

GREENLAWNS SCHOOL, WORLI
FINAL EXAMINATION 2018
BIOLOGY

Std: IX

Marks: 80

Date: 08/02/2018

Time: 2 hrs

Answers to this paper must be written on the paper provided separately. You will **not** be allowed to write during the first **10** minutes. This time is to be spent in reading the Question paper. The time given at the head of this paper is the time allowed for writing the answers.

Section I is compulsory. Attempt **any four** questions from **Section II**.

SECTION I (40 Marks)

Attempt all questions from this Section

Question 1

a) Name the following: [5]

- i. The category of similar species.
- ii. The thick and condensed form of chromatin fibres.
- iii. A gaseous waste consisting of fine solid particles of non-combustible ash.
- iv. A flower with prominent nectaries.
- v. A modified sebaceous gland which open on the margins of the eyelids.
- vi. The fusion of polar nuclei and male gamete in a flower.
- vii. The phylum which includes spiny skinned animals.
- viii. The site of glycolysis.
- ix. The dead protein present in the stratum corneum.
- x. The condition in which calyx and corolla cannot be distinguished.

b) Complete the following statements: [5]

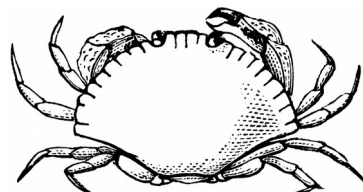
- i. _____ residues include the plant parts left after obtaining the usable portions.
- ii. The skin on our fingers and palms forms _____ and _____ which provide a more efficient grip.
- iii. The pollen tube enters the ovule through the _____
- iv. Each breakdown step of glucose to carbon dioxide and water is due to a particular _____
- v. Mammals have _____ chambered heart.
- vi. Cells of a _____ have lots of leucoplasts in them.
- vii. The outermost layer of animal cell is _____
- viii. The set-up in which the condition under study is missing is called the _____
- ix. When a flower arises in the axil of a leaf-like structure, this structure is known as _____

c) Differentiate on the basis of what is indicated in brackets: [5]

- i. Stratum corneum and granular layer (function)
- ii. Cat and tiger (scientific names)
- iii. Plant and animal cell (vacuoles)
- iv. Inflorescence and placentation (meaning)
- v. Mining operations and construction units (waste generated)

- d) Explain the following terms: [5]
- | | |
|-----------------|-----------------|
| i. Incineration | iv. Respiration |
| ii. Endothermal | v. Petaloid |
| iii. Moulting | |
- e) Write the functional activity of the following structures: [5]
- | | |
|-------------------|--------------------------|
| i. Lysosomes | iv. Nematocysts in Hydra |
| ii. Sepals | v. Tube nucleus |
| iii. Hypothalamus | |
- f) Give scientific reasons for the following:
- | | |
|---|-----|
| i. Pesticides and fertilizers are agricultural waste. | [1] |
| ii. In very cold weather the skin becomes dry and tends to give out powdery material on scratching. | [1] |
| iii. Nucleus is the most important part of the cell. | [2] |
| iv. Two kingdom classifications had several drawbacks. | [2] |
- g) Give two examples of each of the following: [4]
- | |
|-------------------------------------|
| i. Mammals which lay eggs |
| ii. Unisexual flowers |
| iii. E-waste |
| iv. Inlets of respiration in plants |

h) The figure below shows an animal.



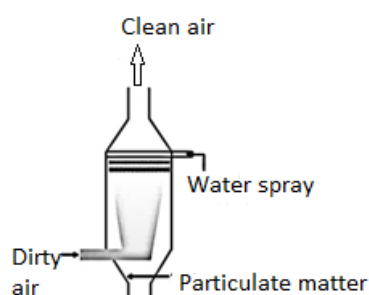
- | | |
|---|-----|
| i. Identify the animal. | [½] |
| ii. To which phylum does it belong? | [½] |
| iii. State two identifying features of this phylum. | [1] |
| iv. What is binomial nomenclature? | [1] |
| v. Mention two differences between invertebrates and vertebrates. | [2] |

SECTION II (40 Marks)

Attempt any **four** questions from this section

Question 2

- (a) State two important characteristics of respiration. [2]
- (b)



