

ICSE 2024 EXAMINATION

BIOLOGY

SAMPLE PAPER - 9

Maximum Marks: 80

Time allowed: Two hours

Answers to this Paper must be written on the paper provided separately.

You will not be allowed to write during 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.

Section A is compulsory. Attempt any four questions from Section B.

The intended marks for questions or parts of questions are given in brackets [].

SECTION - A

(Attempt all questions from this section.)

Question 1.

Select the correct answers to the questions from the given options. (Do not copy the question.

[15]

Write the correct answer only :

- (i) The growing leaves show
 - (a) Geotropism
 - (b) Hydrotropism
 - (c) Phototropism
 - (d) Thigmotropism
- (ii) Lippe's loop is a type of contraceptive used as :
 - (a) Barrier method
 - (b) pills
 - (c) surgical method
 - (d) IUCD
- (iii) Acrosome helps the sperm to :
 - (a) destroy the ovum
 - (b) swim to the ovum
 - (c) penetrate the ovum
 - (d) derive energy from ovum
- (iv) Light yellow coloured alkaline liquid part of blood is :
 - (a) RBC
 - (b) WBC
 - (c) Platelet
 - (d) Plasma
- (v) The process of maintaining ionic balance in the body is called :
 - (a) secretion
 - (b) excretion
 - (c) osmoregulation
 - (d) osmosis
- (vi) The systolic normal blood pressure for adults is :
 - (a) 50-100 mm
 - (b) 100-140 mm
 - (c) 60-80 mm
 - (d) 90-100 mm
- (vii) Bowman's capsule is a part of :
 - (a) nephron
 - (b) heart
 - (c) medulla
 - (d) lung
- (viii) 'Flight or fight hormones' are :
 - (a) adrenaline and noradrenaline
 - (b) insulin and glucagon
 - (c) thyroxine and calcitonine
 - (d) oestrogen and progesterone
- (ix) Complete the analogy and choose the correct option. *Homo erectus* : Peking man : : _____ : Handyman
 - (a) Ramapithecus
 - (b) *Homo habilis*
 - (c) *Homo sapiens*
 - (d) *Homo neanderthalensis*
- (x) Gestation period is the :
 - (a) onset of menstrual cycle
 - (b) period between ovulation and implantation
 - (c) the period for which a female remains sexually active
 - (d) period during which foetus remains in uterus
- (xi) Implantation is :
 - (a) attachment of the blastocyst to the uterine wall
 - (b) release of ovum from the follicle
 - (c) development of an embryo without fertilisation
 - (d) formation of ova from germ cells
- (xii) In photosynthesis, photolysis of water is used in
 - (a) reduction of NADP^+
 - (b) oxidation of FAD
 - (c) oxidation of NADP^+
 - (d) reduction of FAD
- (xiii) A steroid hormone that regulate the metabolism of glucose is
 - (a) Cortisone
 - (b) Cortisol
 - (c) Serotonine
 - (d) Adrenaline

- (xiv) Name the disease, caused due to abnormal constituent of bile pigments in urine.
 (a) Stone (b) Haematuria (c) Jaundice (d) Glycosuria
- (xv) The growth of human population is indicated by :
 (a) S-shaped growth curve (b) J-shaped growth curve
 (c) a parabola (d) wave pattern

Question 2.

