAL MOLECULES) **3. ENZYMES** 1. Introduction & Structure 2. How Do enzymes Work? 3. Cofactors 4. Enzyme Nomenclature 5. Factors That Affect The Rate of Enzyme action (Temperature, pH, Enzyme Concentration, Substrate Concentration, Inhibitors & Feedback Inhibition)	10	**Test Level-1 (Vectors and Equilibrium)** **Test Level-2 (Vectors and Equilibrium)**	50	**Test Level-1 Theories of Covalent Bonds and Shapes of Molecules** **Test Level-2 Theories of Covalent Bonds and Shapes of Molecules**	50	**Test Level-1 (Sentence Completion)** **Test Level-2 (Sentence Completion)**	50

8	13-06-2020 (Saturday)	**Test Level-1 (Enzymes)** **Test Level-2 (Enzymes)**	**50**	**DISCUSSION LECTURE** **TEST LEVEL-2 (VECTOR AND EQUILIBRIUM)** **3. Motion and Force** 1. Vector nature of displacement 2. Velocity 3. Acceleration 4. Velocity-time graph 5. Displacement-time graph 6. Equations of uniformly accelerated and free-fall motion 7. Newton's laws of motion 8. linear Momentum 9. Impulse and change of momentum 10. Law of conservation of momentum	**10**	**DISCUSSION LECTURE** **TEST LEVEL-2 THEORIES OF COVALENT BONDS AND SHAPES OF MOLECULES** **4. States of Matter-I** **Gases** 1.Gases, KMT of gases + Units of pressure 2.Ideal Gas Laws (Boyle's law & Charles' law) 3.Ideal Gas Equation 4. Avogaro's law	**10**	**DISCUSSION LECTURE** **TEST LEVEL-2 (SENTENCE COMPLETION)** VOCABULARY WORDS (1-25)	**10**
	14-06-2020 **(Sunday)**	**HOLIDAY**							
9	15-06-2020 (Monday)	**DISCUSSION LECTURE** **TEST LEVEL-2 (ENZYMES)** **4. BIOENERGETICS** 1. Introduction 2. Photosynthesis (Role of Sunlight, Photosynthetic Pigments, Absorption & Action Spectrum, Role of Carbon Dioxide, Role of Water) 3. Mechanism of photosynthesis (Light Reactions, Dark Reactions)	**10**	11. Elastic and inelastic collision 12. Elastic collision in one dimension 13. Momentum and explosive force 14. Projectile motion 15. Horizontal projectile 16. Oblique projectile 17. Height of projectile 18. Time of flight 19. Horizontal range	**10**	5.Ideal and non-ideal gases 6.van der Waals equation 7. Dalton's law of partial pressures 8. Diffusion of gases+ Graham's law 9. Liquefaction of gases	**10**	**Test Level-1 (Vocabulary 1-25)** **Test Level-2 (Vocabulary 1-25)**	**50**
10	16-06-2020 (Tuesday)	4. Respiration (Aerobic Respiration, Glycolysis, Conversion of Pyruvate to Acetyl-CoA, Krebs Cycle, Respiratory Chain, Cellular Respiration of Fats & Proteins, Anaerobic Respiration) 5. Photorespiration and Its Effects 6. C4 Photosynthesis	**10**	20. Friction (Static, Kinetic, Rolling & limiting) 21. Pulley (Horizontal, Vertical) 22. Contact Forces 23. Inclined Plane	**10**	**Test Level-1 Gases** **Test Level-2 Gases**	**50**	**DISCUSSION LECTURE** **TEST LEVEL-2 (VOCABULARY 1-25)** **Combination Mistakes**	**10**
11	17-06-2020 (Wednesday)	**Test Level-1 (Bioenergetics)** **Test Level-2 (Bioenergetics)**	**50**	**Test Level-1 (Motion and Force)** **Test Level-2 (Motion and Force)**	**50**	**DISCUSSION LECTURE** **TEST LEVEL-2 GASES** **5. States of matter -II Liquids** 1. Liquids+KMT of liquids 2.IMF 3.Evaporation, vapour pressure & boiling point 4.Energetics of phase changes	**10**	Combination Mistakes	**10**
12	18-06-2020 (Thursday)	**DISCUSSION LECTURE** **TEST LEVEL-2 (BIOENERGETICS)** **5. ACELLULAR LIFE** 1. Introduction 2. Status and Discovery of The Virus 3. Classification of Viruses 4. Structure of Bacteriophage , HIV & Flu viruses 5. Parasitic Nature of Viruses 6. Life Cycle of Bacteriophage 7.Usage of Bacteriophage in Genetic Engineerng 8. AIDS and HIV Infection (Life Cycle of HIV, Symptoms, Invasion, Treatment, Symptoms) 9. Some Other Viral Diseases (Hepatitis, Herpes, Polio, Leaf Curl of Cotton) 10. Prions & Viroids	**10**	**DISCUSSION LECTURE** **TEST LEVEL-2 (MOTION AND FORCE)** **4. WORK AND ENERGY** 1. Work done by a constant force 2. Work done by a variable force 3. Work done in gravitational field 4. Power 5. Energy, kinetic energy and potential energy 6. Mechanical Advantages	**10**	**Test Level-1 Liquids** **Test Level-2 Liquids**	**50**	**Test Level-1 (Combination Mistakes)** **Test Level-2 (Combination Mistakes)**	**50**
13	19-06-2020 (Friday)	**Test Level-1 (Acellular Life)** **Test Level-2 (Acellular Life)**	**50**	7. Implication of energy losses in practical devices and efficiency 8. Absolute potential energy 9. Escape velocity 10. Inter conversion of potential energy and kinetic energy 11. Conservation of energy 12. Sources of energy 13. Non-renewable energy sources 14. Renewable energy sources	**10**	**DISCUSSION LECTURE** **TEST LEVEL-2 LIQUIDS** **States of matter -III Solids** 1. Solids+ KMT of solids 2.Types of solids 2.Properties of crystalline solids 3.Crystal Lattice + lattice energy 4. Types of crytalline solids	**10**	**DISCUSSION LECTURE** **TEST LEVEL-2 (COMBINATION MISTAKES)** VOCABULARY WORDS (26-50)	**10**
14	20-06-2020 (Saturday)	**DISCUSSION LECTURE** **TEST LEVEL-2 (ACELLULAR LIFE)** **6. PROKARYOTES** 1. Introduction, Taxonomy and Phylogeny of Prokaryotes 2. Archaea 3. Bacteria and Their Classification 4. Structure of Bacteria (Capsule, Cell Wall, Flagella, Pili, Cell Membrane, Cytoplasm, Ribosomes, Genomic Organization) 5. Size and Shape of Bacteria 6. Endospores 7. Modes of Nutrition in Bacteria	**10**	**Test Level-1 (Work and Energy)** **Test Level-2 (Work and Energy)**	**50**	**Test Level-1 Solids** **Test Level-2 Solids**	**50**		
