

MARTHOMA RESIDENTIAL SCHOOL, THIRUVALLA  
SECOND TERMINAL EXAMINATION 2019-2020  
BIOLOGY

STD: IX

Time: 2Hrs  
Marks: 80

SECTION I (40 marks)

Question I

- a. Name the following. (5)
1. The pulp like form of food in the stomach.
  2. The membrane covering the external surface of the bone.
  3. The first product of genetic engineering by the introduction of human gene in bacteria.
  4. The mineral element required for clotting of the blood.
  5. The bone that support tongue.
- b. Choose the correct answer from each of the four alternatives given below. (5)
1. In maize, pollination taken place by the agency of:
    - a Water
    - b Birds
    - c Wind
    - d Insects
  2. Coloured , large, papery, structures found in Bougainvillea are called:
    - a Sepals
    - b Bracts
    - c Petals
    - d Epicalyx
  3. An example of a monosaccharide:
    - a Sucrose
    - b Maltose
    - c Lactase
    - d Galactose
  4. The condition in which filaments are united in several groups:
    - a Polyandrous
    - b Diadelphous
    - c Monadelphous
    - d Polyadelphous
  5. Which one of the following is one of the characteristics of self-pollinated flower?
    - a Flowers are large and showy
    - b Flowers remain closed and do not open
    - c Stigma and anthers mature different time.
    - d Pollen is produced in large quantities.

c. Rewrite the correct statement by changing the under lined word.

1. The back part the cranium contains a large hole acetabulum, through which the spinal cord after emerging from the brain, continue in back bone.
2. Excess amino acids are broken down in the liver by a process called decarboxylation.
3. Involuntary muscles are striated.
4. The vertebral column has 7 thoracic vertebrae.
5. Presence of external testis is a characteristic feature of reptiles.

d. Identify the odd term in each set and name the category to which the remaining three belong.  
Example: Nucleus, lysosome, cytoplasm, xylem

Odd term: Xylem

Category: Parts of a cell.

1. Bat, Hoopoe, Crow, Parrot
2. Annelida, Bryophyta, Echinodermata, Porifera
3. Parenchyma, Phloem, Collenchyma, Sclerenchyma
4. Rice, Maize, Orchids, Peas
5. Night blindness, Beriberi, Marasmus, Scurvy.

e. State the exact location of the following.

1. Cuboidal epithelium.
2. Sub mandibular gland
3. Lenticels.
4. Lacteals
5. Pollen.

f. Given below are sets of five terms each. Rewrite the terms in a logical sequence beginning with the term that is underlined

Example: Tail, Thorax, Neck, Abdomen, Head

Answer: Head, Neck, Thorax, Abdomen, Tail.

1. Lumbar, Sacrum, Cervical, Thoracic, Coccyx
2. Rectum, Colon, Oesophagus, Ileum, Duodenum.
3. Allogamy, Zygote, seed, Embryo, Fusion of gamete.
4. Ulna, Carpels, Humerous, Phalanges, Radius, Metacarpels
5. Lactase, Trypsin, Pepsin, Ptylalin, Invertase.

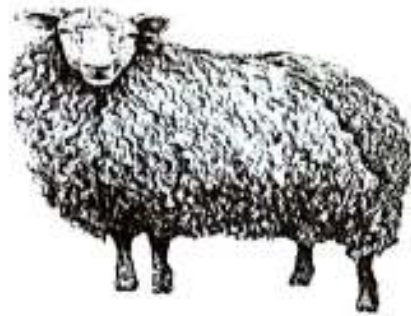
g. Given in the box below are set of 14 biological terms. Of these 12 can be paired into 6 matching pairs. Out of six pairs, one has been done for you as an example.

Example: Vitamin C – Orange

Vitamin C, Mollusca, Sea food, Knee, Moulting, Krebs cycle,  
Bilirubin, Patella, Orange, Glycolysis, Liver, Iodine,  
Mitochondrion, Arthropoda.

b. Study the picture below and answer the questions that follow:

(5)



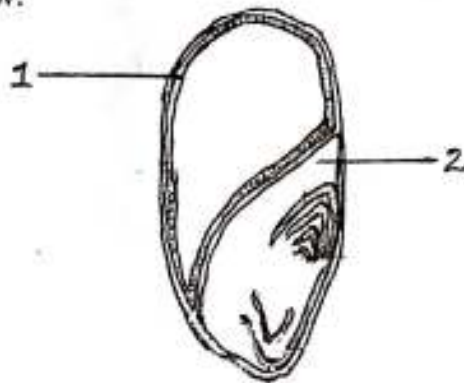
1. Identify the animal.
2. Name the class to which it belongs.
3. Differentiate between oviparous and viviparous.
4. Mention the structure that separates thorax from the abdomen.
5. Give an example of an animal which belongs the same class which is egg laying.

