

MATRICULATION EXAMINATION

DEPARTMENT OF MYANMAR EXAMINATION

BIOLOGY

Time Allowed: (3) Hours

WRITE YOUR ANSWERS IN YOUR ANSWER BOOKLET.

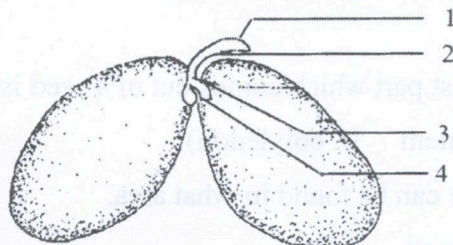
DO NOT COPY THE QUESTIONS.

1. State **TRUE** or **FALSE** to the following statements. Do not copy the statements. (10 marks)
 - i. A runner is the stem of a creeping plant with short internodes.
 - ii. Fleshy fruits are usually attractive and dull coloured.
 - iii. Seeds play an important role in our every-day lives.
 - iv. The vertebral column of the rabbit is part of the axial skeleton.
 - v. Food is not changed chemically by chewing.
 - vi. Man can do both anaerobic and aerobic respiration.
 - vii. Leucocytes are of several types all without nuclei.
 - viii. Abscissin is involved in leaf abscission.
 - ix. Each ovary in the ovule consist of a megaspore mother cell.
 - x. Phenotype is the genetic constitution of an organism.
2. Choose the correct answer for the following statements. Do not copy the statements. (10 marks)
 - i. Some bisexual flowers which never open in its life span is called (A. homogamous B. heterogamous C. polygamous D. cleistogamous).
 - ii. The water of coconut is (A. liquid mesocarp B. liquid endocarp C. liquid endosperm D. liquid nucellus).
 - iii. When seed is sown into soil, first part which comes out of a seed is (A. radicle B. plumule C. stem D. cotyledon).
 - iv. A rabbit's nictitating membrane can be found in what area.
A. scent gland B. eye C. snout D. ear
 - v. Tissues carrying glucose to other parts of the plant is called (A. stem B. phloem C. xylem D. veins).
 - vi. During inspiration, the muscles of diaphragm is (A. contracted B. convex C. relaxed D. raised).

- vii. Diffusion of water through a semipermeable membrane from dilute solution to concentrated solution is (A. imbibition B. osmosis C. plasmolysis D. necrosis).
- viii. Sebaceous glands produce an oily substance called as (A. sebum B. sweat C. bile D. thyroid).
- ix. Which of the following is not a type of asexual reproduction?
A. fragmentation B. vegetative propagation C. budding D. fermentation
- x. When water turns to vapor and rises into the atmosphere, it's called:
A. condensation B. evaporation C. sublimation D. precipitation
3. Complete the following statements with appropriate words. Do not copy the statements. (10 marks)
- The prop roots of banyan tree serve to ----- the spreading branches.
 - Fruits develop from the ----- of flowers.
 - The function of the seed coat is to reduce ----- from the seed.
 - Epiglottis is a ----- flap guarding the glottis.
 - Guard cells surround ----- and contain chloroplasts.
 - Alveoli of lungs are fully ----- at the end of inspiration.
 - Water acts as a ----- as in the case of synovial fluid in joints.
 - Yellow spot in the retina of human's eye contains mainly -----.
 - The nucleus is the ----- centre of the cell.
 - Places where organisms live are termed as -----.

4. Answer **ALL** questions. (10 marks)

- a. Provide labels to the given diagram. (Do not copy the diagram.)



Internal structure of a bean seed

- Mention the nature of the glands as found in male reproductive system of a rabbit.
- What are the basic requirements for the process of photosynthesis?

- d. State what occurs when carbon dioxide concentration rises in blood after strenuous exercise.

OR

Mention how roots and main stems respond to gravity.

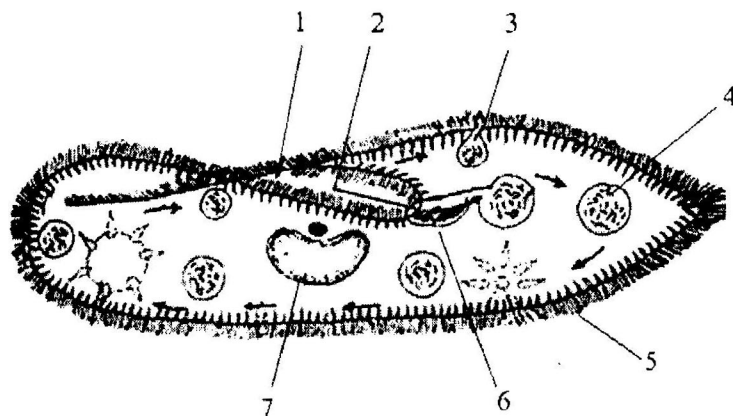
- e. Describe the functions of umbilical arteries and umbilical vein during gestation period.

OR

Why are green plants called producers?

5. Answer **ANY FOUR** questions. (20 marks)

- Explain the types of plant distinguished according to the habitats mentioning the examples.
- Tabulate the vein that constitute the right anterior vena cava associated with the parts of the body from which they drain the blood of the venous system of a rabbit.
- Provide labels and caption to the given diagram and state the route of food vacuole as found in this animal. (**Do not copy the diagram.**)



- d. State the formation of ATP in mitochondria and a summarized word diagram to show how energy released from ATP can be used in different forms for many activities.

OR

Write a brief account on transport of salts and carbohydrates as found in plants.

- e. Describe the two types of cell division recognized according to the behaviour of the chromosomes with relevant diagrams.

OR

State the process of nitrogen fixation and nitrification in nitrogen cycle.

[P.T.O]

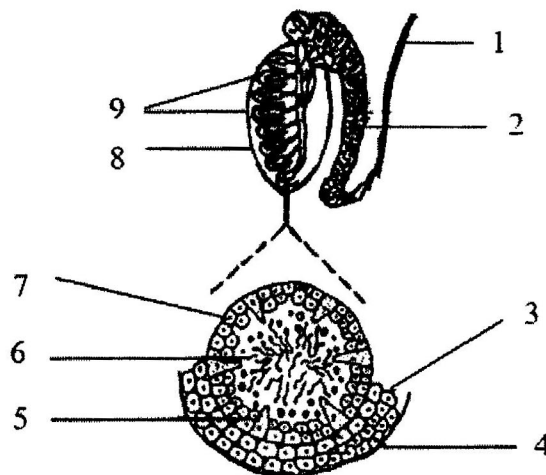
6. Answer **ANY FOUR** questions.

(40 marks)

- Give the labelled diagrams to show the germination of pollen grain and explain the male gamete.
- Describe about the excretory system of a rabbit with the help of a labelled diagram.
- Explain briefly how green plants produce glucose for the source of potential energy and give tabulated account on method of intake of substances required for photosynthesis, mentioning what they occur in the next stage in leaf.
- Clarify the blood and explain the nature of fluid plasma in it and state the role of one blood cell that is associated with the clotting of the blood.
- Enumerate the plant hormones and explain about the three main plant hormones this occur naturally.

OR

Provide labels and caption to the given diagrams and explain the important structures and functions of male reproductive system as found in human. (**Do not copy the diagram.**)



- Describe in detail about mutation, alleles, natural selection (survival of the fittest) and artificial selection.

OR

State the effects of pollution in environment on animals and plants and enumerate the four main ways causes of pollution and factory wastes.