	21-06-2020 **(Sunday)**	**HOLIDAY**							
15	22-06-2020 (Monday)	8. Comparison of Photosynthetic Bacteria and Cyanobacteria 9. Growth in Bacteria 10. Reproduction in Bacteria (Transformation, Transduction, Conjugation) 11. Importance of Bacteria 12. Bacterial Diseases in Humans (Cholera, Typhoid Fever, Tuberculosis, Pneumonia) 13. Some Important Bacterial Diseases of Plants (Bacterial Leaf Spots, Bacterial Wilt, Bacterial Soft Rot, Bacterial Galls, Bacterial Blights) 14. Bacterial Flora of Humans 15. Control of Harmful Bacteria	**10**	**DISCUSSION LECTURE** **TEST LEVEL-2 (WORK AND ENERGY)** **5. ROTATIONAL AND CIRCULAR MOTION** 1. Angular motion 2. Angular displacement 3. Angular velocity 4. Angular acceleration 5. Relation of Angular Quantities 6. Relation between angular and linear displacement 7. Centripetal force and centripetal acceleration 8. Vertical Circle 9. Centrifugal force or reaction force	**10**	**DISCUSSION LECTURE** **TEST LEVEL-2 SOLIDS** **7. Chemical Equilibrium** 1.Chemical equilibrium 2.Reversible and irreversible reactions and dynamics equilibrium 3.Factors affecting equilibrium 4.Industrial applications of Le chatelier's principle 5. Solubility product 6. Coomon ion effect	**10**	**Test Level-1 (Vocabulary 26-50)** **Test Level-2 (Vocabulary 26-50)**	**50**

16	**23-06-2020 (Tuesday)**	**Test Level-1 (Prokaryotes)** **Test Level-2 (Prokaryotes)**	**50**	10. Banking of road 11. Torque and moment of inertia 12. Angular momentum and torque 13. Kinetic energy of rotation 14. Rolling of disc and hoop down the inclined plane	**10**	**Test Level-1 Chemical Equilibrium** **Test Level-2 Chemical Equilibrium**	**50**	**DISCUSSION LECTURE** **TEST LEVEL-2 (VOCABULARY 26-50)** Miscellaneous Mistakes	**10**
17	24-06-2020 (Wednesday)	**DISCUSSION LECTURE** **TEST LEVEL-2 (PROKARYOTES)** **7. PROTISTS & FUNGI** 1. Introduction (Protista) 2. Animal Like Protists (Zooflagellates, Amoeba, Foraminifera, Apicomplexans, Ciliates) 3. Plant Like Protists (Euglenoids, Dinoflagellates, Diatoms, Brown Algae, Rhodophyta, Chlorophyta) 4. Fungi Like Protists (Plasmodial Slime Molds, Oomycota) 5. Importance of Protists to Human	**10**	15. Artificial satellites 16. Orbital velocity 17. Geo-stationary orbits 18. Real and apparent weight 19. Variation of 'g' w.r.t Depth, Altitude, Shape of Earth 20. Weightlessness in satellites and gravity free system 21. Artificial gravity and applications of satellites	**10**	**DISCUSSION LECTURE** **TEST LEVEL-2 CHEMICAL EQUILIBRIUM** **8. Acids, Bases and Salts** 1. Acids, bases and salts + Acidic , basic and amphoteric substances 2.Bronsted- Lowry acids and bases 3.Relative strength of acids and bases 4.Expression of strength of acid and base 5. Levelling effect 6. Lewis acid and base 7. Buffer solutions 8. Salt hydrolysis	**10**	Miscellaneous Mistakes	**10**
18	25-06-2020 (Thursday)	6. Kingdom Fungi 7. General Characteristics of Fungi 8. Classification of Fungi and Their Diagnostic Features (Zygomycota, Ascomycota, Basidiomycota) 9. Importance of Fungi	**10**	**Test Level-1 (Rotational and Circulat motion)** **Test Level-2 (Rotational and Circulat motion)**	**50**	**Test Level-1 Acids, Bases and Salts** **Test Level-2 Acids, Bases and Salts**	**50**	**Test Level-1 (Miscellaneous Mistakes)** **Test Level-2 (Miscellaneous Mistakes)**	**50**
19	26-06-2020 (Friday)	**Test Level-1 (Protists and Fungi)** **Test Level-2 (Protists and Fungi)**	**50**	**DISCUSSION LECTURE** **TEST LEVEL-2 (ROTATIONAL AND CIRCULAR MOTION)** **6. FLUID DYNAMICS** 1. Fluids 2. Fluid Statics 3. Pascal's law and Archimedes principle 4. Viscous drag and stokes' law 5. Terminal velocity 6. Terminal velocity of paratrooper 7. Fluid flow 8. Equation of continuity	**10**	**DISCUSSION LECTURE** **TEST LEVEL-2 ACIDS, BASES AND SALTS** **9. Chemical Kinetics** 1. Chemical Kinetics 2. Rate of reaction& specific rate constant + Factors Affecting rates of reaction 3. Order of reaction and determination of order of reaction 4. Theories of rate of reaction (Activation Energy, Collosion theory & TST) 5.Catalysis(Characteristic, Types & Enzyme)	**10**	**DISCUSSION LECTURE** **TEST LEVEL-2 (MISCELLANEOUS MISTAKES)** VOCABULARY WORDS (51-75)	**10**
20	27-06-2020 (Saturday)	**DISCUSSION LECTURE** **TEST LEVEL-2 (PROTISTS & FUNGI)** **8. DIVERSITY AMONG PLANTS** 1. Introduction 2. The Evolutionary Origin of Plants 3. Non-Vascular Plants (General Characteristics, The Life Cycle of Moss) 4. Land Adaptations By Bryophytes 5. Uses of Bryophytes	**10**	9. Bernoulli's equation 10. Applications of Bernoulli's equation 11. Jets and nozzles, filter pump and engine carburetor 12. Torricelli's theorem 13. Flow meters the venturi meter 14. Aerofoil 15. Blood flow meter	**10**	**Test Level-1 Chemical Kinetics** **Test Level-2 Chemical Kinetics**	**50**		
	28-06-2020 (Sunday)				**HOLIDAY**				