### SECTION 2 (40 marks)

#### Question 2

a. The diagram given below represents the germination of maize grain. Study the same and answer the questions that follow:

(5)



1. Identify the type of germination. Give a suitable reason for your answer.
2. Label the parts 1 & 2.
3. Draw a neat and labelled diagram of a bean seed.
4. Why a maize grain is not called a seed?
5. Write two conditions necessary for germination.

b. Differentiate between the following on the basis of what is mentioned in the brackets. (5)

1. Tendon and ligament. (Function)
2. Cuboidal epithelium and ciliated epithelium. (location)
3. Anemophily and entomophily. (one characteristic of flower)
4. False ribs and floating ribs. (number)
5. Exoskeleton and endoskeleton. (definition)

a. Draw a diagram of a tooth and answer the following questions

1. Label the following parts:
  - a. Enamel
  - b. Cement
  - c. Dentine
  - d. Pulp cavity
2. What is the function of canines?
3. How many teeth does an adult human have?
4. Write the Dental Formula of an adult human.
5. Why the last molars in each jaw are called the 'Wisdom tooth'?

b. Complete the following table by filling in the blanks 1-10

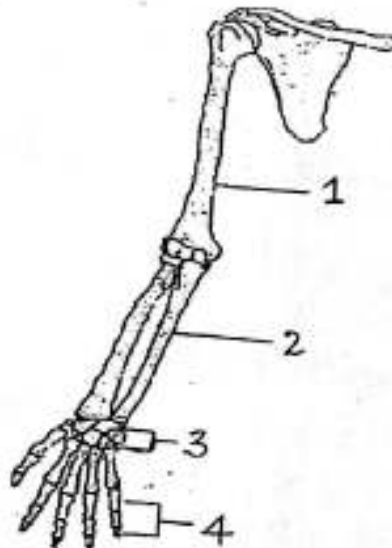
Organ	Secretion	Enzyme	Nutrient	Product of digestion
Mouth	1	2	Starch	3
Stomach	Gastric juice	4	5	Polypeptides
Pancreas	6	Steapsin	7	Fatty acids and
8	Intestinal juice	9	Maltose	10

#### Question 4

a. Mention the important functions of the following

1. Hair inside the nostrils.
2. Adipose tissue.
3. Micropyle in seed.
4. Skull.
5. Neural canal in vertebrae.

b. The diagram given below shows a part of the human skeleton. Study the same and answer questions that follow:

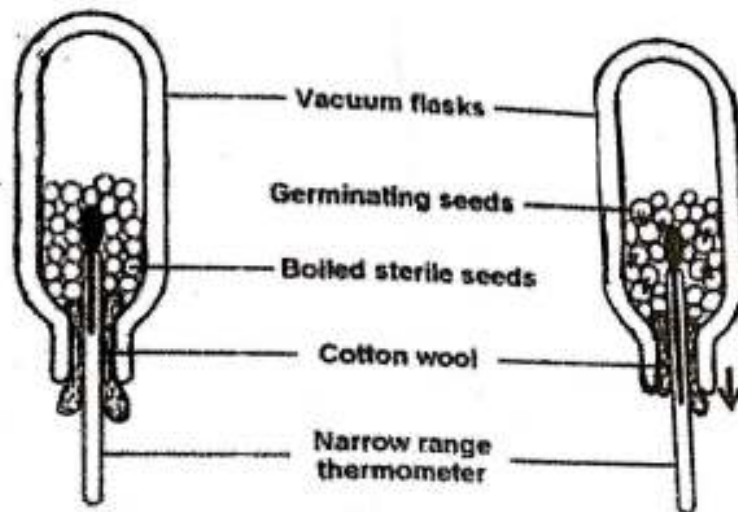


1. Name the two main divisions of skeleton.
2. To which division of the skeleton does the above diagram belong?
3. Label the parts 1- 4.
4. Name the corresponding bones of the parts 1 and 2 in the hind limb.
5. Draw a neat well labelled diagram of thoracic vertebrae.

Question

a. Moist germinated seeds were placed in a thermos flask A, and germinating seeds, which were boiled and then soaked in 5% formalin, were placed in thermos flask B. Thermometers were inserted in the flasks and the mouth of each flask plugged with moist cotton wool. The two flasks were fixed upside down as shown in the diagram. The initial temperature on both thermometers was noted. After about 48 hours, the temperature in flask A was found to be much higher than that in flask B.

(5)



1. State the object of using the apparatus.
2. Why a rise in temperature occurs in flask A.
3. If 5% formalin was not used after boiling the seeds, the temperature of flask B would have raised considerably. Explain.
4. Why were the flask inverted?
5. Represent the process by a chemical equation.

b. Give reasons for the following.

(5)

1. Seeds sown deep in the soil, fail to germinate.
2. Water is an important part of our diet.
3. Ileum is well adapted for absorption of digested food.
4. Boiled rice if chewed well begins to taste sweet.
5. Bones break easily in older people than youngsters.