

Paper Set : SET-I(HT)

SUBJECT : Biology

Max Marks : 80

ICSE Board - Sample Paper - 1

Duration : 2 Hrs.

GENERAL INSTRUCTIONS :

- * YOU WILL NOT ALLOWED TO WRITE DURING THE FIRST 15 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.
- * USE OF CALCULATOR AND MOBILE DEVICES ARE NOT ALLOWED.
- * SECTION A IS COMPULSORY. ATTEMPT ANY FOUR QUESTION FROM SECTION B.

SECTION - A ---- (40 Marks)

Q.1 (A) Name the following :

[5]

- (i) The fluid present inside and outside the brain.
- (ii) The number of chromosomes present in a nerve cell of a human being.
- (iii) The process by which root hairs absorb water from the soil.
- (iv) The number of individuals per square kilometer at any given time.
- (v) The part of eye responsible for its shape.

(B) Choose correct answer from each of the four option given below :

[5]

- (i) The number of cranial nerves in human being
 - (a) 31 pairs
 - (b) 10 pairs
 - (c) 21 pairs
 - (d) 12 pairs
- (ii) Surgical method of sterilization in a woman involves cutting and tying of
 - (a) Ureter
 - (b) Uterus
 - (c) Urethra
 - (d) Oviduct
- (iii) Nephron discharge their urine at the
 - (a) Urinary bladder
 - (b) Urethra
 - (c) Renal pelvis
 - (d) Renal pyramid
- (iv) Absorption of water by plant cells by surface attraction is called as
 - (a) diffusion
 - (b) osmosis
 - (c) imbibition
 - (d) endosmosis
- (v) The prime sources of chlorofluorocarbons is
 - (a) Vehicular emission
 - (b) Industrial effluents
 - (c) Domestic sewage
 - (d) Refrigeration equipments

(C) Complete the following paragraph using appropriate words/phrases:

[5]

The test a leaf for starch, the leaf is boiled in water to (i) _____. It is then boiled in methylated spirit to (ii) _____. The leaf is dipped in warm water to soften it. It is placed in a petridish and (iii) _____ solution is added. The region of the leaf which contain starch, turns (iv) _____ & the region which does not contain starch, turns (v) _____.

(D) Match the pair :

[5]

	A	B
1	Sunken stomata	Hyperglycemia
2	Birth rate	Natality
3	DNA & Histone	Nerium
4	Euro norms	Vehicular standard
5	Diabetes mellitus	Nucleosome

(E) State the main function of the following :

[5]

- (i) Puberty
- (ii) Leydig cells
- (iii) Guard cells
- (iv) Eustachian tube
- (v) Corpus luteum

(F) Correct the following statements by changing the underlined words:

[5]

- (i) Normal pale yellow colour of the urine is due to presence of the pigment melanin.
- (ii) The outermost layer of meninges is piamater.
- (iii) The cell sap of root hair is hypotonic to its surroundings.
- (iv) Xylem transports sucrose from the leaves to all parts of the plant body.
- (v) Nitrogen bonds are present between the complementary nitrogenous bases of DNA.

(G) Choose odd one out from the following terms and name the category to which the other belong:

[5]

- (i) Bile, Urea, Uric acid, Ammonia.
- (ii) Lumen, Muscular tissue, Pericardium, Connective tissue.
- (iii) Dendrites, Medullary sheath, Axon, Spinal cord.
- (iv) Oviduct, Uterus, Urethra, Ovary, Cervix.
- (v) Prostate gland, Cowper's gland, Seminal vesicle, Seminiferous tubules.

(H) Define :

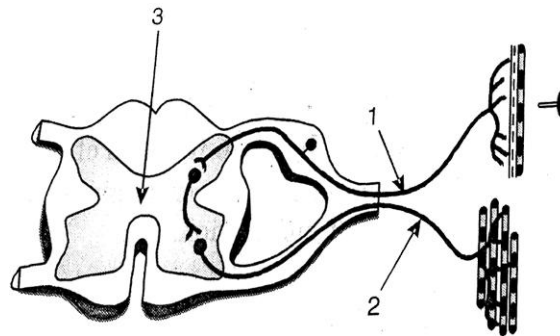
[5]

- (i) Mutation
- (ii) Imbibition
- (iii) Thigmotropism
- (iv) Power of accommodation
- (v) Guttation

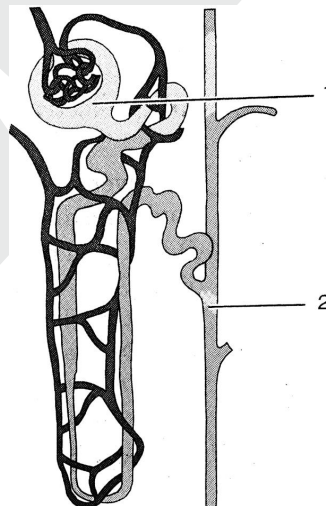
SECTION - B ---- (40 Marks)