21	29-06-2020 (Monday)	6. General Characteristics of Vascular Plants (Psilopsida, Lycopsida, Sphenopsida, Pteropsida, Evolution of Leaf, Filicinae (Adiantum), Importance of Seedless Vascular Plants) 7.Seeded Plants (Evolution of Seed, Gymnospermae, Angiospermae, Monot & Dicot, Life Cycle of Angiosperms, Inflorescence & its Major Types, Benefits of Angiosperms) 8.Vascular Plants as Successful Land Plants.	**10**	**Test Level-1 (Fluid Dynamics)** **Test Level-2 (Fluid Dynamics)**	**50**	**DISCUSSION LECTURE** **TEST LEVEL-2 CHEMICAL KINETICS** **10. Solutions and Colloids** 1.General properties of solution (Solution, suspension and colloids and Hydrophilic and hydrophobic molecules) 2.The nature of solution in liquid phase 3.Solubility and solubility curves 4.%age composition , Molarity and Mole fraction 5. Molality , ppm , ppb and ppt 6. Raoult's Law	**10**	**Test Level-1 (Vocabulary 51-75)** **Test Level-2 (Vocabulary 51-75)**	**50**
22	30-06-2020 (Tuesday)	**Test Level-1 (Diversity Among Plants)** **Test Level-2 (Diversity Among Plants)**	**50**	**DISCUSSION LECTURE** **TEST LEVEL-2 (FLUID DYNAMICS)** **7. OSCILLATIONS** 1. Oscillations 2. Terminology of oscillatory motion 3. Vibratory motion, Vibration 4. Time period, Frequency 5. Simple harmonic motion (SHM) 6. Circular motion and SHM 7. Velocity of projection	**10**	7.Colligative properties- Non-volatiles, non-electrolytes solutes in volatile solvents 8.Osmosis & its applications 9.Classification of colloids	**10**	**DISCUSSION LECTURE** **TEST LEVEL-2 (VOCABULARY 51-75)** Verb & Tenses	**10**
23	01-07-2020 (Wednesday)	**DISCUSSION LECTURE** **TEST LEVEL-2 (DIVERSITY AMONG PLANTS)** **9. DIVERSITY AMONG ANIMALS** 1.Introduction 2.Classification of Animals 3. Complexity in Animals (Diploblastic & Triploblastic Organization) 4. Sub Kingdom Parazoa (Phylum Porifera) 5. Sub Kingdom Eumetazoa (Phylum Coelenterata, Phylum Platyhelminthes, Phylum Aschelminthes, Phylum Mollusca)	**10**	8. Simple Pendulum 9. Second's Pendulum 10. Energy conservation in case of SHM 11. Free and forced oscillations	**10**	**Test Level-1 Solutions and Colloids** **Test Level-2 Solutions and Colloids**	**50**	Verb & Tenses	**10**

24	02-07-2020 (Thursday)	(Phylum Annelida, Phylum Arthropoda, Phylum Echinodermata, Phylum Hemichordata, Phylum Chordata) 6. Sub Phylum Vertebrata (Class Pisces, Class Amphibia, Class Reptilia, Class Aves, Class Mammalia, Class Prototheria, Metatheria & Eutheria)	**10**	12. Resonance 13. Waveform of simple harmonic motion 14. Phase 15. Damped oscillations 16. Sharpness of resonance	**10**	**DISCUSSION LECTURE** **TEST LEVEL-2 SOLUTIONS AND COLLOIDS** **11. Thermochemistry** 1. Thermodynamics 2.Internal Energy E 3. First Law of thermodynamics 4.Enthalpy of system and standard changes 5. Heat capacity 6. Calorimetry 7. Hess's law + Born-Haber cycle	**10**	**Test Level-1 (Verb & Tenses)** **Test Level-2 (Verb & Tenses)**	**50**
25	03-07-2020 (Friday)	**Test Level-1 (Diversity Among Animals)** **Test Level-2 (Diversity Among Animals)**	**50**	**Test Level-1 (Oscillations)** **Test Level-2 (Oscillations)**	**50**	**Test Level-1 Thermochemistry** **Test Level-2 Thermochemistry**	**50**	**DISCUSSION LECTURE** **TEST LEVEL-2 (VERB & TENSES)** VOCABULARY WORDS (76-100)	**10**
26	04-07-2020 (Saturday)	**DISCUSSION LECTURE** **TEST LEVEL-2 (DIVERSITY AMONG ANIMALS)** **10. FORM & FUNCTIONS IN PLANTS** 1. Introduction 2. Macronutrients and Micronutrients 3. Special Mode of Nutrition in Plants 4. Role of Stomata in Gaseous Exchange and Transpiration	**10**	**DISCUSSION LECTURE** **TEST LEVEL-2 (OSCILLATIONS)** **8. WAVES** 1. Periodic waves 2. Progressive, transverse and longitudinal waves 3. Characteristics of wave 4. Speed of sound 5. Newton's formula for speed of sound in air 6. Laplace's correction 7. Effects of various factors on speed of sound in air	**10**	**DISCUSSION LECTURE** **TEST LEVEL-2 THERMOCHEMISTRY** **12. Electrochemistry** 1. Electrochemistry 2. Oxidation -Reduction , rules & balancing of Redox equation 4. Farady's law of electrolysis 5. Electrode Potential , SHE , Measurement of electrode potential & ECS	**10**		
	05-07-2020 (Sunday)				**HOLIDAY**				
27	06-07-2020 (Monday)	5. Transport in Plants (Xylem, Phloem, Water Status in Plants, Movement of Water through Roots, Water Movement in Xylem by TACT Mechanism, Mechanism of Opening & Closing of Stomata, Translocation of Organic Solutes) 6. Homeostasis in Plants (Types of Solutions, Osmoregulation in Plants, Adaptations of Plants to Low & High Temperature)	**10**	8. Superposition of waves 9. Interference of waves and its condition 10. Interference of sound waves 11. Beats 12. Reflection of waves and phase change 13. Reflection of sound waves 14. Echo and Reverberation 15. Stationary waves	**10**	6. Types of Electrochemical Cells (Electrolytic and Voltaic cell) 7.Batteries 8.Fuel cell 9. Corrorision and prevention	**10**	**Test Level-1 (Vocabulary 76-100)** **Test Level-2 (Vocabulary 76-100)**	**50**
28	07-07-2020 (Tuesday)	7. Support in Plants (Structures) 8. Growth and Development in Plants (Growth Correlations) 9. Growth Responses in Plants (Plant Growth Substances, Plant Movements, Photoperiodism & Phytochromes, Vernalization)	**10**	16. Transverse stationary waves in a stretched string 17. Fundamental and overtone vibration 18. Resonance of air column and organ pipes 19. Open organ pipe 20. Closed organ pipe 21. Doppler effect 22. Applications of Doppler Effect 23. Ultrasonic waves and its uses	**10**	**Test Level-1 Thermochemistry** **Test Level-2 Thermochemistry**	**50**	**DISCUSSION LECTURE** **TEST LEVEL-2 (VOCABULARY 76-100)** Adjective	**10**