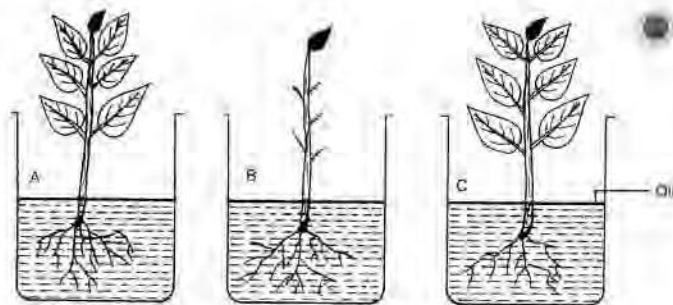
- (i) Name the following: [5]
 (a) The part of the brain associated with memory (b) The ear ossicle which is attached to the tympanum
 (c) The type of gene, which in the presence of a contrasting allele is not expressed
 (d) The hormone secreted by Islets of Langerhans.
 (e) The process of conversion of ADP into ATP during photosynthesis [5]
- (ii) Arrange and rewrite the terms in each group in the correct order so as to be in a logical sequence beginning with the term that is underlined. [5]
 (a) Spongy cells, Upper epidermis, Stoma, Palisade tissue, Substomatal space
 (b) Spinal cord, Motor neuron, Receptor, Effector, Sensory neuron
 (c) Endodermis, Cortex, Soil water, Xylem, Root hair
 (d) Pancreas, Liver, Intestine, Anus, Rectum
 (e) Intestine, Liver, Intestinal artery, Hepatic Vein, Hepatic Portal Vein
- (iii) Match the items given in Column I with the most appropriate ones in Column II and rewrite the correct matching pairs. [5]
- | Column I | Column II |
|--|----------------|
| (a) Urethra | 1. Glucagon |
| (b) Beta cells of Pancreas | 2. Meninges |
| (c) Meiosis | 3. Iris |
| (d) Protective covering of the brain | 4. Micturition |
| (e) Constriction of the pupil of the eye | 5. Insulin |
| | 6. Skin Cell |
| | 7. Sperm |
- (iv) Choose the odd one out from the following terms and name the category to which the others belong: [5]
 (a) Chlorophyll, mesophyll, carotene, xanthophyll (b) Pellagra, Beri-beri, Kwashiorkor, Scurvy
 (c) Lateral horn, central canal, pons, dorsal ganglion (d) Basophil, eosinophil, monocyte, neutrophil
 (e) Glucose, insulin, fats, proteins
- (v) Give the exact location and function of each of the following structural substances : [5]
 (a) Amniotic fluid (b) Lenticels (c) Adrenal gland (d) Vitreous chamber (e) Trophoblast

SECTION - B

(Attempt any four questions from this Section.)

Question 3.

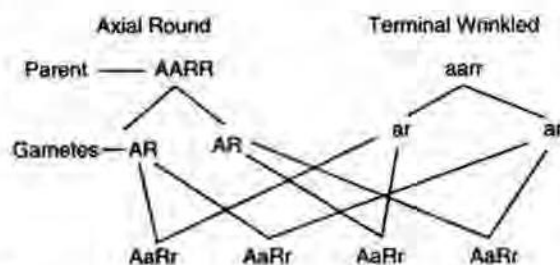
- (i) Define the term 'Ascent of sap'. [1]
 (ii) Differentiate between blood and lymph. [2]
 (iii) Explain tubular secretion in brief. [2]
 (iv) Where is the vision best in the eye? Why is it so? [2]
 (v) Three plants A, B and C are placed in beakers containing coloured water. The water in each beaker is covered with a layer of oil. Plant A is left intact; while leaves are removed from plant B. Plant C is exposed to strong sunlight. [3]



- In which plant A, B or C, would water move up the fastest?
- In which plant would water move slowly?
- Why is water covered with oil?

Question 4.

- Expand the abbreviation – ACTH. [1]
- List the changes that occur during the dark adaptation in our eye. [2]
- Why has the Government made it mandatory for all the salt manufactures to supply iodised salt? [2]
- In criss-cross inheritance, one particular character is transmitted from grandfather to grandson. Give reason. [2]
- Given below is a schematic diagram showing Mendel's Experiment on sweet pea plants having axial flowers with round seeds (AARR) and Terminal flowers with wrinkled seeds (aarr). Study the same and answer the questions that follow: [3]



- Give the phenotype of F_1 progeny.
- Give the phenotypes of F_2 progeny produced upon by the self-pollination of F_1 progeny.
- Give the phenotypic ratio of F_2 progeny.

Question 5.

- What is industrial melanism? Explain with an example. [1]
- What is the difference between passive and active absorption of water in plants? [2]
- Where is thyroid gland situated? Give its function. [2]
- "The term osmotic pressure is taken as an index of certain properties of a solution." Justify the statement. [2]
- Fill the blanks and complete the table. [3]

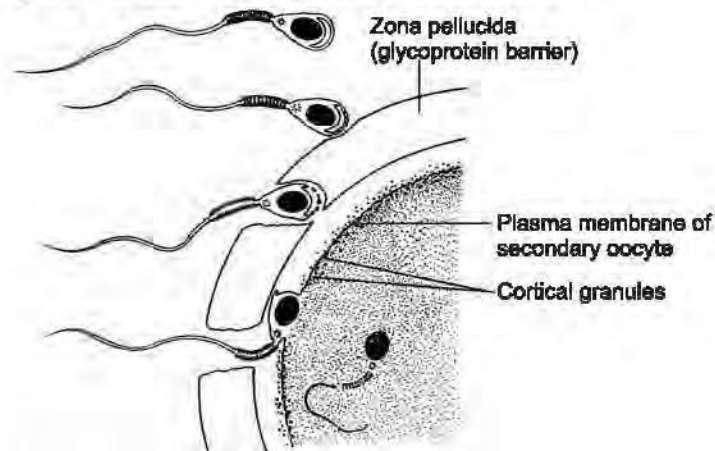
	Cranial size	Height	Locomotion
<i>Cro magnon</i>			
<i>Homo habilis</i>			

Question 6.