(Attempt any 4 from the question)

- Q.2 (A)** The diagram given below shows the internal structure of a spinal cord depicting a phenomenon. Study the diagram and answer the questions : [5]

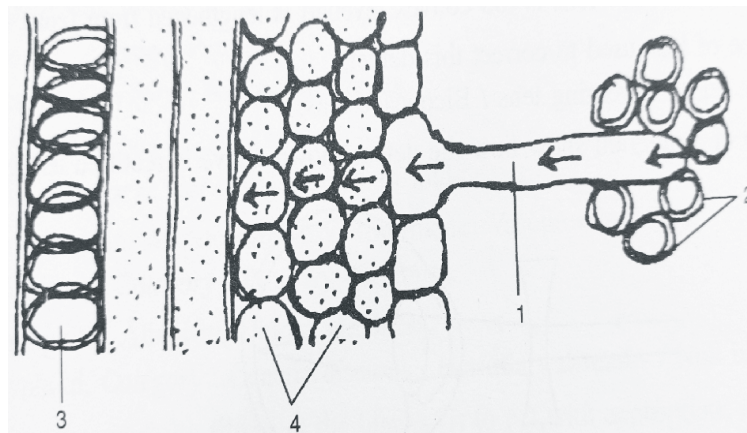


- (i) Name the phenomenon that is depicted in the diagram. Define the phenomenon.
 - (ii) Give the technical term for the point of contact between two nerve cells.
 - (iii) Name the parts numbered 1, 2 and 3.
 - (iv) How does the arrangement of neurons in the spinal cord differ from that of the brain ?
 - (v) Mention two ways by which the spinal cord is protected in our body.
- (B) The diagram given below is that of a structure present in a human kidney. Study the same and answer the questions that follows : [5]**



- (i) Name the structure represented in the diagram.
- (ii) What is the liquid entering part '1' called ? Name two substances present in this liquid that are reabsorbed in the tubule.
- (iii) What is the fluid that comes to part '2' called ? Name the main nitrogenous waste in it.
- (iv) Mention the three main steps involved in the formation of the fluid mentioned in (iii) above
- (v) Name the substance which may be present in the fluid in part '2' if a person suffers from Diabetes mellitus.

Q.3 (A) The figure given below is a diagrammatic representation of a part of the cross section of the root in the root hair zone. Study the same and then answer the questions that follow: **[5]**



- (i) Name the parts indicated by the guidelines 1 to 4.
- (ii) Which is the process that enables the passage of water from the soil into the root hair?
- (iii) Name the pressure that is responsible for the movement of water in the direction indicated by the arrows. Define it.
- (iv) Due to an excess of this pressure sometimes drops of water are found along the leaf margins of some plants especially in the early mornings. What is the phenomenon called?
- (v) Draw a well labelled diagram of the root hair cells as it would appear if an excess of fertiliser is added to the soil close to it.

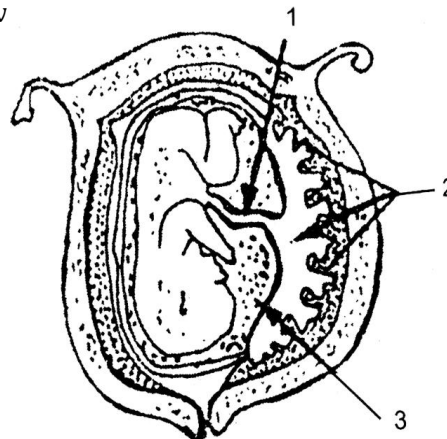
(B) Differentiate between the following pairs on the basis of what is mentioned in brackets: **[5]**

- (i) Human skin cell and Human ovum (number of chromosomes)
- (ii) Sperm duct and fallopian tube (function)
- (iii) Monohybrid cross and Dihybrid cross (phenotypic ratio)
- (iv) Rod cells and cone cells (pigments)
- (v) LUBB and DUP (names of the valves whose closure produce the sound)

Q.4 (A) A pea plant which is homozygous for green, inflated pods (GGII) is crossed with a homozygous plant having yellow, constricted pods (ggii). Answer the following questions: **[5]**

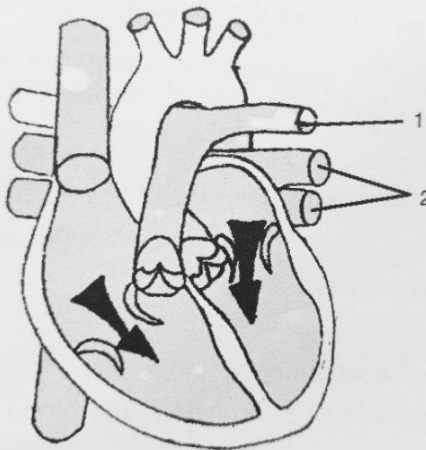
- (i) Give the phenotype and genotype of the F1 generation . Which type of pollination has occurred to produce F1 generation?
- (ii) Write the phenotypic ratio of the F2 generation.
- (iii) Write the possible combination of the gametes that can be obtained from a F1 hybrid plant.