29	08-07-2020 (Wednesday)	**Test Level-1 (Form and Functions in Plants)** **Test Level-2 (Form and Functions in Plants)**	**50**	**Test Level-1 (Waves)** **Test Level-2 (Waves)**	**50**	**DISCUSSION LECTURE** **TEST LEVEL-2 THERMOCHEMISTRY** **13. s and p-Block Elements** 1. 3rd period(Na to Ar) 2. Group IA elements	**10**	Adjective	**10**
30	09-07-2020 (Thursday)	**DISCUSSION LECTURE** **TEST LEVEL-2 (FORM & FUNCTIONS IN PLANTS)** **11. DIGESTION** 1. Introduction 2. Mechanical and Chemical digestion in Oral Cavity (Swallowing, Peristalsis) 3. Food in Stomach (Structure, Functions & Absorption, Mechanism of Secretion of Gastric Juice) 4. Food in Small Intestine & its Functions (Digestion, Absorption)	**10**	**DISCUSSION LECTURE** **TEST LEVEL-2 (WAVES)** **9. PHYSICAL OPTICS** 1. Nature of light 2. Wave front 3. Huygens's principle 4. Coherent sources 5. Interference of light and its conditions 6. Young's double slits experiment	**10**	3.Group IIA Elements 4. Group IVA Elements	**10**	**Test Level-1 (Adjective)** **Test Level-2 (Adjective)**	**50**
31	10-07-2020 (Friday)	5. Large Intestine - Digestion, Propulsion, Structure 6. Liver 7. Pancreas 8. Relation of Bile and Pancreatic Juice With The Secretin Hormone 9. Disorders Related to Digestive System and Food Habits (Ulcer, Obesity, Bulimia Nervosa, Anorexia Nervosa, Food poisoning, Dyspepsia)	**10**	7. Interference in thin film 8. Michelson's interferometer 9. Diffraction of light 10. Fraunhofer diffraction at a single slit 11. Diffraction grating	**10**	5 .Group VIIA Elements	**10**	**DISCUSSION LECTURE** **TEST LEVEL-2 (ADJECTIVE)** VOCABULARY WORDS (101-125)	**10**
32	11-07-2020 (Saturday)	**Test Level-1 (Digestion)** **Test Level-2 (Digestion)**	**50**	12. Diffraction of X-Rays by crystal 13. Bragg's law 14. Polarization of light 15. Production of polarized light 16. Polarization by reflection 17. Applications of polarized light	**10**	**Test Level-1 s and p-Block Elements** **Test Level-2 s and p-Block Elements**	**50**		
	12-07-2020 (Sunday)				**HOLIDAY**				
33	13-07-2020 (Monday)	**DISCUSSION LECTURE** **TEST LEVEL-2 (DIGESTION)** **12. CIRCULATION** 1. Introduction (Human Blood Circulatory System) 2. Human Heart (Cardiac Cycle, Passage of Blood Through Heart, Electrocardiogram)	**10**	**Test Level-1 (Physical Optics)** **Test Level-2 (Physical Optics)**	**50**	**DISCUSSION LECTURE** **TEST LEVEL-2 S AND P-BLOCK ELEMENTS** **14. d and f-Block Elements** 1. Types and general features of transition elements	**10**	**Test Level-1 (Vocabulary 101-125)** **Test Level-2 (Vocabulary 101-125)**	**50**

34	14-07-2020 (Tuesday)	3. Blood Vessels (Arteries, Capillaries, Veins, Pulmonary & Systemic circulation, Exchange of Material, Control of Capillary Bed, Blood pressure) 4. Cardiovascular Disorders (Thrombolism & Embolism, Atherosclerosis & Arteriosclerosis, Congenital Heart Problem, Blue Baby or Cyanosis, Hypertension, Angina Pectoris, Heart Attack, Heart Failure, Treatment) 5. Lymphatic System	**10**	**DISCUSSION LECTURE** **TEST LEVEL-2 (PHYSICAL OPTICS)** **10. THERMODYNAMICS** 1. Thermal equilibrium 2. Heat and work, equivalence of heat 3. Internal energy 4. Thermodynamic system and their state variables 5. First law of thermodynamics 6. Application of First law of thermodynamics 7. Isochoric process, Isobaric process 8. Isothermal process, Adiabatic process	**10**	2.Coordination compounds	**10**	**DISCUSSION LECTURE** **TEST LEVEL-2 (VOCABULARY 101-125)** Adverb	**10**
35	15-07-2020 (Wednesday)	**DISCUSSION LECTURE** **TEST LEVEL-2 (CIRCULATION)** **13. IMMUNITY** 1. Introduction 2.First Line of Defense (Skin Defense, Digestive Tract, Cilia & Mucus) 3. Second Line of Defense (Macrophages & Neutrophils, Natural Killer Cells, Complement System & Interferons, Inflammatory Response, Pyrexia & Pyrogens) 4. Third Line of Defense (Basic Types of Immunity, Specific Defense Mechanisms, Role of Memory Cells, Allergies, Autoimmune Disorders, Role of T & B Cells in Transplant Rejection)	**10**	9. Molar specific heat of a gas 10. Constant volume molar specific heat of a gas (Cv) 11. Constant pressure molar specific heat of a gas (Cp) 12. Relation between molar specific heat at constant pressure and molar specific heat at constant volume	**10**	3. Chemistry of some important transition elements (Vandium, Chromium, Manganese, Iron & Copper)	**10**	Adverb	**10**
36	16-07-2020 (Thursday)	**Test Level-1 (Immunity)** **Test Level-2 (Immunity)**	**50**	13. Reversible, irreversible and cyclic processes 14. Heat engine 15. Second law of thermodynamics 16. Carnot heat engine and Carnot cycle 17. Refrigerator 18. Heat engine 19. Entropy	**10**	**Test Level-1 d and f-Block Elements** **Test Level-2 d and f-Block Elements**	**50**	**Test Level-1 (Adverb)** **Test Level-2 (Adverb)**	**50**
37	17-07-2020 (Friday)	**DISCUSSION LECTURE** **TEST LEVEL-2 (IMMUNITY)** **14. RESPIRATION** 1. Introduction of Respiration 2. Properties of Respiratory Surface 3. Human Respiratory System 4. Lung volumes and capacities 5. Control of Breathing	**10**	**Test Level-1 (Thermodynamics)** **Test Level-2 (Thermodynamics)**	**50**	**DISCUSSION LECTURE** **D AND F-BLOCK ELEMENTS** **15. Organic Compounds** 1. Organic compounds-Introduction 2. Sources of organic compounds 3. Coal as a source of organic compound 4. Characteristics of organic compounds 5. Uses of organic compounds	**10**	**DISCUSSION LECTURE** **TEST LEVEL-2 (ADVERB)** Narration	**10**
