



BIOLOGY BOOKLET

TEACHER: _____

CLASS/SEC: _____

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PREPARED BY

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Chapter 10

GASEOUS EXCHANGE

Differentiate between breathing and cellular respiration.

Draw neat and well labelled diagram of gaseous exchange in a leaf.

Enlist the names of parts of air passageway progressively.

Draw a neat and well labelled diagram of air passageway and the lungs in humans.

Differentiate between the inspired and the expired air.

Feature	Inspired Air	Expired Air

Compare between normal and emphysema alveoli with the help of diagram.

Show the effects of pneumonia with the help of diagram.

Show the effects of Asthma with the help of diagram.

Differentiate between the following respiratory disorder:

	Bronchitis	Emphysema	Pneumonia	Asthma	Lung Cancer
Definition					
Causes					
Types (if any)					
Symptoms					
Treatment					

Differentiate between Osmoregulation, thermoregulation and excretion.

Differentiate between hydrophytes, halophytes and xerophytes.

	Hydrophytes	Xerophytes	Halophytes
Definition			
Adaptations			
Examples			

Make a diagram of urinary or urinary system of humans.

Draw neat and well labelled diagram of anatomy of a kidney.

Draw neat and well labelled diagram of structural and functional unit of kidney (Nephron).

Write down the chemical composition of urine.

Normal chemical composition of urine	

Make a diagram of peritoneal dialysis in humans.

Show with the help of diagram the haemodialysis in humans.

Chapter 12

COORDINATION AND CONTROL

Make a flow sheet diagram of components of coordinated action.

Differentiate between nervous and chemical coordination with the help of diagram.

Draw a neat and well labelled diagram of structural and functional unit of brain (neuron).

Make a flow sheet diagram of divisions of brain.

Draw a neat and well labelled diagram of structure of human brain.

Draw a neat and well labelled diagram of spinal cord and spinal nerves.

Make a flow sheet diagram of divisions of the nervous system.

Draw a neat and well labelled diagram of reflex arc in a reflex action.

Show with the help of diagram the well labelled structure of human eye.

Enlist the names of all the parts of human eye progressively.

Differentiate between myopia (short sight) and hypermetropia (long sight).

Show with the help of diagram the well labelled structure of human ear.

Make a flow sheet diagram of structure of human ear.

Make a flow sheet diagram of important endocrine gland and their functions briefly.

Draw a neat and well labelled diagram of endocrine gland in human body.

Differentiate between the following:

Negative and positive feedback

Chapter 12

SUPPORT AND MOVEMENT

Differentiate between the following:

Endoskeleton and exoskeleton

Bone and cartilage

Differentiate between Hyaline, elastic and fibrous cartilage.

Make a diagram of Hyaline and fibrous cartilage.

Draw a neat and well labelled diagram of compact and spongy bone.

Write down the names and no. of bones of the following skeleton progressively:

Axial skeleton

Appendicular skeleton

Differentiate between the following:

Immoveable, slightly moveable and moveable joints

Osteo-arthritis, Rheumatoid and gout

Chapter 14

REPRODUCTION

Differentiate between binary fission in a bacterium and in amoeba with the help of diagram.

Show with the help of diagram multiple fission in Amoeba through cyst formation.

Make a labelled diagram of budding in yeast.

Make a life cycle of bacterium under unfavourable conditions through spore formation.

Draw a neat and well labelled diagrams of types of natural vegetative propagation.

Draw a life cycle of alternation of generation in plants.

Draw a neat and well labelled diagrams of structure of a flower.

Draw life cycle of a flowering plant.

Draw neat and well labelled diagrams of the following:

Epigeal germination

Hypogeal germination

Differentiate between spermatogenesis and oogenesis with the help of diagram.

Draw neat and well labelled diagrams of the following:

Male reproductive system of rabbit

Female reproductive system of rabbit

Chapter 15

INHERITANCE

Define the following terms:

Traits:

Chromatin:

Nucleosomes:

Make a diagram of chemical composition of chromosome.

Draw the structure of DNA (Watson and Crick model of DNA).

How does DNA replicate?

Show the working of DNA also called the Central Dogma?

Differentiate between the following terms:

Transcription and Translation

Gene and Loci

Genotype and Phenotype

Homozygous and Heterozygous genotype

Dominant and recessive

Write down the features of an organism for genetic experiment?

Define Law of Segregation?

Make monohybrid crosses between parental generation(P1) and first filial generation (F1).

Define Mendel's Law of Independent assortment.

Make a dihybrid cross between two contrasting traits as seed color and seed shape.

Which diagram is used to predict an outcome of a particular a cross or breeding experiment?

Differentiate between the following terms:

Monohybrid and Dihybrid cross

Co-Dominance and Incomplete Dominance

Make a table of human blood group ABO as an example of co-dominance.

Make crosses between Four O clock plant as an example of In-complete dominance.

Write down the names of sources of variations in sexually reproducing populations.

Differentiate between continuous and discontinuous variations.

Define the following:

Theory of special creation:

Artificial Selection:

Differentiate between breeds and varieties or cultivars.

Chapter 16

MAN AND HIS ENVIRONMENT

Define the following terms:

Specie:

Population:

Community:

Ecosystem:

Biosphere:

Draw a flow chart to show components of ecosystem progressively?

Make a flow sheet diagram of energy flow in ecosystem.

Differentiate between food chain and food web.

What is meant by ecological pyramids and write down its types?

Define the following:

Biogeochemical cycle

Nutrient cycle

Show the detail account of carbon cycle with the help of diagram.

Show the detail account of Nitrogen cycle with the help of diagram.

Differentiate between the following:

Intraspecific and interspecific interactions

Competition and predation

Parasitism, Mutualism and Commensalism

Explain the following terms:

Global Warming:

Acid Rain:

The Maldives Survival:

Deforestation:

Overpopulation:

Urbanization:

Explain the effects of following:

Effects of air pollution:

Effects of Water pollution:

Effects of Land pollution:

What is meant by 3R' principle?

Draw life cycle of dengue mosquito (*Aedes Aegypti*).

Chapter 17
BIOTECHNOLOGY

Explain the following:

Genetic engineering:

Human Genome Project:

Write down the names of fields in which biotechnology played an important role.

Make a diagram of following:

Alcoholic Fermentation (by yeast)

Lactic Acid Fermentation (by bacteria)

Write down the products which are considered the main applications of fermentation.

Differentiate between batch and continuous fermentation.

Explain the following:

Objectives of Genetic Engineering

Basic Steps in Genetic Engineering

Achievements of Genetic Engineering

Make the diagram of production of insulin through genetic engineering

Write down the significance of Single Cell Protein.

Chapter 18

PHARMACOLOGY

Define the following terms:

Drug:

Pharmaceutical drugs:

Addictive drugs:

Write down names with examples of following.

Sources of medicinal drugs

Important Medicinal Drugs

Addictive Drugs:

Antibiotics:

The Mode of Action of Vaccine