- (B) Given below is the diagram of developing human foetus in the womb. Study the same and then answer the question that follow [5]



- Name the part labelled 1.
- Mention any two functions of the part labelled 2.
- Explain the role played by the part labelled 3.
- What is the normal gestation period (in days) of the developing foetus ?
- What is gestation ?

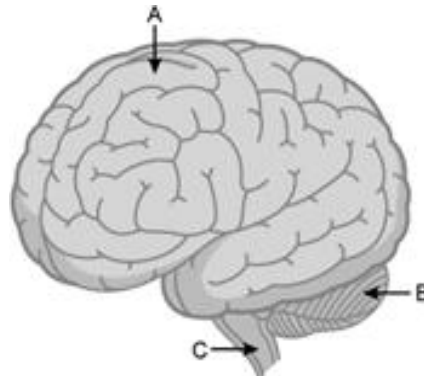
- Q.5 (A)** The diagram given below represents a section of the human heart. Answer the questions that follows: [5]



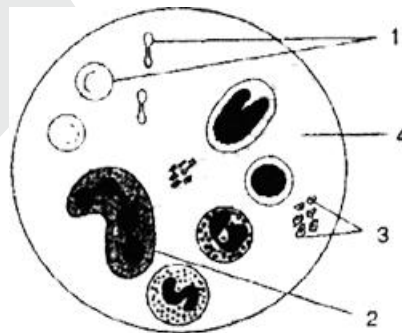
- Which part of heart are in the diastolic phase? Give a reason to support your answer.
 - Label the parts numbered 1 and 2 in the diagram.
 - What causes the heart sounds 'LUBB' and 'DUB'?
 - Name the blood vessels that supply oxygenated blood to the heart muscles.
 - Draw neat labelled diagrams of a cross section of an artery and a vein.
- (B) Give appropriate biological / technical terms for the following: [5]
- The tissue that transports manufactured type of starch from the leaves to all parts of the plants.
 - The suppressed allele of a gene.
 - The accessory gland in human males whose secretion activates the sperms.
 - An apparatus that measures the rate of water uptake in a cut shoot due to transpiration.
 - The kind of twins formed from two fertilized eggs.

- (vi) A pair of corresponding chromosomes of the same size and shape, one from each parent.
- (vii) The mild chemical substance which when applied on the body kills germs.
- (viii) The type of waste generated in hospital and pathological laboratories.
- (ix) The antiseptic present in tears.
- (x) Cellular components of blood containing haemoglobin.

Q.6 (A) The diagram given alongside is an external view of the human brain. Study the same and answer the questions that follow : **[5]**



- (i) Name the labelled parts.
 - (ii) State the main function of parts A and B.
 - (iii) What are the structural and functional unit of the brain ? How are the parts of these units arranged in A and C?
 - (iv) Mention the collective term for the membranes covering the brain.
 - (v) What is the function of CSF?
- (B)** Given below is a diagram of a human blood smear. Study the diagram and answer the question that follow : **[5]**



- (i) Name the components numbered 1 to 4.
- (ii) Mention two structural differences between the parts 1 and 2.
- (iii) Name the soluble protein found in part '4' which form insoluble threads during clotting of blood.
- (iv) What is the average lifespan of the components numbered '1' ?
- (v) Component numbered '1' do not have certain organelles but are very efficient in their function. Explain.

- Q.7** (A) A homozygous tall plant (T) bearing red coloured (R) flowers is crossed with a homozygous dwarf (t) plant bearing white (r) flower : **[5]**
- (i) Give the genotype and phenotype of the plant of F_1 generation.
 - (ii) Mention the possible combinations of the gametes that can be obtained from the F_1 hybrid plant.
 - (iii) State the Mendel's law of Independent Assortment.
 - (iv) Mention the phenotypes of the offsprings obtained in F_2 generation
 - (v) What is the phenotypic ratio obtained in F_2 generation?
- (B) Briefly explain the following terms: **[5]**
- (i) Reflex action
 - (ii) Gestation
 - (iii) Photophosphorylation
 - (iv) Hormone
 - (v) Synapse