38	18-07-2020 (Saturday)	6. Mechanism of Transport Of Gases 7. Transport of Oxygen 8. Transport of Carbon Dioxide 9. Respiratory Pigments 10. Upper Respiratory Disorders (Sinusitis, Otitis Media) 11. Lower Respiratory Tract Infections (Pneumonia, Tuberculosis) 12.Disorders of Lungs (Emphysema, Lung Cancer) 13. Effects of Smoking on Respiratory System	**10**	**DISCUSSION LECTURE** **TEST LEVEL-2 (THERMODYNAMICS)** **11. ELECTROSTATICS** 1. Properties of Charge 2. Coulomb's Law 3. Electric Field and its Intensity 4. Representation of Electric Field Lines 5. Applications of electrostatics 6. Photocopier 7. Laser Printer 8. Inkjet Printers 11. Gauss's Law 12. Applications of Gauss's Law	**10**	6.New allotropic form of carbon 7. Functional group and homolous series 8. Detection of elements	**10**		
	19-07-2020 **(Sunday)**					**HOLIDAY**			
39	20-07-2020 (Monday)	**Test Level-1(Respiration)** **Test Level-2(Respiration)**	**50**	9. Electric Flux 10. Electric Flux through a Close surface 13. Location of Excess Charge On a Conductor 14. Electric intensity due to an infinite sheet of charge 15. Electric intensity between two oppositely charged parallel plates 16. Electric Potential 17. Electric Potential Energy and Potential due to point Charge 18. Field as Potential Gradient 19. Electron volt (eV)	**10**	**Test Level-1 Organic Compounds** **Test Level-2 Organic Compounds**	**50**	**Test Level-1 (Narration)** **Test Level-2 (Narration)**	**50**
40	21-07-2020 (Tuesday)	**DISCUSSION LECTURE** **TEST LEVEL-2 (RESPIRATION)** **15. HOMEOSTASIS** 1. Mechanism of Homeostasis 2. Osmoregulation 3. Osmoregulation in Fresh Water Animals 4. Osmoregulation in Marine Animals 5. Osmoregulation in Terrestrial Animals 6. Excretion	**10**	20. Capacitor 21. Capacitance of a capacitor and its Unit 22. Capacitance of parallel plate capacitor 23. Combination of Capacitors 24. Electric polarization 25. Energy stored in a capacitor 26. Charging and discharging of a capacitor	**10**	**DISCUSSION LECTURE** **TEST LEVEL-2 ORGANIC COMPOUNDS** **16. Hydrocarbons** 1. Nomenclature of organic compounds(Alkanes, Alkenes, Alkynes, Benzene derivatives, Alkyl halides Alcohols, Ketones, Aldehydes and Carboxylic acids)	**10**	**DISCUSSION LECTURE** **TEST LEVEL-2 (NARRATION)** Preposition	**10**
41	22-07-2020 (Wednesday)	7. Human Excretory System 8. Kidneys & Associated Tubules 9. Nephron (Structure, Types, Role) 5. Urinary Tract Infections 6. Urinary Stones 7. Renal Failure 8. Renal Dialysis 9. Kidney Transplantation 10. Thermoregulation 11. Thermoregulation in human 12. Fever	**10**	**Test Level-1 (Electrostatics)** **Test Level-2 (Electrostatics)**	**50**	2. Types of hydrocarbons 3. Alkanes & Cycloalkanes 4. Alkenes	**10**	Preposition	**10**

42	23-07-2020 (Thursday)	**Test Level-1(Homeostasis)** **Test Level-2(Homeostasis)**	**50**	**DISCUSSION LECTURE** **TEST LEVEL-2 (ELECTROSTATICS)** **12. CURRENT ELECTRICITY** 1. Electric current 2. Steady Current, Drift Velocity in onductor,Electroencephalogram (EEG) 3. Ohm's Law 4. Review of series and parallel combinations resistors 5. Electrical Resistance 6. Specific Resistance OR Resistivity	**10**	5. Isomerism 6. Alkynes	**10**	**Test Level-1 (Preposition)** **Test Level-2 (Preposition)**	**50**
43	24-07-2020 (Friday)	**DISCUSSION LECTURE** **TEST LEVEL-2 (HOMEOSTASIS)** **16. SUPPORT & MOVEMENT** 1. Human Skeleton 2. Cartilage and Bone 3. Main Divisions of Human Skeleton 4. Joints 5. Bone Fractures 6. Joint Injuries 7. Disorders of skeleton	**10**	7. Temperature Co-Efficient of Resistance 8. Wire-Wound Variable Resistors 9. Thermistor And Its Applications 10. Electric Power & EMF 11. Maximum power output	**10**	7. Benzene and substituted benzene	**10**	**DISCUSSION LECTURE** **TEST LEVEL-2 (PREPOSITION)** Passive Voice	**10**
44	25-07-2020 (Saturday)	8. Types of muscles 9. Structure of Skeletal Muscles 10. Muscle Contraction 11. Muscle Problems	**10**	12. Equivalent power in series and parallel combination 13. Thermocouples &Variation in Thermoelectric e.m.f with temperature 14. Kirchhoff's Law 15. Wheatstone bridge 16. Potentiometer	**10**	**Test Level-1 Hydrocarbons** **Test Level-2 Hydrocarbons**	**50**		
	26-07-2020 **(Sunday)**	**HOLIDAY**							
45	27-07-2020 (Monday)	**Test Level-1 (Support and Movement)** **Test Level-2 (Support and Movement)**	**50**	**Test Level-1 (Current Electricity)** **Test Level-2 (Current Electricity)**	**50**	**DISCUSSION LECTURE** **TEST LEVEL-2 HYDROCARBONS** **17. Alkyl Halides** 1. Alkyl halides	**10**	**Test Level-1 (Passive Voice)** **Test Level-2 (Passive Voice)**	**50**
46	28-07-2020 (Tuesday)	**DISCUSSION LECTURE** **TEST LEVEL-2 (SUPPORT & MOVEMENT)** **17. NERVOUS COORDINATION** 1. Steps Involved in Nervous Coordination 2. Neurons 3. Reflex Arc 4. Nerve Impulse 5. Synapse and Neurotransmitters 6. Organization of Human Nervous System 7. Divisions & Protection of Brain & Spinal Cord	**10**	**DISCUSSION LECTURE** **TEST LEVEL-2 (CURRENT ELECTRICITY)** **13. ELECTROMAGNETISIM** 1. Magnetic Field 2. Force on a current carrying conductor 3. Magnetic flux and flux density 4. Ampere's Law 5. Magnetic field due to a current carrying solenoid 6. Applications of magnetic field 7. Motion of charged particle in uniform magnetic field	**10**	2. Organometallic compounds (Grignard's reagent)	**10**	**DISCUSSION LECTURE** **TEST LEVEL-2 (PASSIVE VOICE)** Noun	**10**
