

R. I. C. S. E.

SECOND PRE-BOARD EXAMINATION 2018-2019

STD. : X

MARKS: 80

SUB. : BIOLOGY

TIME: 2 HRS.

Answer all the questions in Section - A and any four questions in Section - B.

SECTION - A : [40 Marks]

Attempt all the questions in this section

Question I.

A) Name the following:

[5]

1. The wax like layer on the epidermis of leaves which reduce transpiration.
2. The pituitary hormone which stimulates contraction of uterus during child birth.
3. The number of individuals inhabiting per unit area.
4. The part of the brain that carries impulses from one hemisphere of the cerebellum to the other.
5. The process of uptake of minerals ions against the concentration gradient energy from cell.

B) Choose the correct answer from each of the four options given below: [5]

1. The prime source of chlorofluoro carbon is

- | | |
|-----------------------|-----------------------------|
| a) Vehicular emission | b) Industrial effluent |
| c) Domestic sewage | d) Refrigeration equipments |

2. Marine fish when placed in tap water burst because of

- | | |
|---------------|----------------|
| a) Endosmosis | b) Exosmosis |
| c) Diffusion | d) Plasmolysis |

3. A singly highly coiled tube where sperms are stored gets concentrated and matured is known as

- | | |
|-------------------|-------------------------|
| a) Vas efferentia | b) Vas deferens |
| c) Epididymis | d) Seminiferous tubules |

4. Cretinism and Myxoedema are due to

- | | |
|---------------------------------|--------------------------------------|
| a) Hyper secretion of thyroxine | b) Hyper secretion of growth hormone |
| c) Hypo secretion of Thyroxine | d) Hypo secretion of growth hormone |

5. A plant hormone related with inhibition of Senescence is
- | | |
|----------------|--------|
| a) Ethylene | b) ABA |
| c) Bromic acid | d) GA |

C) Correct the following statement by changing the underlined words. [5]

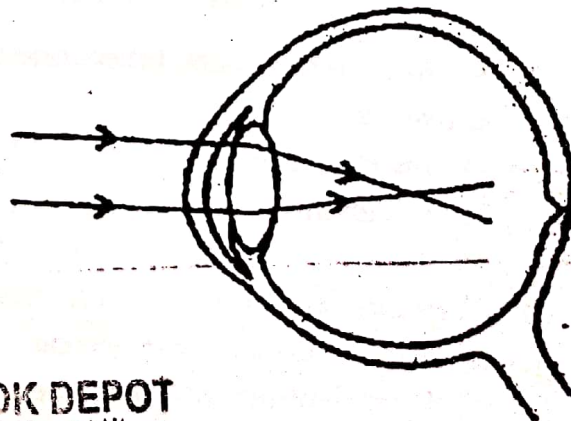
1. The human ancestor who was called as a handy man is Homo erectus.
2. The solvent used to dissolve the chlorophyll pigments while testing a leaf for starch is soda lime.
3. Gyri and Sulci are the fold of cerebellum.
4. The outer most layer of meninges is Pia mater.
5. The graafian follicle after ovulation turns into hormones producing tissue called Corpuscallostrum.

D) Copy and complete the following paragraph by filling in the blanks (1) to (5) with appropriate words / terms / phrase. [5]

The amount of urine out put is under the regulation of a hormone called _____ 1 _____ secreted by the _____ 2 _____ lobe of the pituitary gland. If this hormone secretion is reduced, there is an increased production of urine. This disorder is called _____ 3 _____.

Sometimes excess glucose is passed with urine due to hypo secretion of another hormone called _____ 4 _____ leading to the cause of a disease called _____ 5 _____.

E) Given beside is a diagram depicting a defect of the human eye. Study the same and then answer the questions that follows. [5]



1. Name the defect shown in the diagram. *myopia*
2. What are the two possible reasons that cause this defect?
3. Name the type of lens used to correct this defect.
4. With the help of a diagram show how the defect shown above is rectified using a suitable lens.

F) Given in the box below are a set of 14 biological terms. Out of these 12 can be paired into six matching pairs. Out of six pairs one has been done for you as an example. [5]

Example: Endosmosis - Turgid cell

Identify the remaining five matching pairs.

