

SYLLABUS IN THE SUBJECT OF BIOLOGY
SYJC Science.

Chapter Number & Name	Portion for academic year 2021-202 examinations
CHAPTER 1: Reproduction in lower and higher plant	1.2 Sexual Reproduction 1.3 Microsporogenesis 1.4 Structure of Anotropous Ovule 1.5 Megasporogenesis 1.6 Pollination 1.7 Out- breeding Devises 1.8 Pollen-Pistil Interaction 1.9 Double Fertilization 1.10 Development of Endosperm 1.11 Development of Embryo 1.12 Seed and Fruit Development 1.13 Apomixis 1.14 Parthenocarpy 1.15 Polyembroyony
CHAPTER 2: Reproduction in lower and higher animal	2.2 Sexual Reproduction in Animals 2.3 Menstrual Cycle 2.4 Gametogenesis 2.5 Fertilization\ Syngamy 2.6 Embryonic Development 2.7 Pregnancy 2.8 Placenta 2.9 Parturition 2.10 Lactation 2.11 Reproductive Health 2.12 Birth Control 2.13 Sexually Transmitted Diseases (STDs) 2.14 Infertility
CHAPTER 3: Inheritance and Variation	3.1 Chromosomes and Mechanism of Inheritance 3.2 Genetic Terminology 3.3 Mendel's Laws of Inheritance 3.4 Back cross and Test cross 3.5 Deviations from Mendel's findings 3.6 Chromosomal Theory of Inheritance 3.7 Chromosomes 3.8 Linkage and Crossing over 3.9 Autosomal Inheritance 3.10 Sex Linked Inheritance 3.11 Sex Determination 3.12 Genetic Disorders
CHAPTER 4: Molecular basis of Inheritance	4.1 The Discovery of DNA 4.2 The Genetic Material is a DNA 4.3 DNA Packaging

	<p>4.4 DNA Replication</p> <p>4.5 Protein Synthesis</p> <p>4.6 Regulation of Gene Expression</p> <p>4.7 Operon Concept</p> <p>4.8 Genomics</p> <p>4.9 Human Genome Project</p> <p>4.10 DNA Fingerprinting</p>
CHAPTER 5: Origin and evolution of life	<p>5.6 Modern Synthetic Theory of Evolution</p> <p>5.13 Human Evolution.</p>
CHAPTER 6: Plant Water Relation	<p>6.1 Properties of Water</p> <p>6.2 Water Absorbing Organs</p> <p>6.3 Water available to roots for absorption</p>
CHAPTER 7: Plant Growth and Mineral Nutrition	<p>7.9 Growth Hormones</p>
CHAPTER 8: Respiration and Circulation	<p>8.1 Organs of Respiratory Exchange</p> <p>8.2 Human Respiratory System</p> <p>8.3 Mechanism of Respiration</p> <p>8.4 Regulation of Breathing</p> <p>8.7 Transportation in living organism</p> <p>8.8 Circulation in Animals</p> <p>8.9 Circulatory system in Human</p> <p>8.10 Red Blood Corpuscles/ Erythrocytes</p> <p>8.11 White Blood Corpuscles/ Leucocytes</p> <p>8.12 Thrombocytes / Platelets</p> <p>8.13 Heart</p> <p>8.14 Working Mechanism of Human Heart</p> <p>8.15 Blood vessels</p> <p>8.17 Electrocardiogram</p> <p>8.18 Lymphatic System</p>
CHAPTER 9: Control and Co-ordination	<p>9.1 Nervous system of Hydra</p> <p>9.2 Nervous system in Planaria</p> <p>9.3 Neural Tissue</p> <p>9.4 Synapse</p> <p>9.5 Transmission of Nerve impulse</p> <p>9.6 Human Nervous System (except reflex action and chart 9.15)</p> <p>9.8 Disorders of Nervous system</p> <p>9.9 Endocrine System</p> <p>9.13 Major Endocrine glands</p>
CHAPTER 10: Human Health and Disease	<p>10.1 Immunity</p> <p>10.2 Structure of Antibody</p> <p>10.3 Common Human Diseases</p> <p>10.4 Adolescence</p> <p>10.5 Addiction</p> <p>10.6 Drug Abuse</p>

<p>CHAPTER 11: Enhancement of Food Production</p>	<p>11.1 Improvement in Food Production 11.2 Plant Breeding 11.3 Tissue Culture 11.4 Single Cell Protein (SCP) 11.5 Biofortification 11.6 Animal Husbandry 11.7 Microbes in Human Welfare 11.8 Role of Microbes in Industrial Production 11.9 Microbes in sewage treatment 11.10 Microbes in Energy Generation 11.11 Role of Microbes as Biocontrol agents 11.12 Role of Microbes as Bio fertilizer</p>
<p>CHAPTER 12: Biotechnology</p>	<p>12.1 Biotechnology 12.2 Principles and Processes of Biotechnology 12.3 Methodology of rDNA technology 12.4 Application of Biotechnology 12.5 Bioethics, Bio-piracy, and Bio- patent. 12.6 Effect of Biotechnology on Human Health 12.7 Bio patent and Bio piracy</p>
<p>CHAPTER 13: Organisms and Populations</p>	<p>13.1 Organism and the Environment around 13.2 Major Abiotic Factors 13.3 Adaptation 13.4 Population 13.5 Population Interaction</p>
<p>CHAPTER 14: Ecosystems and Energy Flow</p>	<p>14.5 Ecological succession</p>
<p>CHAPTER 15: Biodiversity, Conservation and Environmental Issues</p>	<p>15.1 Levels of Biodiversity 15.2 Patterns of Biodiversity 15.3 Biodiversity Current Scenario 15.4 Loss of Biodiversity 15.5 Conservation of Biodiversity 15.6 Biological Diversity Act 2002</p>

Please Note: Subunit numbers, 9.10, 9.11, & 9.12, are not given to any heading in the SYJC Textbook.