47	29-07-2020 (Wednesday)	8. Structure & Function of Brain 9. Structure & Function of Spinal Cord 10. Peripheral Nervous System 11. Somatic Nervous System 12. Autonomic Nervous System 13. Structure & Function of Special Receptors 14. Effects of Drugs on Nervous Coordination 15. Nervous Disorders and Diagnostic Tests	**10**	8. Determination of e/m of an electron 9. Velocity Selector 10. Torque on a current carrying coil 11. MRI 12. Galvanometer 13. Conversions of Galvanometer 14. Ammeter, Voltmeter, Ohmmeter 15. AVO meter-multimeter	**10**	3. Amines	**10**	Noun	**10**
	30-07-2020 **(Thursday)** **31-07-2020** **(Friday)** **01-08-2020** **(Saturday)** **02-08-2020** **(Sunday)**	**EID HOLIDAYS** **HOLIDAY**							
48	03-08-2020 (Monday)	**Test Level-1 (Nervous Coordination)** **Test Level-2 (Nervous Coordination)**	**50**	**Test Level-1 (Electromagnetism)** **Test Level-2 (Electromagnetism)**	**50**	**Test Level-1 Alkyl Halides** **Test Level-2 Alkyl Halides**	**50**	**Test Level-1 (Noun)** **Test Level-2 (Noun)**	**50**
49	04-08-2020 (Tuesday)	**DISCUSSION LECTURE** **TEST LEVEL-2 (NERVOUS COORDINATION)** **18. CHEMICAL COORDINATION** 1. Hormones: The Chemical Messengers 2. Pituitary Gland 3. Thyroid Gland 4. Parathyroid Glands 5. Pancreas (Islets of Langerhans) 6. Adrenal Glands 7. The Gonads 8. Feedback Mechanism	**10**	**DISCUSSION LECTURE** **TEST LEVEL-2 (ELECTROMAGNETISIM)** **14. ELECTROMAGNETIC INDUCTION** 1. Electromagnetic Induction 2. Faraday's Laws of Electromagnetic Induction 3. Faraday's law application in seismometer 4. Lenz's Law 5. Induced & Motional EMF 6. Self-Induction	**10**	**DISCUSSION LECTURE** **TEST LEVEL-2 ALKYL HALIDES** **18. Alcohols, phenols and ethers** 1.Alcohols	**10**	**DISCUSSION LECTURE** **TEST LEVEL-2 (NOUN)** Article	**10**
50	05-08-2020 (Wednesday)	**Test Level-1 (Chemical Coordination)** **Test Level-2 (Chemical Coordination)**	**50**	7. Mutually Induced EMF & Mutually Inductance 8. AC Motor 9. Back emf 10. Eddy Currents 11. Alternating Current Generator 12. Transformers and induction law	**10**	2. Phenols	**10**	Article	**10**

51	06-08-2020 (Thursday)	DISCUSSION LECTURE TEST LEVEL-2 (CHEMICAL COORDINATION) **19. BEHAVIOUR** 1. Nature of Behaviour 2. Innate Behaviour (Reflexes, Orientation Behaviour, Tropic Movements) 3. Learning Behaviour (Habituation, Imprinting, Classical Conditioning, Instrumental Learning, Insight Learning)	**10**	**Test Level-1 (Electromagnetic Induction)** **Test Level-2 (Electromagnetic Induction)**	**50**	3. Ethers	**10**	**Test Level-1 (Article)** **Test Level-2 (Article)**	**50**
52	07-08-2020 (Friday)	4. Social Behaviour (Hostile & Helpful Intraspecific Interaction, Aggregation, Territorial Behaviour, Dominance Hierarchies, Altruistic Behaviour	**10**	DISCUSSION LECTURE TEST LEVEL-2 (ELECTROMAGNETIC INDUCTION) **15. ALTERNATING CURRENT** 1. Alternating Current 2. Phase of A.C 3. A.C through Resistance & Power Loss in an Resistor 4. A.C through Pure Inductance & Power Loss in an inductor 5. R.M.S Value of Sinusoidal Current 6. Choke Coil	**10**	**Test Level-1 Alcohols, phenols and ethers** **Test Level-2 Alcohols, phenols and ethers**	**50**	DISCUSSION LECTURE TEST LEVEL-2 (ARTICLE) Literary Terms	**10**
53	08-08-2020 (Saturday)	**Test Level-1 (Behavior)** **Test Level-2 (Behavior)**	**50**	7. A.C through Capacitance & Power Loss in a capacitive circuit 8. R.L series A.C. circuit, Power in RL circuit & R-L series Impedance Triangle 9. Q-factor 10. R.C Series A.C. Circuit & Power in R.C. circuit	**10**	DISCUSSION LECTURE TEST LEVEL-2 ALCOHOLS, PHENOLS AND ETHERS **19. Carbonyl compounds-I** **Aldehydes and Ketones** 1.Structure and physical properties 2. Preparation of aldehydes and ketones	**10**		
09-08-2020 (SUNDAY)				**HOLIDAY**					
54	10-08-2020 (Monday)	DISCUSSION LECTURE TEST LEVEL-2 (BEHAVIOUR) **20. REPRODUCTION** 1.Introduction and Human Reproductive System 2. Male Reproduction System (Structure, Spermatogenesis, Hormonal Control) 3. Female Reproductive System (Structure, Oogenesis, Female Reproductive Cycle & Hormonal Control) 4. Disorders of Reproductive System (Female Infertility, Male Infertility, In-Vitro Fertilization, Miscarriage) 5. Sexually Transmitted Diseases (Gonorrhoea, Syphilis, AIDS)	**10**	11. R-L-C Series A.C Circuit & Resonance 12. Principle of Metal Detectors 13. Maximum Power Transfer 14. Maxwell's Equations 15. Electromagnetic waves16. Electrocardiogram	**10**	3. Reactions of aldehydes and ketones 4. Identification of carbonyl compounds	**10**	**Test Level-1 (Literary Terms)** **Test Level-2 (Literary Terms)**	**50**
55	11-08-2020 (Tuesday)	**Test Level-1 (Reproduction)** **Test Level-2 (Reproduction)**	**50**	**Test Level-1 (Alternating Current)** **Test Level-2 (Alternating Current)**	**50**	**Test Level-1 Aldehydes and Ketones** **Test Level-2 Aldehydes and Ketones**	**50**	DISCUSSION LECTURE TEST LEVEL-2 (LITERARY TERMS) Pronoun	**10**