Cushing's syndrome , Turgid cell , Auxin , Free of Rod and Cone cells , Apical dominance , Hypoglycemia , Active transport , Acrosome , Addison's disease , Blind spot , Hyperglycemia , Spermatozoa , Endosmosis , Clotting of blood

G) Identify the odd one in each set and name the category to which the remaining three belong. The first one has been done for you as an example. [5]

No	SET	Odd One	Category
eg	Cell wall, Large vacuole, Plastids, Centrosome	Centrosome	Parts of plant cell
1	ACTH, TSH, ADH, FSH		
2	Prostate gland, Cowper's gland, Seminal Vesicle, Seminiferous tubule		
3	Malleus , Iris, Stapes, Incus		
4	Transpiration, Photo synthesis, Phagocytosis, Guttation		
5	Auxins , Thyroxine, Cytokinins, Gibberellins		

H) Given below are sets of five terms each. In each case rewrite the terms in logical sequences.

[5]

Eg: large intestine, stomach, mouth, small intestine, esophagus.

Answers: mouth, esophagus, stomach, small intestine, large intestine

1. Uterus, Parturition, Fertilisation, Gestation, Implantation.
2. Right auricle, Pulmonary veins, Lungs, Post and Pre venacava, Right ventricle, Pulmonary artery.
3. Water molecule, Oxygen, Grana, Hydrogen and Hydroxyl ions, Photon.
4. Spongy cell, Upper epidermis, Stoma, Palisade tissue, Sub stomatal spaces 21453
5. Homo erectus, Ramapithecus, Homo sapiens, Neanderthel man, Cromagnon, Australopithecus, Homo habilis.

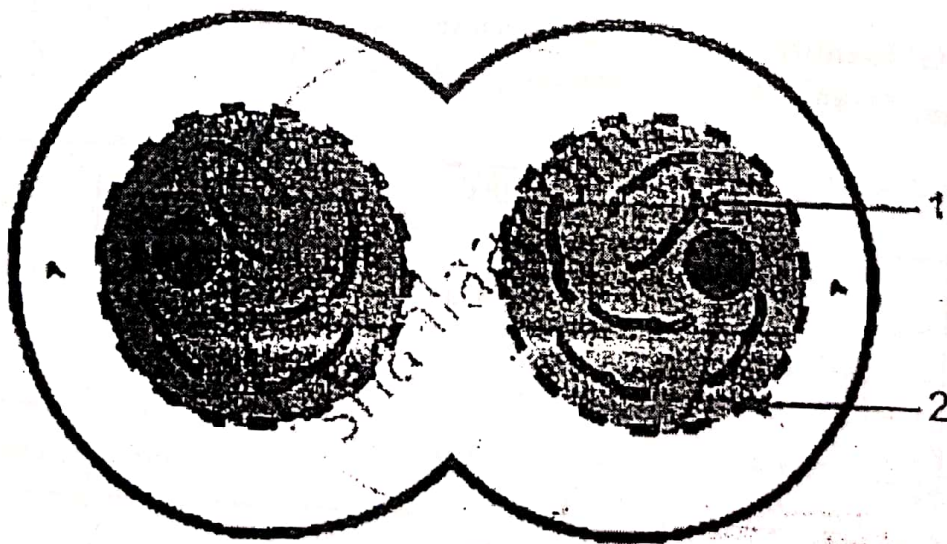
SECTION - B : [40 Marks]

Attempt any four questions in this section

Question II.

A) Study the diagram given below which represents a stage during the mitotic cell division and answer the questions that follow:

[5]



1. Identify the stage giving suitable reason.
2. Name the part numbered 1 and 2.
3. What is the technical term for the division of nucleus?

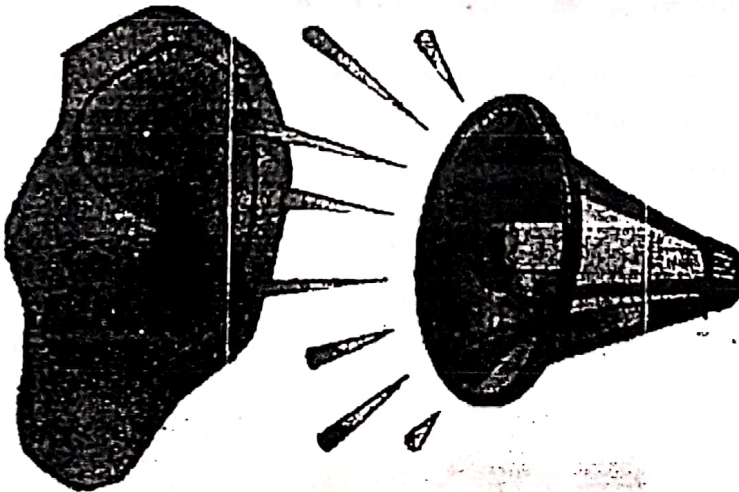
4. Mention the stage that comes before the stage shown in the diagram. Draw a neat labeled diagram of the stage mentioned.
5. Which is the cell division that results in half the number of chromosomes in daughter cells?

