

နိုင်ငံခြားစာမေးပွဲများတွင်စစ်ဆေးသည့်မေးခွန်းများ

2017

**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. The stem is the aerial part of the plant.
  - ii. A parasitic plant produces certain special roots.
  - iii. The florets borne on the periphery are the ray florets.
  - iv. The ovary is the basal swollen part of the stamen in a flower.
  - v. Fleshy fruits are usually attractive and brightly coloured.
  - vi. The embryo usually grows out the seed through the hilum.
  - vii. Sesame, cotton, oil palm and sunflower seeds are sources of oil.
  - viii. Minute excretory units in the kidney of the rabbit are known as malpighian body.
  - ix. The peripheral nervous system of a rabbit includes the brain and spinal cord.
  - x. Fibre consists mostly of cellulose cell wall of plant.
  - xi. The nutrition of green plants is termed as autotrophic nutrition.
  - xii. The energy released from adenosine triphosphate is utilized in active transport.
  - xiii. All the reactions of metabolism occur in solution.
  - xiv. Red blood corpuscles are termed as leucocytes.
  - xv. Plants respond to light, gravity, touch, and water.
  - xvi. A synapse is the junction between two neurons.
  - xvii. Strawberry plants grow from the nodes of rhizomes.
  - xviii. Genetics is concerned with heredity and variation.
  - xix. Normal males are chromosomally XY and females are XX in human.
  - xx. Fuel when burned releases oxygen into the atmosphere.

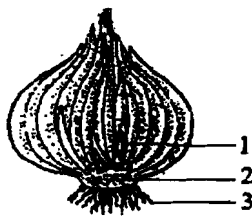
**[P.T.O]**

2. Complete the following statements with appropriate words. Do not copy the statements. (20 marks)

- i. The leaf is usually green due to the presence of the pigment,-----.
- ii. Saprophytes which live upon dead----- matter.
- iii. The thread - like stalk of the stamen is the -----.
- iv. Pollination is the transference of pollen grains from the anther to the -----.
- v. *Urena* is an example of -----fruit.
- vi. The function of the seed coat is to reduce ----- from the seed.
- vii. Rice, wheat, corn, barley and oats belong to the ----- family.
- viii. Coeliac artery supplies blood to liver, stomach and -----.
- ix. Each nephron includes a malpighian body and a ----- tubules.
- x. The glucose is stored temporarily as ----- in leaves during photosynthesis.
- xi. Swallowing is the moving of food from mouth into -----.
- xii. Anaerobic respiration in yeast converts ----- into ethanol.
- xiii. Plasma calcium is bound to serum -----.
- xiv. The lymphocytes are non-motile and concerned with the formation of-----.
- xv. The movement of a shoot towards the light source is termed as -----.
- xvi. Endocrine organs secrete ----- directly into the blood stream.
- xvii. The zygote divides continuously into a ball of cells called -----.
- xviii. Chromosomes contain DNA along with certain ----- and RNA.
- xix. Eye and skin colour is one of the examples of ----- variation.
- xx. The places where organisms live are termed as -----.

3. Answer ALL questions. (12 marks)

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



- b. Mention the compartments of coelom as found in a rabbit.
- c. Explain why animals are regarded as heterotrophs.

d. State the formation of adenosine triphosphate in mitochondria.

**OR**

How do you understand by the term transpiration?

e. State the structure and function of the blood vessels as found in the dermis of the human skin.

**OR**

Compare the egg and sperm of man based on numbers produced and size.

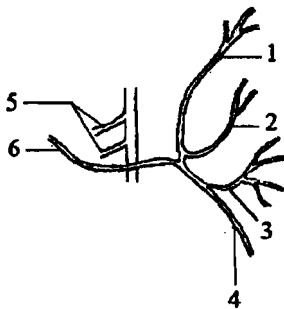
f. How do you understand by the term crossing over?

**OR**

Define the term consumers and primary consumers.

4. Answer ANY FOUR questions. (16 marks)

- List the position of floral leaves on the receptacle and explain the type of inferior ovary.
- Provide labels to the given diagram and state from which part of the body of the rabbit label number 1 brings the blood. (Do not copy the diagram).



- Explain the structures and functions of xylem and phloem that are found in cell layers of a leaf.

**OR**

Explain the results from the experiment of anaerobic respiration in germinating seeds.

- Explain about the transport of carbohydrate in the plant.

**OR**

State the functions of iris, aqueous humour, yellow spot and optic nerve as found in human eye.

**[P.T.O]**

e. Explain the nature of umbilical cord as found in human's embryo.

**OR**

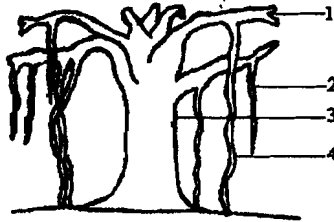
Give fully account of the homozygous genotype.

**OR**

Briefly explain the nitrogen fixation and denitrification.

5. Answer **ANY FOUR** questions. (32 marks)

a. Provide labels and caption to the given diagram, state the nature of this plant and function of the root. (Do not copy the diagram).



b. List the parts of a complete digestive tract of the rabbit in order and explain the nature of intestine.

c. Tabulate the requirement and investigation to show the necessity in photosynthesis.

d. Explain in detail about two stages in gaseous exchange of mammals.

**OR**

Give a detailed account on the process of osmosis.

e. List the plant hormones and explain about three main hormones that are known to occur naturally and to be essential for the normal development of plants.

**OR**

Explain the placenta, lactation and maternal care in mammals.

f. Determine the genotype and phenotype of offsprings from following two types of mating in the guinea pig( a dominant alleles **B** produce black hair and its recessive allele **b** produce white hair).

(i)  $BB \times Bb$

(ii)  $Bb \times Bb$

**OR**

Explain the effect of air, land and water pollution and state what factory wastes contain.

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