56	12-08-2020 (Wednesday)	DISCUSSION LECTURE TEST LEVEL-2 (REPRODUCTION) **21. DEVELOPMENT & AGING** 1.Embryonic Development (Early Cleavage & Blastocyst Formation, Implantation of Early Embryo, Gastrulation, Neurulation) 2. Control of Development (Role of Nucleus & Cytoplasm, Mechanism of Cellular Determination) 3. Human Embryonic Development (Foetal development - The First trimester, Foetal development - The Second & Third Trimester, Twins & Quadruplets, Placentation) 4. Lactation 5. Disorders During Embryonic Development 6.Postnatal Development (Allometric Growth, Aging)	**10**	DISCUSSION LECTURE TEST LEVEL-2 (ALTERNATING CURRENT) **16. PHYSICS OF SOLIDS** 1. Classification of Solids 2. Elastic Moduli 3. Hooke's Law and Stress-Strain Curve 4. Mechanical Properties of Solids 5. Strain energy	**10**	DISCUSSION LECTURE TEST LEVEL-2 ALDEHYDES AND KETONES **20. Carbonyl compounds-II** **Carboxylic and Functional derivatives** 1. Structure and physical properties 2. Acidity 3. Preparation of carboxylic acids 4.Reactions of carboxylic acids	**10**	**Test Level-1 (Pronoun)** **Test Level-2 (Pronoun)**	**50**
57	13-08-2020 (Thursday)	**Test Level-1 (Development and Aging)** **Test Level-2 (Development and Aging)**	**50**	6. Energy band theory 7. Superconductors 8. Theory of Magnetism & Classification of Magnetic Materials 9. Magnetic Hysteresis	**10**	**Test Level-1 Carboxylic and Functional derivatives** **Test Level-2 Carboxylic and Functional derivatives**	**50**	DISCUSSION LECTURE TEST LEVEL-2 (PRONOUN) One Word Substitution	**10**
58	14-08-2020 (Friday)	DISCUSSION LECTURE TEST LEVEL-2 (DEVELOPMENT & AGING) **22. INHERITANCE** 1. Mendel's Law of Inheritance (Gregor John Mandel & His Esperiments, Inheritance of Single Trait, Mendel's principles of Inheritance, Inheritance of two Traits, Law of independent Assortment & Its Scope, Statistics & Probability Relevant to Genetics) 2. Exceptions to Mendelian Inheritance (Complete Dominance, Incomplete Dominance, Co-dominance, Over dominance) 3. ABO Blood Group Systems (Multiple Alleles, ABO Blood Groups & Their Genetic Basis, Erythroblastosis Foetalis) 4. Occurance of Some Other Blood Group Systems (Rh Blood Group System & its Genetic Basis, Maternal Foetal Rh Incompatibility)	**10**	**Test Level-1 (Physics of Solids)** **Test Level-2 (Physics of Solids)**	**50**	DISCUSSION LECTURE TEST LEVEL-2 **21. Biochemistry** 1. Carbohydrates 2. Protiens	**10**	**Test Level-1 (OWS)** **Test Level-2 (OWS)**	**50**
59	15-08-2020 (Saturday)	5. Gene Interactions (Epistasis, Bombay Phenotype, Polygenic inheritance, Wheat Grain Colour, Human Skin Colour) 6.Gene Linkage and Crossing Over (Gene Linkage, Crossing Over, Recombination Frequency) 7. Sex Determination (Patterns of Sex Determination, Comparison of Humans & Drosophila) 8. Sex Linkage (Sex Linkage in Drosophila, Types of Sex Linked Traits, Genetics of Haemophilia, Genetics of Colour Blindness, Sex Related Traits)	**10**	DISCUSSION LECTURE TEST LEVEL-2 (PHYSICS OF SOLIDS) **17. ELECTRONICS** 1. Intrinsic & Extrinsic Semi-Conductors 2. P-N junction 3. Transistor as an amplifier 4. V-I Characteristics of PN Junction	**10**	3. Enzymes 4.Lipids	**10**		
16-08-2020 (Sunday)				**HOLIDAY**					

60	17-08-2020 (Monday)	**Test Level-1 (Inheritance)** **Test Level-2 (Inheritance)**	**50**	5. Transistor as a switch 6. Drift of Minority Carrier 7. Digital Electronics & Optoelectronic junction devices (Photodiode, Light emitting diode, Photovoltaic cell)	**10**	5. Nucleic acids 6.Minerals of biological significance	**10**	**DISCUSSION LECTURE** **TEST LEVEL-2 (OWS)** Idioms	**10**
61	18-08-2020 (Tuesday)	**DISCUSSION LECTURE** **TEST LEVEL-2 (INHERITANCE)** **23. CHROMOSOME & DNA** 1. Chromosomes (Number & Structure of Chromosome, Composition & Organization of Chromosome) 2. Concept of Gene 3. Chromosomal Theory of Inheritance 4. DNA as Hereditary Material (Griffith's Experiment, Avery's Experiment, Hershey & Chase Experiment) 5. DNA Replication (Models of DNA Replication, Meselsen & Stahl Experiment, Process of DNA Replication)	**10**	8. Rectification (Half wave and full wave rectification) 9. Transistor 10. Types of configurations (Common base Configuration, Common emitter configuration, Beta factor)	**10**	**Test Level-1 Biochemistry** **Test Level-2 Biochemistry**	**50**	**Test Level-1 (Idioms)** **Test Level-2 (Idioms)**	**50**
62	19-08-2020 (Wednesday)	6. Gene Expression (Transcription, Post Transcriptional Modification of RNA, Genetic code, Translation) 7. Regulation of Gene Expression 8. Mutation (Origin & Types of Mutations, Types of Mutagens) 9. Diseases Induced by Mutation (Sickle cell Anemia, Phenylketonuria, Down's Syndrome, Klinefelter's Syndrome, Turner's Syndrome)	**10**	**Test Level-1 (Electronics)** **Test Level-1 (Electronics)**	**50**	**DISCUSSION LECTURE** **BIOCHEMISTRY** **22. Industrial Chemistry** 1. Safety consideration in the process of industry 2. Dyes	**10**	**DISCUSSION LECTURE** **TEST LEVEL-2 (IDIOMS)** Proverb	**10**
63	20-08-2020 (Thursday)	**Test Level-1(Chromosomes and DNA)** **Test Level-2(Chromosomes and DNA)**	**50**	**DISCUSSION LECTURE** **TEST LEVEL-2 (ELECTRONICS)** **18. DAWN OF MODERN PHYSICS** 1. Special Theory of Relativity 2. Black Body radiation 3. Planck's Quantum Theory 4. Photo-electric effect	**10**	3. Pesticides 4. Petrochemicals 5. Synthetic polymers-Addition & Condensation polymers	**10**	**Test Level-1 (Proverb)** **Test Level-2 (Proverb)**	**50**
