

CENTRAL SCHOOL, TIRUVALLA
FIRST TERM EXAMINATION 2019-20
BIOLOGY

MARKS: 80
TIME: 2 Hour

Class IX

SECTION I (40 MARKS)

a) Name the following

[5]

- (i) Resting condition under unfavourable condition as in seeds.
- (ii) Fat tissue forming padding under the skin
- (iii) The part which is destined to become the seed
- (iv) The part of a cell which is covered by tonoplast
- (v) The kind of tissue found at the tip of plant roots

b) Choose the correct answer from each of the four options given below

[5]

- (i) If the rate of respiration becomes more than the rate of photosynthesis, plants will:
 - (a) Continue to live, but will not be able to store food
 - (b) be killed instantly
 - (c) grow more vigorously because more energy will be available
 - (d) stop growing and gradually die of starvation.

- (ii) ADP is explained as
 - (a) Adenine di-phosphate
 - (b) Adenosine de-phosphate
 - (c) Adenosine di-phosphate
 - (d) Adenine de-phosphate.

- (iii) Annual rings are the number of
 - (a) Internodes in a stem
 - (b) Rings of vascular bundles in a monocot stem
 - (c) Barks layers in a woody stem
 - (d) Layers of xylem in a stem.

- (iv) Exine and intine are the parts of
 - (a) Embryo sac
 - (b) Pollen grain
 - (c) Stigma
 - (d) Seed.

- (v) The cell organelle that helps in intracellular digestion is:
 - (a) Golgi apparatus
 - (b) Lysosomes
 - (c) Ribosomes
 - (d) Mitochondria.

c) Arrange the following set of terms in order, so as to be in logical sequence

- (i) Seed coat bursts, hypocotyl elongates, radicle grows downwards, hyp loop above the soil, epicotyl elongates
- (ii) Nuclear membrane, cell wall, cytoplasm, Nucleolus, Cell membrane
- (iii) Axon, dendrites, Axon endings, Dendron, cyton
- (iv) Zygote, embryo, seed, allogamy, fusion of gametes
- (v) Embryo, 1st male gamete, zygote, egg cell, micropyle

d) Complete the following paragraph by filling in the blanks (i) to (v) with appropriate terms

The seed absorbs water and swells considerably. The (i) softens and bursts (ii) emerges, grows downwards and forms the root system. The (iii) grows upward is arched and thus protects the young shoot from injury during its emergence from soil. The cotyledon supply (iv) till the seedling is able to exist independently. After cotyledon remain underground, the germination is known as (v).

e) State the exact location of the following structure

- (i) Anther
- (ii) Hilum
- (iii) Areolar tissue
- (iv) Stigma
- (v) Nectaries

f) Differentiate between the following pairs on the basis of what is given in brackets [5]

- (i) Photosynthesis and respiration [Gas utilised]
- (ii) Endoplasmic reticulum and Golgi apparatus [Function]
- (iii) Glycolysis and Krebs's cycle. [Site of occurrence]
- (iv) Aerobic and Anaerobic respiration [Number of ATP produced]
- (v) Germination and Vivipary [Examples of plants]

g) Define the following terms

- (i) Organelle
- (ii) Axon
- (iii) Protandry
- (iv) Allogamy
- (v) Perianth

h) Write true or false. If it is false rewrite the sentence by changing first or last word. [5]

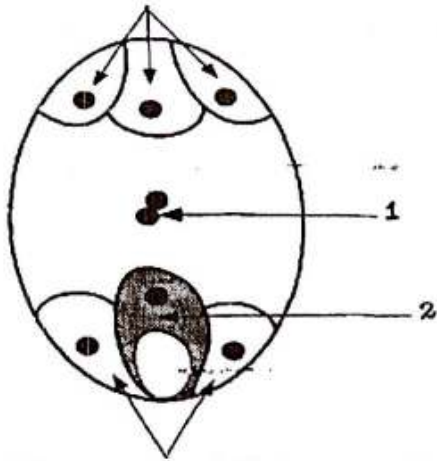
- (i) Amoeba is an example of prokaryotes
- (ii) Xylem cells carry manufactured food from leaves to other parts
- (iii) Sepals may be brightly coloured, these are then said to be sepaloid
- (iv) Plants which grow male and female flowers on different plants is known as monoecious
- (v) Tegmen is the outermost layer of the seed

SECTION II (40 MARKS)

Question 2

a. Study the diagram given below and answer the questions that follow

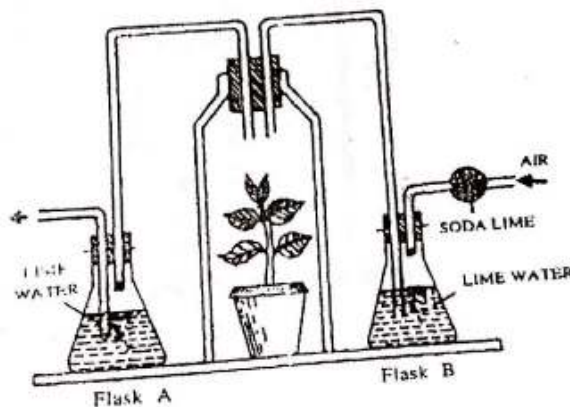
[5]



- Identify the above structure and mention its location in a flower
- Label the parts numbered 1 and 2
- Explain the term 'Double fertilisation'
- What is the fate of the calyx and corolla after fertilisation?
- Draw a neat, labelled diagram of a pollen grain

b. Given below is an experiment, set up by a candidate to study the process of respiration in plants. The candidate failed to get the expected results, as two mistakes were made while setting up the experiment.