B) Differentiate between the following pairs on the basis of what is mentioned within the bracket. [5]

1. Active transport and Diffusion. (Significants in plants)
2. Demography and Natality. (Definition)
3. Renal cortex and Renal medulla. (Parts of the Nephron present)
4. Thigmotropism and Geotropism. (Explain)
5. Diabetes Mellitus and Diabetes insipidus. (Explain)

Question III.

A) Given below is a representation of a kind of pollution. Study the same and answer the questions that follows. [5]

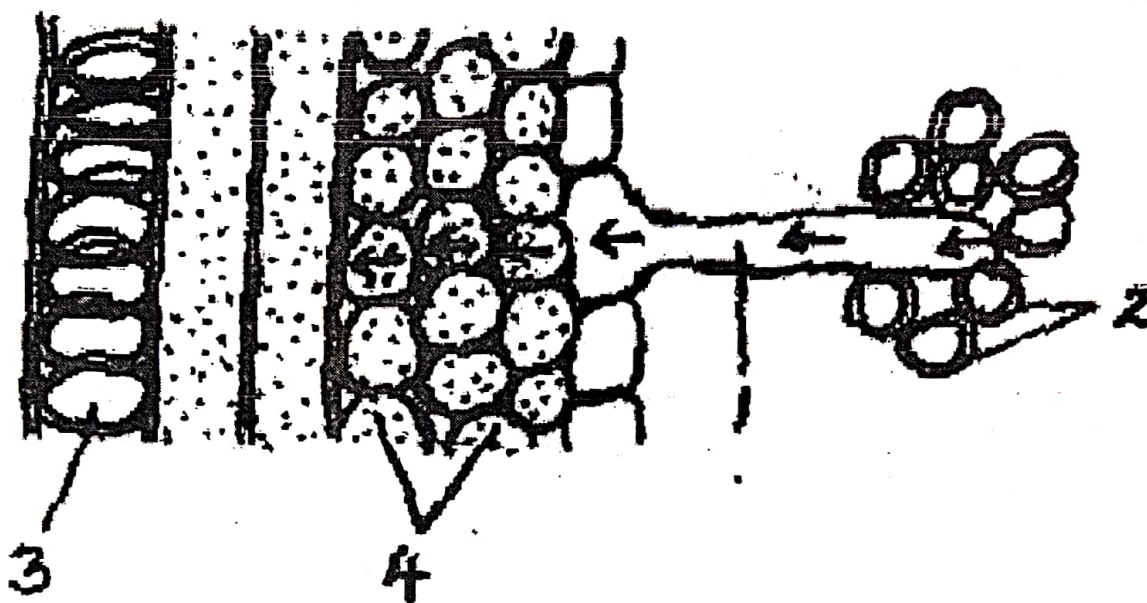


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1. Name the kind of pollution.
2. List any three common sources of this pollution.
3. Mention three harmful effects of this pollution on human health.
4. Explain the term 'pollutant'.
5. Name two soil pollutant.

B) The diagram given below represent the cross section of the root in the root hair zone. Study the same and then answer the questions that follow:

[5]



1. Name the parts indicated by the guidelines 1 to 4.
2. Which is the process that enables the passage of water from the soil into the root hair?
3. Name the pressure that is responsible for the movement of water in the direction indicated by the arrows. Define it.
4. Due to an excess of this pressure sometimes drops of water are found along the leaf margin of some plants especially in the early mornings. What is the phenomena called?
5. Draw a well labeled diagram of the root hair cell as it would appear if an excess of fertilizer is added to the soil close to it.

Question IV.

A) Give the exact location of the following.

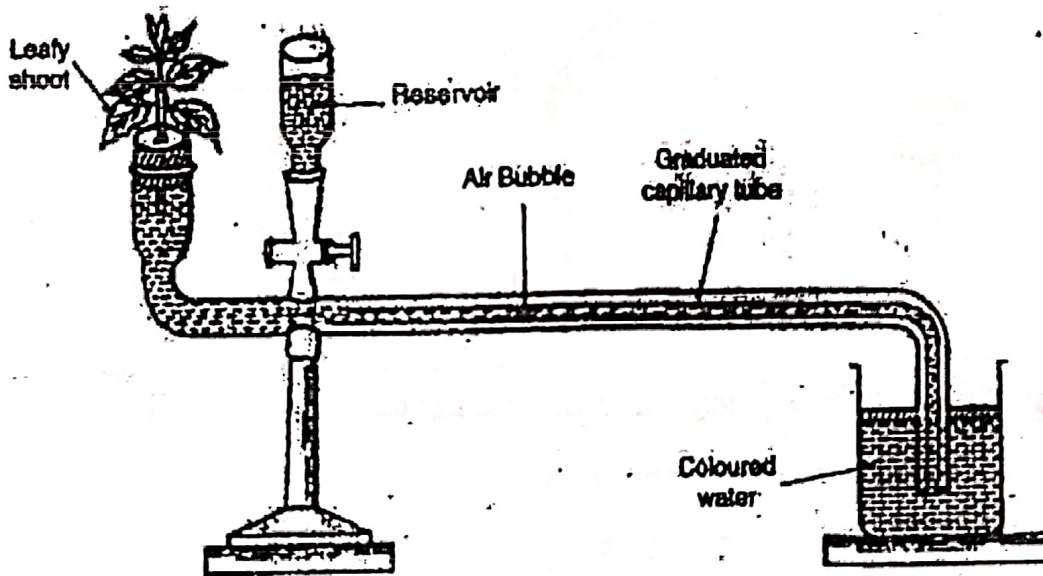
[5]

