

## Board of Secondary Education Rajasthan, Ajmer

### DELETED PORTION FOR THE EXAMINATIONS 2021

**Subject : Biology**  
**Subject Code : 42**  
**Class : 12<sup>th</sup>**

Unit	Name of Unit	Chapter No.	Name of Chapter	Topic / Title Removed
I	Reproduction and Development in Angiosperms	1	Reproduction in Angiosperm plants	Reproduction in Angiosperm plants (Complete Chapter)
II	Plant Physiology-I	5	Plant-water relations	Plant water relations (Complete Chapter)
		6	Water absorption and ascent of sap in plants	Water absorbing organs of plant Factors affecting water absorption
		7	Transpiration And Guttation	Factors affecting transpiration Significance of transpiration
		8	Mineral nutrition in plants	Mechanism of absorption of mineral salts
		9	Enzymes	History of enzymes Specific properties of enzymes Factors affecting enzymatic action
III	Plant Physiology – II	10	Photo-synthesis	History of photo-synthesis Factors affecting photo synthesis
		11	Respiration	Factors affecting respiration
		12	Nitrogen metabolism and nitrogen cycle	Nitrogen metabolism and nitrogen cycle (Complete Chapter)
		13	Plant Growth	Plant growth sites Phases of growth Growth kinetics Growth measurement

				Factors affecting growth Photoperiodism Dormancy Vernalization Senescence Abscission
IV	Bio- technology	14	Bio-Technology- General Introduction	Bio-technology-general introduction (Complete Chapter)
		16	Plant tissue culture	Culture medium Applications and achievements of plant tissue culture Table (16.1)
V	Economic Botany and Human Welfare	17	Economic Botany and Human Welfare	Economic botany and human welfare (Complete Chapter)
		19	Sustainable agriculture	Sustainable agriculture (Complete Chapter)
		20	Bio-energy	Production of bio-diesel in Rajasthan and India
VI. Human Physiology – I		21	Integumentary System of Human	Integumentary system of human (Complete Chapter)
		22	Digestive system of human	Mal nutrition and Nutritional dis-order
		24	Blood circulatory system of human	Diseases related to heart and circulatory system
		25	Excretory system of human	Dis-orders related to excretion
VII. Human Physiology – II		26	Nervous System of Man	Nervous system of human (Complete Chapter)
		27	Sensory Organs of Human; Sense Organs	Sensory organs of human; sense organs (Complete Chapter)
		30	Movements and Locomotion in Man	Movements and Locomotion in man (Complete Chapter)
IX Genetics and Genomics		35	Mendel's Laws of Inheritance	Deviation from Mendel's Laws
		37	Mutation	Mutation (Complete Chapter)

X Human Welfare and Health	38	Human Population	Human population (Complete Chapter)
	41	Domestication, Culture and Economic Importance of Animals	Domestication, culture and economic importance of animals (Complete Chapter)
	42	Bio-Medical Technologies	Bio-medical technologies (Complete Chapter)





# Board of Secondary Education, Rajasthan, Ajmer

## Revised Syllabus for Board Exam XII, 2021

Subject : Biology  
Subject Code : 42  
Class : 12<sup>th</sup> (2020-21)  
Book of Name : Biology (Theoretical)

<b>Unit – I</b>	<b>Reproduction and Development in Angiosperms</b>	<b>4</b>
Chapter – 2	Male and Female Gametophyte-Structure and Development Introduction Structure and development of male gametophyte Stamen and micro-sporangium Microsporogenesis Male gametophyte Structure and development of female gametophyte Megasporeogenesis	
Chapter – 3	Pollination, Fertilization and Development of Endosperm and Embryo Pollination Incompatibility Fertilization Endosperm Development of seed Alternation of generations	
Chapter – 4	Special Methods of Plant Reproduction Apomixis Agamospermy Micro propagation Poly-embryony Vegetative propagation	
<b>Unit – II</b>	<b>Plant Physiology – I</b>	<b>9</b>
Chapter – 6	Water Absorption and Ascent of Sap in Plants Water absorption and pathway of water in plants Mechanism of water absorption Ascent of sap	
Chapter – 7	Transpiration and Guttation Introduction Types of transpiration	

	Stomatal transpiration	
	Mechanism of stomatal movement	
	Guttation	
	Bleeding	
Chapter – 8	Mineral Nutrition in Plants	
	Nutrition	
	Methods of study for necessity of mineral nutrients by plants	
	Essential elements of plants	
	Role of macro and micro nutrients in plant nutrition	
	Hydroponics	
Chapter – 9	Enzymes	
	Introduction	
	Structure of enzymes	
	Mode of enzymes action	
	Nomenclature of enzymes	
	Classification of enzymes	
<b>Unit – III</b>	<b>Plant Physiology – II</b>	<b>5</b>
Chapter – 10	Photo-Synthesis	
	Introduction	
	Definition	
	Site of photosynthesis	
	Photosynthetic pigments	
	Nature of light	
	Mechanism of photosynthesis	
	Light Reactions	
	Dark reaction	
	Electron transport chain	
	C <sub>3</sub> -cycle	
	C <sub>4</sub> -cycle	
	CAM-cycle	
	Photo-respiration	
Chapter – 11	Respiration	
	Introduction	
	Respiratory substrates	
	Types of respiration	
	Sites of respiration	
	Mechanism of aerobic respiration	
	Glycolysis	
	Krebs cycle	
	Electron transport system	
	Chemi-osmotic theory of ATP synthesis	

