Nayak's Tutorials

Way to Excellence

Year: 2024-25	**Practice Paper - 3**	**Marks - 80**
Std:- X ICSE	**Biology**	**Duration :- 2 Hrs**

*Attempt **all** questions from **Section A** and **any four** questions from **Section B.***
The intended marks for question or parts of questions are given in brackets [ ].

Section A (40 marks)

Q.1. Multiple Choice Questions 15

1. The factor that does not affect the rate of transpiration are :
   a) Intensity of light b) Velocity of wind c) Carbon dioxide d) Oxygen
2. At the junction of choroid and iris, lies the:
   a) Fovea centralis b) Ciliary body c) Optic nerve d) Cornea
3. The nuclear membrane disappears
   a) Prophase b) Anaphase c) Zygotene d) Pachytene
4. Stomata open during the day and closes at night because:
   a) Photosynthesis occurs during the day time only
   b) Enzymes convert starch into sugar at elevated pH at night
   c) Loss of sugar increase osmotic concentration of the cell sap
   d) None of the above
5. The mineral element needed for the functioning of the Thyroid gland:
   a) Sodium b) Potassium c) Magnesium d) Iodine
6. Corpus callosum connects:
   a) A bone to another bone b) The brain to the spinal cord
   c) Two cerebral hemisphere d) Midbrain to hindbrain
7. The raw materials for photosynthesis are:
   a) Water, carbon dioxide and solar energy b) Carbon dioxide, oxygen and solar energy
   c) Carbon dioxide, starch and solar energy d) Carbon dioxide, oxygen and water
8. In mitosis :
a) Two cells are produced b) Four cells are produced
c) Eight cells are produced d) Six cells are produced
9. In hot summer day, plant cooling is due to:
   a) Loss of water vapours form leaves b) Transport of water in plant
   c) Loss of liquid water d) Loss of water from entire plant
10. Duplicated chromosome are joined at a point termed as:
   a) Centrosome b) Centromere c) Zygotene d) Chromatid
11. The innermost membrane of meninges is called :
   a) Dura mater b) Pia mater c) Arachnoid d) Gray matter
12. Which structure contains the lowest concentration of urea ?
   a) Afferent arteriole b) Efferent arteriole c) Collecting tubule d) Glomerulus
13. The beating of the heart is heard on the left side, because:
   a) The left ventricle is towards the left side
   b) Both ventricles are towards the left side

c) Contraction of heart is powerful at the open which is on left side

d) The dorsal aorta is on the left side

14. Ultrafiltration occurs in:

a) Bowman's capsule b) Proximal convoluted tubule c) Henle's loop d) Distal convoluted

15. On which day of the menstrual cycle does ovulation takes place ?

a) 5th day b) 28th day c) 14th day d) 1st day

Q2 A. Select the correct answer from the choices A, B, C and D which are given **5**

(i) Name the following :

(a) The wax-like layer on the epidermis of leaves which reduces transpiration.

(b) A factor which affects the photosynthesis, transpiration and growth of the plant.

(c) A biofertilizer

(d) It is the phase during which the cell is in the rest phase and do not divide.

(e) the contraction and expansion movement of muscular wall of oesophagus when food (bolus) passes from mouth to stomach.

B. (ii) Given below are five groups of terms. In each group arrange and rewrite the terms in the correct order so as to be in a logical sequence. **5**

For example :

Implantation, Parturition, Ovulation, Gestation, Fertilization.

Ovulation, Fertilization, Implantation, Gestation, Parturition.

(a) Spongy cells, Upper epidermis, Stoma, Palisade tissue, Substomatal space.

(b) Spinal cord, Moto neuron, Receptor, Effector, Sensory neuron.

(c) Endodermis, Cortex, Soil water, Xylem, Root hair.

(d) Metaphase, Telophase, Prophase, Anaphase, Cytokinesis.

(e) Intestine, Liver, Intestinal artery, Hepatic Vein, Hepatic Portal Vein.

C. (iii) Match the following: **5**

Column A	Column B
(a) Metaphase	(1) The process by which the molecules of perfume spread in the room when the bottle is open.
(b) Heart attack	(2) Twelve pairs of nerves.
(c) Renal artery	(3) Chromosome become arranged in a horizontal plane at the equator.
(d) Cranial nerves	(4) That brings waste filled – blood from the aorta to the kidney.
(e) Diffusion	(5) Blocking of coronary artery.

D. (iv) Odd one out of the each of the following series: **5**

(a) Diffusion, Imbibition, Osmosis, Oxidation

(b) Insulin, Glucagon, Diabetes mellitus, Diabetes insipidus

(c) Myopia, Hypermetropia, Xerophthalmia, Astigmatism

(d) Ovary, fallopian tube, ureter, uterus

(e) Cretinism, myxedema, goiter, scurvy

E. (v) Give exact location of the following: **5**

(a) Inguinal canal b) Bundle of His c) Acetylcholine

(d) Centrosome (e) Chromosome at Metaphase

Section B (40 marks) (Attempt any 4 out of 6 main questions)

Q3.