64	21-08-2020 (Friday)	**DISCUSSION LECTURE** **TEST LEVEL-2 (CHROMOSOME & DNA)** **24. EVOLUTION** 1. The Concept of Evolution 2. Evolution of Eukaryotes From Prokaryotes 3. Lamarckism 4. Darwinism 5. Neo-Darwinism and Modern Synthesis 6. Evidences of Evolution (Comparative Anatomy, Fossils, Vestigial Organs, Biochemistry & Molecular Biology, Embryology) 7. Divergent and Convergent Evolution 8. Hardy-Weinberg Theorem 9. Genetic Drift 10. Speciation (Sympatric Speciation, Allopatric Speciation, Parapatric Speciation) 11. Facts About Creation of Living Organisms	**10**	5. Applications of the Photo-electric effect 6. Compton's effect 7. Pair production 8. Pair Annihilation	**10**	6. Cosmetics 7. Adhesives	**10**	**DISCUSSION LECTURE** **TEST LEVEL-2 (PROVERB)**	
65	22-08-2020 (Saturday)	**Test Level-1 (Evolution)** **Test Level-2 (Evolution)**	**50**	9. The Wave Nature of Particles 10. Davisson and Germer Experiment 11. Electron Microscope 12. Uncertainty Principle	**10**	**Test Level-1 Industrial Chemistry** **Test Level-2 Industrial Chemistry**	**50**		
	23-08-2020 (Sunday)	**HOLIDAY**							
66	24-08-2020 (Monday)	**DISCUSSION LECTURE** **TEST LEVEL-2 (EVOLUTION)** **25. MAN & HIS ENVIRONMENT** 1. Biogeochemical Cycle (Nitrogen cycle, Water Cycle) 2. Energy Flow Through an Ecosystem (Gross & Net Primary Productivity, Ecological Pyramids) 3. Ecological Succession & Types (Xerosere) 4. Population Dynamics (Characteristics of a Population, Carrying Capacity, Problems Related to Rapid growth in Human Population, Pakistan Population Planning Policies & Problems) 5. Human Impacts on Evnironment (Nuclear Power, Sources of Carbon Dioxide, Global Warming & Greenhouse Effect, Acid Rain, Ozone Layer, UV Radiation & Human Health) 6. Environmental Resources and Their Depletion (Natural Resources & Their Depletion, Non-Convential Energy Resources, Conventional Energy Resources, Role of Govt and NGOs)	**10**	**Test Level-1 (Dawn of Modern Physics)** **Test Level-2 (Dawn of Modern Physics)**	**50**	**DISCUSSION LECTURE** **TEST LEVEL-2 INDUSTRIAL CHEMISTRY** **23. Environmental Chemistry** 1. Chemistry of the troposhere 2. Chemistry of the stratosphere 3. Water pollution and water treatment 4. Green chemistry	**10**		
67	25-08-2020 (Tuesday)	**Test Level-1 (Man and His Environment)** **Test Level-2 (Man and His Environment)**	**50**	**DISCUSSION LECTURE** **TEST LEVEL-2 (DAWN OF MODERN PHYSICS)** **19. ATOMIC SPECTRA** 1. Atomic Spectra 2. Bohr's Model of hydrogen atom 3. Quantized radii and Quantized energy 4. Excitation and Ionization Potential 5. Inner shell transitions and characteristic X-Rays 6. Properties and uses of X-Rays	**10**	**Test Level-1 Environmental Chemistry** **Test Level-2 Environmental Chemistry**	**50**		
68	26-08-2020 (Wednesday)	**DISCUSSION LECTURE** **TEST LEVEL-2 (MAN & HIS ENVIRONMENT)** **26. BIOTECHNOLOGY** 1. Introduction 2. Cloning of Genes/ Recombinant DNA Technology 3. Polymerase Chain Reaction 4. Genomic Library 5. DNA Sequencing (Sanger's Method, Gel Electrophoresis, Automated DNA Sequencing, Maxam-Gilbert Method)	**10**	7. Braking X-Rays 8. Lasers 9. Helium-Neon laser, Uses of laser	**10**	**DISCUSSION LECTURE** **TEST LEVEL-2 ENVIRONMENTAL CHEMISTRY** **24. Analytical chemistry** 1. Analytical chemistry 2. Classical Methods of analysis	**10**		

69	27-08-2020 (Thursday)	6. DNA Anal ysis 7. Genome Maps 8. Tissue Culture (Procedure, Types, Animal Tissue Culture) 9. Transgenic Organisms (Bacteria, Plants, Animals) 10. Biotechnology and Healthcare (Role in Vaccine & Diseases, Gene Therapy, Cystic Fibrosis) 11. Scope and Importance of Biotechnology	**10**	**Test Level-1 (Atomic Spectra)** **Test Level-2 (Atomic Spectra)**	**50**	3.Modern methods of analysis (Spectrometry, NMR & Atomic , absorption spectra)	**10**		
70	28-08-2020 (Friday)	**Test Level-1 (Biotechnology)** **Test Level-2 (Biotechnology)**	**50**	**DISCUSSION LECTURE** **TEST LEVEL-2 (ATOMIC SPECTRA)** **20. NUCLEAR PHYSICS** 1. Atomic Nucleus 2. Isotopes 3. Mass spectrograph 4. Mass defect and binding energy 5. Radioactivity 6. Half life rate of Decay 7. Interaction of Radiation with Matter 8. Radiation Detectors 9. Geiger Muller Counter 10. Solid state Detector 11. Nuclear reaction 12. Nuclear fission 13. Fission chain reaction	**10**	**Test Level-1 Analytical chemistry** **Test Level-2 Analytical chemistry**	**50**		
71	29-08-2020 (Saturday)	**DISCUSSION LECTURE** **TEST LEVEL-2 (BIOTECHNOLOGY)** **27. BIOLOGY & HUMAN WELFARE** 1. Vaccination and Integrated Disease Managemnet (Integrated Disease Management, Vaccination & Its Types, Schedule of Vaccination) 2. Animal Husbandry (Categories, Types & Importance, Genetic Improvements in Animals) 3. Latest Techniques Used for Plants 4. Home Gardening 5. Role of Microbes in Human Welfare	**10**	14. Nuclear Reactors 15. Types of Reactors 16. Nuclear fusion 17. Radiation exposure 18. Biological effects of Radiation 19. Basic forces of nature 20. Building blocks of matter	**10**				
	30-08-2020 (Sunday)	**HOLIDAY**							
72	31-08-2020 (Monday)	**Test Level-1 (Biology and Human Welfare)** **Test Level-2 (Biology and Human Welfare)**	**50**	**Test Level-1 (Nuclear Physics)** **Test Level-2 (Nuclear Physics)**	**50**				
73	01-09-2020 (Tuesday)	**FULL LENGTH PAPER -1 (COMPLETE SYLLABUS)**							
74	02-09-2020 (Wednesday)	**FULL LENGTH PAPER -1 (COMPLETE SYLLABUS)**							
75	03-09-2020 (Thursday)	**FULL LENGTH PAPER -1 (COMPLETE SYLLABUS)**							