	Fermentation	
	Some other pathways of glucose breakdown	
	Inter-relation of respiratory substrates in respiration process	
	Respiration is an amphibolic process	
	Respiratory quotient	
Chapter – 13	Plant Growth	
	Introduction	
	Growth regulatory substances	
	Growth inhibitors	
<b>Unit – IV</b>	<b>Bio-Technology</b>	<b>5</b>
Chapter – 15	Genetic Engineering	
	Introduction	
	General process	
	C-DNA and genomic library	
	Molecular probs	
	Techniques of analysis of cloned genes	
	Achievements of recombinant DNA technology	
Chapter – 16	Plant Tissue Culture	
	Introduction	
	Important terminology used in tissue culture	
	Necessary resources for plant tissue culture	
	Steps of Micro-propagation	
	Types of culture	
	Methods of gene transfer in plants	
	Transgenic plants	
	Important achievements in agriculture and medicinal science related to transgenic plants	
<b>Unit – V</b>	<b>Economic Botany and Human Welfare</b>	<b>5</b>
Chapter – 18	Oil, Fibres, Spices and Medicine Producing Plants	
	Oil producing plants	
	Fibre producing plants	
	Spices producing plants	
	Medicine producing plants	
Chapter – 20	Bio-Energy	
	Introduction	
	Bio-energy	
	Main sources of Bio-energy	
<b>Unit – VI</b>	<b>Human Physiology - I</b>	<b>7</b>
Chapter – 22	Digestive System of Human	
	Introduction	
	Structure of alimentary canal	

	Digestive glands	
	Mechanism of digestive system of human	
Chapter – 23	Respiratory System of Human	
	Introduction	
	Types of respiration	
	Respiratory-organ and respiratory system of human	
	Mechanism of respiration	
	Volume related to respiration	
	Capacities related to respiration	
	Artificial respiration	
	Respiratory disorders	
Chapter – 24	Blood Circulatory System of Human	
	Introduction	
	Composition of blood	
	Functions of blood	
	Blood groups	
	Blood coagulation	
	Blood vessels	
	Heart-structure and working	
	Double blood circulation	
	Lymphatic system	
Chapter – 25	Excretory System of Human	
	Introduction	
	Elimination of nitrogenous waste products	
	Human excretory system	
	Internal and histological structure of human kidney	
	Structure of uriniferous tubules or nephrons	
	Mechanism of excretion and formation of urine	
	Other excretory organs in human	
	Haemo-dialysis	
	Kidney-transplantation	
<b>Unit – VII</b>	<b>Human Physiology – II</b>	<b>7</b>
Chapter – 28	Reproductive System of Human	
	Introduction	
	Male reproductive system	
	Female reproductive system	
	Onset of puberty in man	
Chapter – 29	Chemical Co-ordination in Human	
	Introduction	

	Structure of endocrine glands in human, function and disease related to hormonal imbalance	
<b>Unit – VIII</b>	<b>Human Embryology</b>	<b>5</b>
Chapter – 31	Gametogenesis Introduction Spermatogenesis Structure of human sperm Oogenesis Egg of mammal	
Chapter – 32	Fertilization in Human Introduction Types of fertilization Artificial insemination Steps of fertilization Significance of fertilization	
Chapter – 33	Embryonic Development in Human Embryogenesis Cleavage and morulation Blastulation Fate of germinal layers	
Chapter – 34	Menstrual Cycle in Human Introduction Phases of menstrual cycle Parturition Lactation	
<b>Unit – IX</b>	<b>Genetics and Genomics</b>	<b>5</b>
Chapter – 35	Mendel’s Laws of Inheritance Introduction Mendel’s life history Selection of pea plant for study by Mendel Selection of characters Crossing technique of Mendel Cross- Monohybrid cross, Di-hybrid cross, Poly hybrid cross Mendel’s laws of inheritance Significance of Mendel’s laws Reasons of Mendel’s success Back cross and test cross Important terminologies Chromosome and sex determination in human	
Chapter – 36	Chromosomal Aberrations in Humans	



Chromosome  
History  
Type of chromosomes  
Autosomes and sex chromosomes  
Human chromosomal aberration  
Linkage  
Crossing over  
Sex linked inheritance  
Autosomal recessive disease - sickle cell anaemia, phenyl ketonuria

**Unit – X      Human Welfare and Health      4**

Chapter – 39    Immune System

Introduction  
Immunity- Definition and types  
Immunology  
Concept of self and non-self

Chapter – 40    Important and Common Human Diseases

Introduction  
Infections & Dis-orders  
Types of diseases  
(A) Congenital diseases  
(B) Acquired diseases  
    (1) Infectious diseases  
    (2) Non-infectious diseases