

SAMPLE QUESTION

2019

MATRICULATION EXAMINATION

DEPARTMENT OF MYANMAR EXAMINATION

BIOLOGY

Time Allowed: (3) Hours

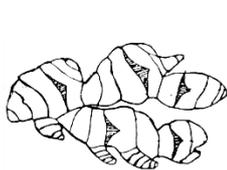
WRITE YOUR ANSWERS IN YOUR ANSWER BOOKLET.

DO NOT COPY THE QUESTIONS.

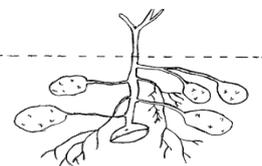
1. State **TRUE** or **FALSE** to the following statements. Do not copy the statements. (10 marks)
- The leaf is usually green due to the presence of the pigment, chlorophyll.
 - The pollen grain bears the female reproductive cells.
 - Tomato and guava are the fruits with many small seeds.
 - Genital arteries are paired arteries and supply to the sex organs.
 - Cilia in the cytostome of *Paramecium* beat constantly.
 - The lungs expand drawing in air through the alveoli.
 - Plasma proteins are maintaining viscosity of the blood.
 - Cytokinin is synthesized mainly where there are high levels of auxin.
 - The period between fertilization and birth is called gestation period.
 - Parasitism harms the parasites although it benefits the host.

2. Choose the correct answer for the following statements. Do not copy the statements. (10 marks)

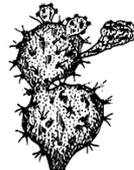
- i. The following diagrams show modified stems. Which diagram shows the rhizome?



(A)



(B)



(C)

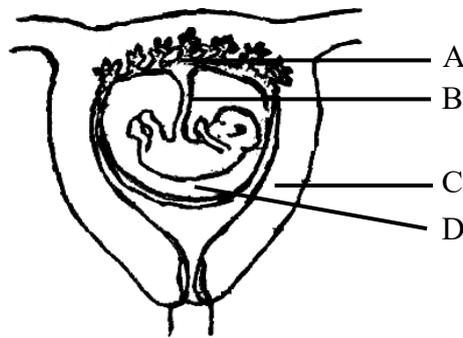


(D)

- ii. Which part is the female reproductive organ?
A. Androecium B. Gynoecium C. Corolla D. Calyx
- iii. Drum-stick seeds are dispersed by (A. animal B. wind C. water D. explosive mechanism).
- iv. Sacral region of the rabbits' vertebral column consists of (A.7 B.12 C.4 D.15).

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- v. In mammals (A. premolars B. molars C. canines D. incisors) are used for tearing food.
- vi. The rate of respiration depends mainly on the (A. oxygen B. carbondioxide C. glucose D. water) concentration of the blood.
- vii. Water also acts as a (A. solvent B. reactant C. coolant D. lubricant) as in the case of synovial fluid in joints.
- viii. The (A. sensory B. associate C. intermediate D. motor) neurones conduct impulses from the sense organs to the central nervous system.
- ix. The diagrams show the developing foetus in human uterus. Which organ allows easy diffusion of oxygen, nutrients and antibodies to the embryo?



- x. Which genetic constitution represent the term heterozygous.
- A. RR C. Rr
- B. both RR and Rr D. rr
3. Complete the following statements with appropriate words. Do not copy the statements. (10 marks)
- i. Venation is the arrangement of the ----- on a leaf surface.
- ii. The flower is borne on a short or long-----.
- iii. A sheath called the ----- covers the plumule and the radicle by the sheath coleorhiza.
- iv. Mammals are belonging to the class Mammalia of the phylum -----.
- v. Constipation is the result of insufficient ----- in the diet.
- vi. The dead space can be distinguished into ----- and physiological dead spaces.
- vii. Turgor pressure in plant cells supports leaves and ----- plant stems.
- viii. Rhizomes and runners grow at right angles to -----.
- ix. The nuclei of both egg and sperm contain thread-like structures chromosomes in which are the parent's ----- characteristics.

x. Within the nucleus, there are masses of threads called -----.

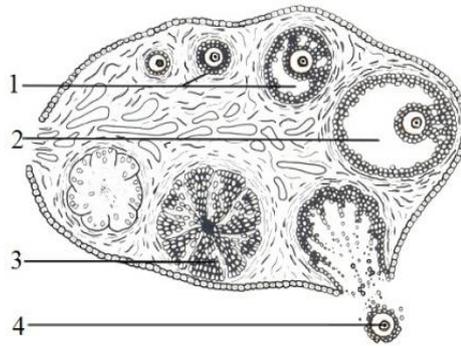
4. Answer **ALL** questions. (10 marks)

- Suggest how the structure of root related to its functions of absorption.
- Explain what you know about the four compartments of coelom.
- What is diet? Why proteins are needed in our diet?
- Explain why circulatory and lymphatic systems are essential in some animals?

OR

Compare the functions of sensory neurons and motor neurons found in the nervous system of mammals.

e. Give the labels of the following diagram. (**Do not copy the diagram.**)



OR

With a relevant example discuss the symbiotic relationship which benefits both members.

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

- Give brief explanation on the third whorl of a flower with its functions.
- Explain the male reproductive system of a rabbit not including the accessory glands.
- Define the term digestion and describe the peristalsis mechanism of the gut.
- Give precise explanation on the process of transpiration pull.

OR

Tabulate any five structures found in the dermis of skin and their functions.

e. With examples, explain the process of vegetative propagation as found in plants.

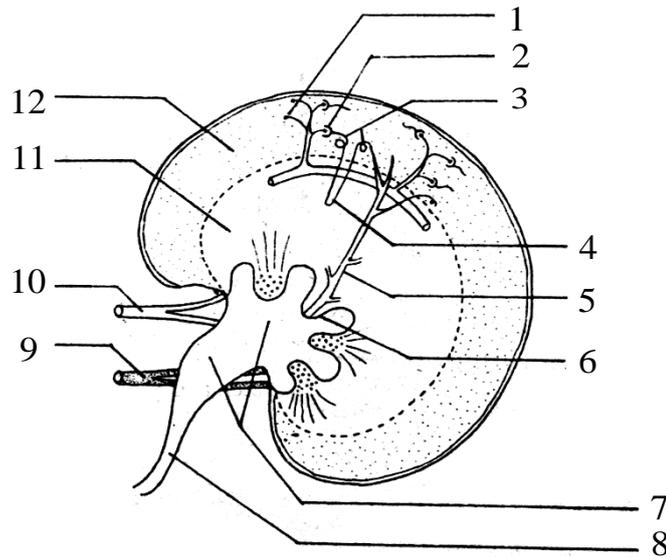
OR

What is variation? Differentiate the two types of variations.

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6. Answer **ANY FOUR** questions. (40 marks)

- Describe the first and third stages of germination as found in a bean seed with relevant diagrams.
- Provide labels and caption to the given diagram and add note to the nature of minute excretory units in the kidney. (**Do not copy the diagram.**)



- Define the terms photosynthesis and autotrophic nutrition and explain how would you test the presence of starch in a leaf.
- Write as far as you can on anaerobic respiration.
- Tabulate the summarized accounts of the internal structure of human eye.

OR

Compare the eggs and sperms of human with relevant diagrams.

- Name the stages of cell division and describe the organization of nucleus.

OR

Present the carbon cycle with word diagram and explain the role of producers in an ecosystem.
