

MATRICULATION EXAMINATION

DEPARTMENT OF MYANMAR EXAMINATION

BIOLOGY

Time Allowed: (3) Hours

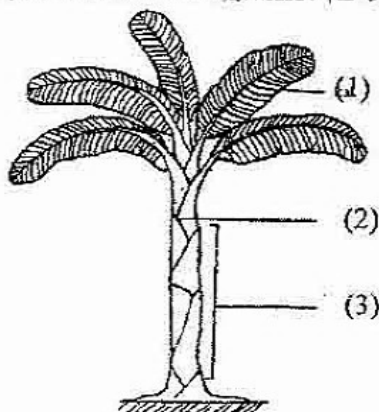
WRITE YOUR ANSWERS IN YOUR ANSWER BOOKLET.

DO NOT COPY THE QUESTIONS.

1. State **TRUE** or **FALSE** to the following statements. Do not copy the statements. (20 marks)
- i. Roots of all plants are non-green in colour.
 - ii. All green plants that can manufacture their own food are autophytes.
 - iii. The calyx is the innermost whorl of the flowers.
 - iv. Self-pollination can only occur in bisexual flowers.
 - v. The seeds of *Clematis* are carried by wind.
 - vi. The maize grain is a seed.
 - vii. A seedling results after the process of germination.
 - viii. The body of the rabbit is covered with stiff hair or fur.
 - ix. The stomach is the fifth part of the digestive tract.
 - x. Paramecium feeds only on bacteria.
 - xi. Fibres act as roughage for the body.
 - xii. Anaerobic respiration requires oxygen while aerobic respiration does not.
 - xiii. Molecules are constantly in motion because of their potential energy.
 - xiv. Erythrocytes as well as monocytes are formed in red bone marrow.
 - xv. Tropisms are growth movements.
 - xvi. Cornea of the human eye is for the refraction of light.
 - xvii. A megaspore mother cell is found in the anther of a flower.
 - xviii. Mitosis takes place when spores are formed in higher plants.
 - xix. Individual differences are called variation.
 - xx. Both species benefits in commensal relationship.

2. Complete the following statements with appropriate words. Do not copy the statements. (20 marks)
- A runner is the stem of a ----- plant.
 - The leaves of many plants provide -----.
 - Flower is a leafy----- highly specialized for reproduction.
 - Fruit formation in the absence of a male gamete is termed as -----
 - Many edible fruits are of high ----- values.
 - A small pore at one end of the hilum is the -----.
 - The aleurone layer consists of ----- and fats.
 - The hind legs of the rabbit are ----- and adapted for leaping.
 - Male mammal has copulatory organ called the -----.
 - Chlorophyll absorbs light energy for the ----- change.
 - The result of excess food is termed -----.
 - Accumulation of the lactic acid causes -----.
 - Synovial fluid in joint are -----.
 - White blood corpuscles are termed as -----.
 - Lateral roots grow at right angles to-----.
 - A nerve is made up of a bundles of -----.
 - The egg is about ----- times bigger than the sperm in human.
 - The genetic constitution of an organism is called -----.
 - Survival of the fittest is said to be the mechanism for -----.
 - Rhizobium lives in root nodules of ----- plants.

3. Answer ALL questions. (12 marks)
- a. Provide labels and caption to the diagrams. (Do not copy the diagram.)



- Name the second, third, fourth and fifth parts of the rabbit's brain.
- State the structure and function of phloem as found in a leaf.
- Explain why the level of solution in the stem of the funnel will rise during the respiration experiment 1.

OR

State the purpose of water acting as solvent.

- e. Tabulate the structure and function of the hair as found in the dermis of the human skin.

OR

What is vegetative reproduction? Give the names and types of the plants that produced from the nodes.

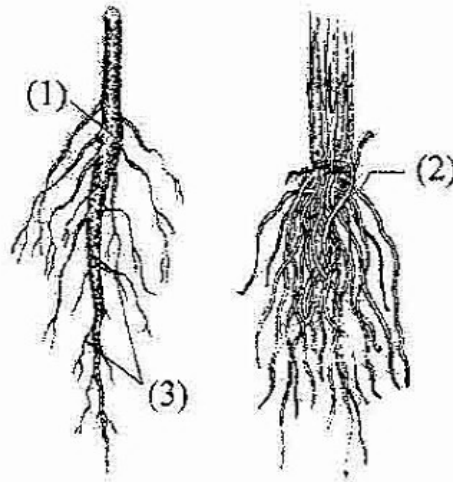
- f. Give the name of the stages that occur during mitosis.

OR

State the nature of atmospheric nitrogen associated with nitrogen cycle.

4. Answer **ANY FOUR** questions. (16 marks)

- a. Providing labels and caption to the diagram, state the nature of roots as found in grasses. (**Do not copy the diagram**).



- b. List the parts of the digestive tract of the rabbit in order mentioning the part arising from the junction between the posterior part of the small intestine and anterior part of the large intestine.
- c. List some adverse effects of a diet that is not balanced and explain any one.

OR

State how the respiratory movements are control during gaseous exchange.

- d. List the benefits of transpiration and explain the one that is associated with the temperature of the leaf.

OR

Distinguished tropisms based on growth-inducing stimuli mentioning what you understand of negative and positive response.

- e. State the nature of menstrual cycle as found in human.

OR

State what you understand of continuous and discontinuous variation.

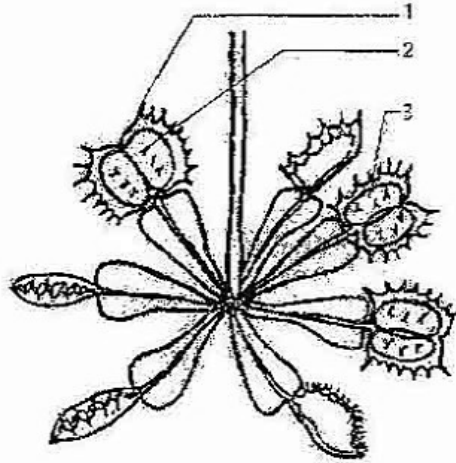
OR

State how plants and animals are adapted to their particular environments.

5. Answer **ANY FOUR** questions.

(32 marks)

- a. Provide labels and caption to the given diagram, name its type of modification and state nature of this plant and remaining two types. (**Do not copy the diagram.**)



- b. Give a labeled diagram of a rabbit and explain the head region of the rabbit.
 c. State what occurs during swallowing and peristalsis and also state how the contractions of the muscular gut wall increase the efficiency of chemical digestion.
 d. Explain anaerobic respiration and how this process takes place in animals including man.

OR

Explain any two types of mammalian blood cells.

- e. List the parts of a human eye and state the function of the nerve associated with the eye.

OR

State the nature of asexual reproduction as found in animals and also state the important structures and functions of the female reproductive system as found in human.

- f. Give brief explanation on two types of cell division distinguished according to the behavior of the chromosomes.

OR

Explain the other factors that cause diseases in man.