1. Prostate gland
2. Semi circular canal
3. Islets of Langerhans
4. Eustachian tube
5. Thyroid gland

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B) The diagram below demonstrates a particular process in the plants.
Study the same and answer the following.

[5]



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1. Name the apparatus.
2. Which phenomenon is demonstrated by this apparatus?
3. Explain the phenomenon mentioned in the (2) above.
4. State two limitations in using this apparatus.
5. What is the importance of the air bubble in the experiment?
6. Name the structures in a plant through which the above process takes place.

Question V.

A) Give scientific reason for the following.

[5]

1. ~~Some women have facial hair like beard and moustache.~~

2. ~~Cutting of trees should be discouraged.~~

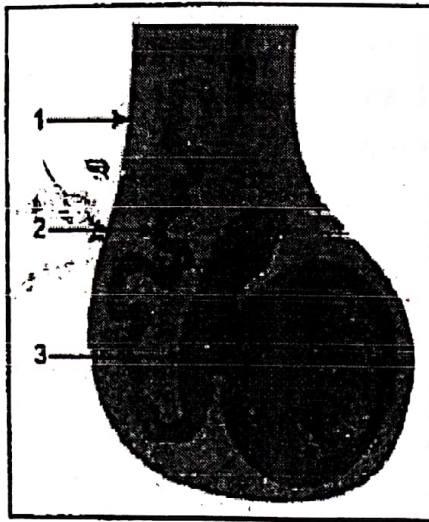
3. The left ventricle of the heart has a thicker wall than the right ventricle.

4. We cannot distinguish colours in moon light.

5. When an Ovum gets fertilized, menstrual cycle stops temporarily in a women.

B) The diagram shown below is the longitudinal section of a testis of men.
Study it carefully and answer the questions that follow:

[5]



1. Label the parts numbered 1 to 3 in the diagram.
2. In which part of the testis are the sperms produced?
3. State the functions of the labeled 1 and 3 in the diagram.
4. Name the cell that secretes Testosterone.
5. Draw a neat labeled diagram of a sperm.

Question VI.

A) Draw an internal structure of human heart and label the parts which suits the following descriptions relating to the:

[5]

1. Valve located at the aperture between right auricle and right ventricle.
2. Upper chamber on the right side of the heart.
3. Blood vessel bringing de oxygenated blood from the anterior region of the body.
4. Blood vessel that supply oxygenated blood to all part of the body.
5. Lower chamber of the heart which have thicker wall.

B) Answer the following.

[5]

1. Write abbreviation of:
 - a) FHS b) NADP c) ACTH d) LH
2. Briefly discuss the theory of natural selection given by Darwin.
(Based on two facts)
3. Write any two major reasons for the population explosion in India.
4. What are tropic movement? Briefly describe any one tropic movement in plants.

Question VII.

A) Complete the following table by filling in the blanks from 1 to 10 with appropriate terms. [5]

Sr No	Gland	Secretion	Function or Effect on the body
1	Thyroid	1	2
2	3	Vasopressin	4
3	5	6	Promotes glucose utilization by body cells
4	Lacrimal gland	7	8
5	Adrenal medulla	9	10

B) In a homozygous pea plant, axial flowers (A) are dominant over terminal flowers (a). [5]

- 1) What is the phenotype and genotype of the F₁ generation if a plant bearing pure axial flowers is crossed with a plant bearing pure terminal flowers?
- 2) Draw a punnet square board to show the gametes and off springs when both the parent plants are heterozygous for axial flowers.
- 3) What is Phenotypic ratio and Genotypic ratio of the above cross shown in (2)?
- 4) State Mendel's law of dominance.
- 5) Name two genetic disorders commonly seen in human males.