Given alongside is a device used to remove particulate matter from the air. Identify the device and state the method of removal of pollutants using this device. [2]

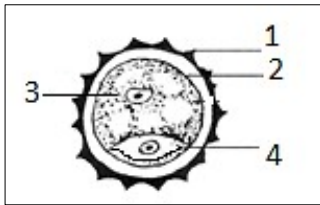
(c) Write short notes on the following: [3]

- i. Vasoconstriction
- ii. Prokaryotic cell

(d) Give three points of difference between respiration in plants and animals. [3]

Question 3

(a) Study the diagram given below and answer the following:



- i. Identify the figure. [½]
- ii. Label parts 1 to 4. [2]
- iii. Give the function of part 4.

[1]

iv. Is it a male or female part? [½]

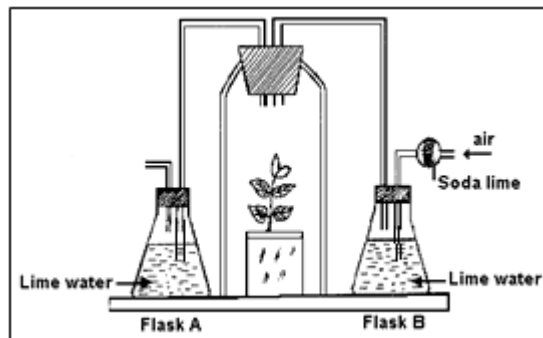
(b) Write equations to represent aerobic and anaerobic respiration. [2]

(c) State the three major points of the Cell Theory. [3]

(d) What is dry composting? [1]

Question 4

(a) The apparatus given below was set-up to demonstrate a particular process occurring in plants. Study the same and answer the questions that follow:



- i. What is the aim of the experiment? [1]
- ii. Why is soda lime placed in the tube? [1]
- iii. What change, if any, would you observe in the lime water in flask A and in flask B? In each case give a reason for your answer. [2]
- iv. Mention one precaution that should be taken to ensure more accurate result. [1]

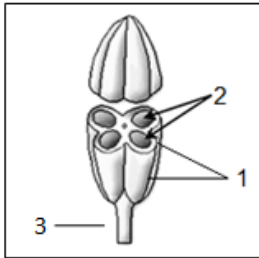
(b) Some people have a fair complexion while others are dark. Some persons turn darker when they work in the sun.

- i. Name the pigment responsible for the complexion. [½]
- ii. Where is the above pigment located in our skin? [½]
- iii. How is this pigment useful to our body? [1]
- iv. Explain two abnormal conditions of skin pigmentation. [2]

- (c) Identify the following phyla: [1]
- i. Segmented worms
 - ii. Sac-like animals

Question 5

- (a) Draw a neat diagram of an animal cell and label the following parts: [3]
- i. Supportive framework for the cell
 - ii. Regulates the entry of certain solutes and ions
 - iii. Protein synthesis
 - iv. Initiates and regulates cell division
 - v. Gives turgidity to the cells
 - vi. Synthesis and secretion of hormones
- (b) Give the advantages of incineration. [3]
- (c) The following figure represents the cross-section of a whorl of a flower.

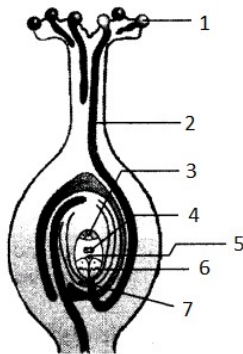


- i. Label the parts 1 to 3. [1½]
- ii. How are contents of part 1 usually ejected? [1]
- iii. What is the collective name for the organs of this kind? [½]

- (d) What are the two portions into which the municipal sewage is separated? [1]

Question 6

- (a) Given below is the diagrammatic representation of the process of fertilization. Study the same and answer the questions that follow:



- i. Define fertilization. [1]
- ii. Name the parts 1, 2, 3 and 7. [2]
- iii. What happens to part 4 on fertilization? [1]
- iv. Describe changes seen in parts 5 and 6 on fertilization. [1]
- v. What is 'double fertilization'? [1]

- (b) What functions do the following structures perform? [4]
- i. Erector muscle of hair
 - ii. Adipose tissue
 - iii. Sebaceous gland
 - iv. Nail matrix
