



St. Mary's Convent Inter College, Prayagraj  
Preliminary Examination 2024 - 25

Time : 2hr.

Class- 10  
BIOLOGY

M.M. : 80

Name : ..... Roll No. .... Date : .....

Note:- Section A is compulsory. Attempt any four from Section B.

Question 1:

Section A

Choose the correct answers to the questions from the given options.

(15)

i) Unit of nervous system is-

- a) Nephron                      b) Neuron                      c) Renal Medulla                      d) Renal Pelvis

ii) Myelin Sheath is interrupted at regular intervals-

- a) Nodes of ranvier                      b) Internodes                      c) Nodes of cells                      d) Nodes of stems

iii) **Assertion(A):** The foetus respire but does not breathe.

**Reason(R):** The maternal blood supplies oxygen to the foetus through placenta.

- a) A is true and R is false.                      b) A is false and R is true.  
c) Both A and R are true.                      d) Both A and R are false.

iv) Lymph differs from blood with the respect of-

- a) Lack of RBC                      b) Lack of WBC                      c) More RBC and less WBC                      d) All of these

v) The process of engulfing and destroying harmful microorganisms by WBC is called-

- a) Hemostasis.                      b) Phagocytosis.                      c) Diapedesis.                      d) Hematopoiesis.

vi) The onset of menstruation in a human female is called:

- a) Menopause.                      b) Menarche.                      c) Ovulation.                      d) Oogenesis.

vii) **Assertion(A):** Rods and Cones are photoreceptors in the sclera of eyeball.

**Reason (R):** Rods are sensitive to dim light.

- a) A is true and R is false.                      b) R is true and A is false.  
c) Both A and R are true.                      d) Both A and R are false.

viii) Anu tried to match the hormones with their effect on the human body. She tabulated the pairs as follows;

- a) P-Insulin, Q- Glucagon.                      b) P- Adranaline, Q-Oxytocin  
c) P-Glucagon, Q- Vasopressin.                      d) P- Vasopressin, Q- Adranaline.

ix) While studying the stages in the evolution of man , a well developed chin is observed in-

- a) Homo habilis.                      b) Homo erectus.                      c) Homo sapiens                      d) Australopithecus.

x) What is the term for the number of individuals living per unit of area in a population?

- a) Birth rate.                      b) Death rate.                      c) Population density.                      d) Growth rate.

xi) **Assertion(A):** We urinate more in summers.

**Reason(R):** Sweat glands are more active in summer.

- a) A is true ,R is false.    b) A is false, R is true.    c) Both A and R are true.                      d) Both A and R are false.

xii) Fraternal twins are the result of :

- a) One fertilized egg splitting into two embryos.                      b) Two separate eggs fertilized by two separate sperms.  
c) A fertilized egg falling to implant in the uterus.                      d) A genetic mutation in the embryo.

xiii) The hormone that controls the reabsorption of water in the kidney is:

- a) Vasopressin.                      b) Oxytocin.                      c) Glucagon.                      d) Thyroxin.

xiv) **Assertion(A):** Ear is a sense organ of hearing.

**Reason(R):** Auditory receptors which sense the sound are present in the ear.

- a) A is true and R is false.                      b) R is true and A is false.  
c) Both A and R are true.                      d) Both A and R are false.

xv) Which internal factor plays a role in regulating the rate of photosynthesis?

- a) Chlorophyll.                      b) Light intensity.                      c) CO<sub>2</sub> concentration.                      d) Temperature.

## **Question 2:**

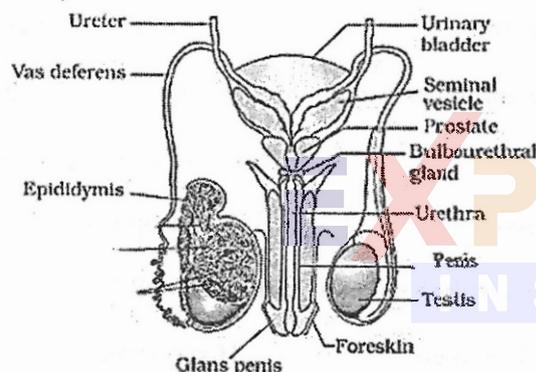
i) Name the following:

(5)

- a) The repeating components of each DNA strand lengthwise.  
b) The structure that connects placenta and the human foetus.  
c) The nitrogenous base that pairs with Adenine.  
d) The condition of a cell placed in a hypotonic solution.  
e) The structure in a leaf that allows guttation.

ii) Given below is a diagram of arrangement of male reproductive organs in the human body. Read the picture and fill up the blanks;

(5)



Human male sperms are produce in (a) \_\_\_\_\_ tubules and the process is called (b) \_\_\_\_\_. Packing tissues between the coils of tubules are (c) \_\_\_\_\_ cells, which produces (d) \_\_\_\_\_ hormone. The (e) \_\_\_\_\_ stores the sperms for some days during which they matures and become motile.

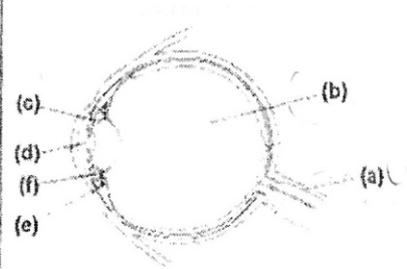
iii) Arrange and rewrite the terms in each group in the correct order so as to be in a logical sequence. (5)

- a) Cell elongation, Auxin, Positive phototropism, Apical meristem.
- b) Graffian follicle, Ostium, Uterus, Fallopian tube, Ovum.
- c) Conjunctiva, Retina, Cornea, Optic nerve, lens.
- d) Diencephalon, Cerebellum, Medulla oblongata, Pons, Cerebrum, Mid brain.
- e) Renal artery, Urethra, Ureter, Kidney, Urinary bladder.

iv) Read the explanation given below and name the structure. (5)

- a) Chemical agent which help in reduction of transpiration rate.
- b) Light reaction of photosynthesis occur in.
- c) Fixation of carbon dioxide occur during which phase of reaction in photosynthesis?
- d) The hormone which helps in cell division.
- e) Response towards the gravity.

v) Given below is across section of human eye. Match the structures marked (a) to (e) with their correct functions: (5)

Cross section of Human Eye	Functions
	1. Protects retina
	2. Regulates the size of the pupil
	3. Alters the shape of the lens
	4. Keeps the lens moist
	5. Transmits nerve impulses to brain
	6. Holds the lens in position

### Section B

- Q.3) i.) Explain the term osmosis. (1)
- ii.) Name the structure which act as selectively permeable membrane and write one function of it. (2)
- iii.) Write two limitations in the use of potometer. (2)
- iv.) Name the two internal factors which affects the rate of transpiration. (2)
- v.) Given below is the diagram of an experimental setup. Study the same and answer the following questions. (3)