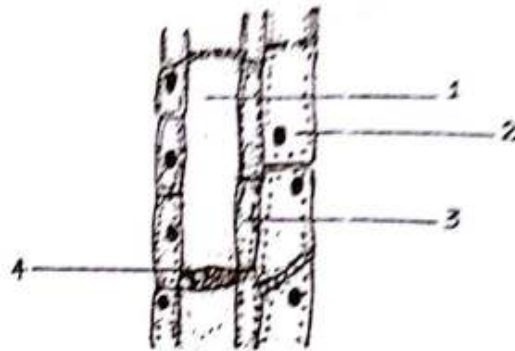
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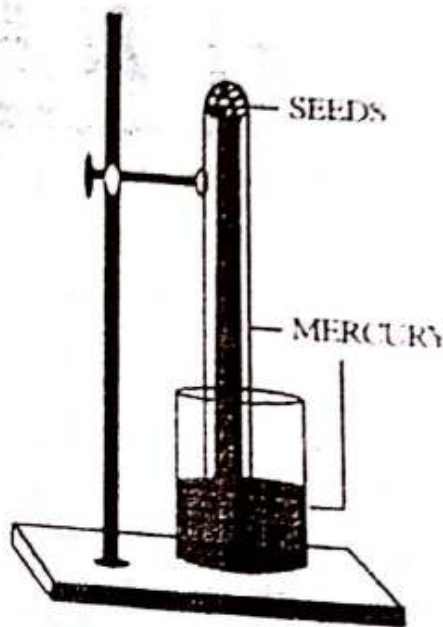
- Identify and state two mistakes made by the candidate
- What is the role of soda lime in the experiment?
- What is the purpose of using lime water in flasks 'A' and 'B'?
- Give a well balanced chemical equation to represent the process of respiration.

Question 3

a. Study the diagram given below and then answer the questions that follow:



- Identify the tissue and give a reason to support your answer
 - Name the parts labelled 1, 2, 3 and 4
 - State the function of the parts labelled 1, 2, 3 and 4
- b. The diagram below is an experimental setup to demonstrate a particular process using seeds. Study the same and answer the questions that follow:



- Name the process being studied.
- What will be observed in the set up after two to three days? Give a reason for your answer.
- Name the gas evolved during the above process. How will you test this gas?
- Represent the above process in the form of a well-balanced chemical equation.

Question 4

a. Give reason for the following

[5]

1. Lysosomes are termed as suicidal bags of cell
2. Tube nucleus disintegrates after reaching embryo sac.
3. Germinated grams are considered highly nutritive.
4. It is not advisable to sleep under a tree at night.
5. Both very low and very high temperatures are unsuitable for germination.

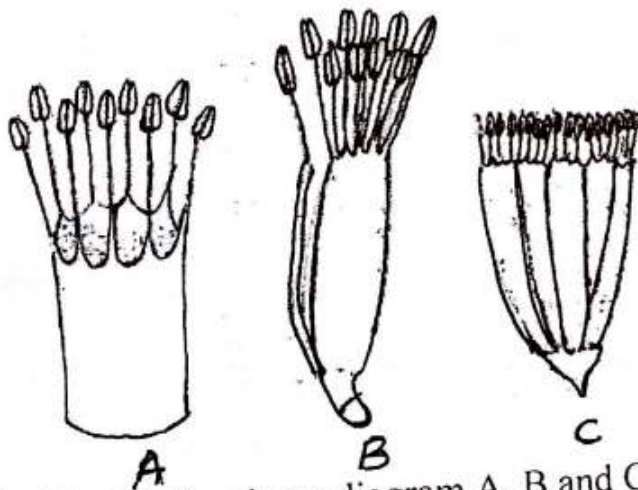
b. Explain the following briefly.

[5]

1. Emasculation.
2. Entomophilous flowers.
3. Heterostyly
4. Ciliated columnar epithelium
5. Cardiac muscle.

Question 5

a. Given below is a diagram of a certain part. Study the same and answer the following. [5]



1. Identify the above diagram A, B and C.
2. Give examples for each type.
3. Define A and C

[5]

b. Draw well labelled diagrams of the following

- a) Longitudinal section of Maize grain
- b) Plant cell