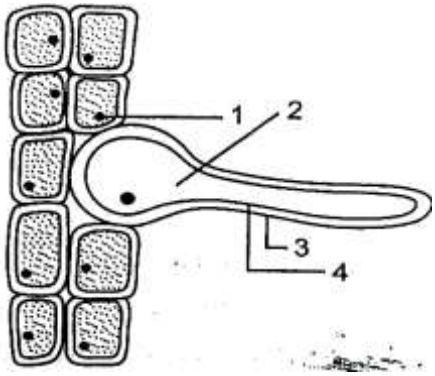
A. Give reason: Gametes must be produced by meiosis for sexual reproduction.[1]

B. Explain the term 'Tropic hormone'. Give one example of a tropic hormone.[2]

C. Where is the placenta is located? What is its function? [2]

D. Mention two structural differences between an artery and a vein.[2]

E. The diagram below shows a root hair. Study the diagram and answer the following questions:[3]



(a) Why is the root hair single-celled?

(b) Name the parts labeled as 1 in the above diagram.

(c) What will happen to the root hair if some fertilizer is added to the soil near the root hair?

Q4.

A. State the function of Hydathodes. [1]

B. Differentiate between Turgor pressure and Wall pressure.[2]

C. Explain with a cross the inheritance of colour blindness from a carrier mother and normal father.[2]

D. Differentiate between centrosome and centromere.[2]

E. Draw well-labelled diagrams of (i) Artery and (ii) Superior vena cava to show the structural difference between them.[3]

Q.5

A. Give the full form of the following abbreviation: ADH [1]

B. Write the functions of:[2]

(a) Chromosome (b) Aldosterone

C. Classifying the following actions as simple reflex or conditioned reflex:[2]

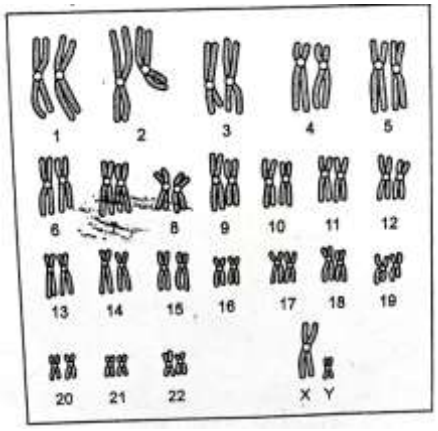
(a) Playing a guitar (b) Removing your hand suddenly when picked by a thorn.

D. Fill in the blanks:[2]

(a) ……are the alternative forms of gross producing different effects.

(b) Water and mineral salts absorbed by root is known as …… .

E. The karyotype (set of chromosomes) show below is taken from a diving cell in a certain individual.[3]



(a) Is this individual male or female? Explain your answer.

(b) How would you expect:

1. A female child
2. Sperm cell to differ in chromosome composition?

Q6.

A. State the function of Nephron.[1]

B. Answer the following questions:[2]

(a) man can live without food for a number of days, but he cannot survive without O_2 for more than a few minutes, why ?

(b) 1st Meiotic division is the reduction division. Why?

C. State True/False:[2]

(a) Growth rate of a population is the difference between the birth rate and death rate.

(b) The theory of Inheritance of Acquired characters was proposed by Watson and Crick.

D. State Asexual Reproduction. Can you consider cell division as a type of reproduction in unicellular organisms? Justify.[2]

E. Draw a neat and well-labelled diagram of the apparatus you would set up to show that oxygen is given out during photosynthesis.[3]

Q7.

A. What is the name of the compound which pours down during acid rain? [1]

B. State the location of: (a) Medulla of kidney (b) Chordae tendineae [2]

C. What is the role of decomposers in the ecosystem? [2]

D. Draw a well labelled diagram to show the anaphase stage of mitosis in a plant cell having four chromosomes.[2]

E. A homozygous purple flower variety of pea plant [PP] is crossed with white flower variety of pea [pp]. Mention the phenotype and genotype of the F1 generation of offspring. If the offspring of the F1 generation are crossed, what will be the phenotypic and genotypic ratios of the F2 generation?[3]

Q 8.

A. Define Acid rain.[1]

B. State the exact location of: (a) Seminal vesicle (b) Adrenal gland [2]

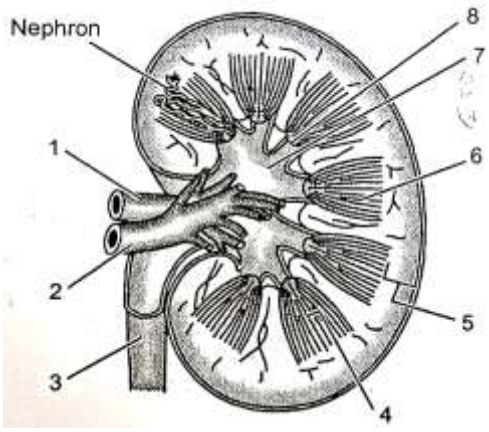
C. What is Hormone? [2]

D. Name the following: [2]

(a) The bacteria that break down dead organisms to liberate nitrogen.

(b) The part of chloroplast where the light reaction of photosynthesis takes place.

E. Given below is a diagram of kidney: [3]



(a) Is it a longitudinal section or cross section?

(b) Label the parts 1 – 8.

(c) Write two differences in the composition of blood flowing through blood vessels 1 and 2.

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