**BIOLOGY EXAM REVIEW/OUTLINE**

**30% OF FINAL MARK**

45 Multiple Choice 45 marks

5 Short Answer Questions 25 marks

25 Matching 25 marks

Labeling Diagrams 8 marks

**Total 103 marks**

**ALLOTTED TIME:** 2 HOURS

**BRING A CALCULATOR, PENCIL, ERASER, PEN, WHITE-OUT**

**GENETICS**

1. Cell Cycle-

* Interphase, meiosis, cytokinesis
* Genetic material – DNA, RNA – structures and function
* Errors in meiosis- ex. nondisjunction (Klinefelter’s syndrome, Down’s syndrome, Turner’s syndrome, etc..)

1. Mendelian Genetics

* Terms: phenotype, genotype, dominant, recessive, allele, gene
* Monohybrid cross, test crosses

1. Non-Mendelian Genetics

* Incomplete dominance, Codominance, Multiple alleles (blood types)

1. Patterns of Inheritance

* X-linked , autosomal
* Genetic diseases -X-linked and autosomal

**DIVERSITY OF LIVING THINGS**

1. The six kingdoms (name them)- be able to describe characteristics of the kingdoms (cell structure, method of reproduction, method of obtaining nutrients) AND identify organism belonging to each kingdom

Ex. Mushroom belongs to Fungi, Moss belongs to Plantae, Birds belong to Animalia, etc.

1. Binomial nomenclature (Genus species)
2. Levels of classification (DKPCOFGS) Darling King Phil Came Over From German Soil
3. Know how to use a Dichotomous Key
4. Viruses (structure, reproduction methods)

**EVOLUTION**

1. Evidence of Evolution
2. Charles Darwin-Contribution to Evolution and scientists that contributed to his theory
3. Natural Selection; Artificial Selection
4. Mutation-neutral, harmful, beneficial
5. Microevolution: Gene Flow, Genetic Drift, Bottleneck Effect / Founder Effect
6. Macroevolution: Sympatric and Allopatric Speciation, Reproductive Isolating Mechanisms

**ANIMALS: STRUCTURE AND FUNCTION**

Some parts of the cell and their functions

Circulatory system

1. Components of Blood (plasma and cells)
2. Structure and Function of the different types of blood cells
3. Blood types
4. Blood vessels (arteries, arterioles, capillaries, venules, veins)
5. Heart structures and function
6. Heart Conduction system
7. Systemic circulation, cardiac circulation, pulmonary circulation
8. Blood Pressure and device used to measure (sphygmomanometer)
9. Cardiac technologies and diseases (arrhythmias, ECG, Myocardial infarction)

Respiratory system

1. Organs/parts of the respiratory system and their functions
2. Mechanics of respiration (inhalation and exhalation)
3. Lung capacity – values, spirometer
4. Respiratory Disorders (ex. emphysema, asthma)

Digestive system

1. Organs/parts of digestive system
2. Accessory organs (gall bladder, liver, pancreas)
3. Enzymes and Nutrients – 4 Macromolecules
4. Mechanical/Physical Digestion and Chemical Digestion
5. Digestion In the mouth, stomach, small intestine
6. Absorption of nutrients in small intestine
7. Absorption of water and water-soluble vitamins in large intestines.
8. Digestive disorders (reflux, IBS etc)

**DIAGRAMS –the heart, the respiratory system, the digestive system**