- Define Retina. [1]
- Write differences between artery and vein. [2]
- Where are neurons found? Give their specific function. [2]
- What is a test-tube baby? Give a brief. [2]

(v) Study the following diagram and answer the questions which follow :

[3]



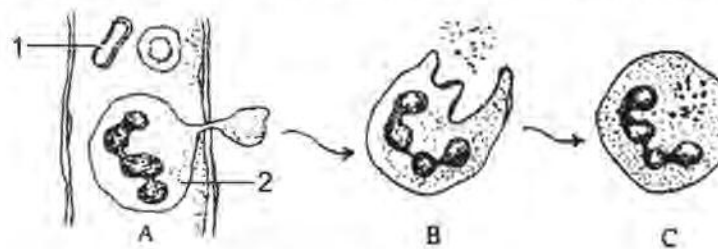
- What is the above diagram showing?
- Name the chemical released by acrosome during the above process.
- What do you understand by the term 'capacitation'?

Question 7.

- Define Ultrafiltration. [1]
- Give the significance of root pressure in plants. [2]
- Differentiate between melanin and haemoglobin. [2]
- Wooden frames of doors get jammed during the monsoon season. Give reason. [2]
- Draw well labelled diagrams to show both metaphase and anaphase stage of mitosis in a plant cell having four chromosomes. [3]

Question 8.

- Define Turgor pressure. [1]
- Differentiate between Bowman's Capsule and Malpighian capsule. [2]
- State the law of Independent Assortment. [2]
- Give two main features of Bharat Stage (BS) vehicular standards. [2]
- Study the following diagram carefully and then answer the questions that follow : [3]



- Name the cell labelled 1.
- Identify the phenomenon occurring in B.
- Mention two structural differences between 1 and 2.

SOLUTION

Maximum Marks: 80

Time allowed: Two hours

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Section A is compulsory. Attempt **any four** questions from **Section B**.

The intended marks for questions or parts of questions are given in brackets [].

SECTION - A

(Attempt **all** questions from this section.)

Question 1.

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

[15]

(Do not copy the question. Write the correct answer only) :

(i) The growing leaves show

- (a) Geotropism (b) Hydrotropism (c) Phototropism (d) Thigmotropism

Ans. (c) Phototropism

(ii) Lippe's loop is a type of contraceptive used as :

- (a) Barrier method (b) pills (c) surgical method (d) IUCD

Ans. (d) IUCD

(iii) Assertion (A): Haemophilia is an X- linked dominant character.

Reason (R): Haemophilic individuals lack a factor responsible the clotting of blood in body.

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

Ans. (d) (A) is false and (R) is true

(iv) Light yellow coloured alkaline liquid part of blood is :

- (a) RBC (b) WBC (c) Platelet (d) Plasma

Ans. (d) Plasma

(v) The process of maintaining ionic balance in the body is called :

- (a) secretion (b) excretion (c) osmoregulation (d) osmosis

Ans. (c) osmoregulation

(vi) Transpiration is the natural process in which plants lose water in the form of vapours through their leaves. It is influenced by environmental factors such as temperature, humidity, light, and wind. How does an increase in wind speed affect transpiration in plants?

- (a) It decreases transpiration by closing the stomatal pores
(b) It increases transpiration by rupturing the cuticle on leaves
(c) It has no significant effect on transpiration
(d) It increases transpiration by enhancing evaporation from leaf surfaces

Ans. (d) It increases transpiration by enhancing evaporation from leaf surfaces

(vii) Bowman's capsule is a part of :

- (a) nephron (b) heart (c) medulla (d) lung

Ans. (a) Nephron

(viii) 'Flight or fight hormones' are :

- (a) adrenaline and noradrenaline
- (b) insulin and glucagon
- (c) thyroxine and calcitonine
- (d) oestrogen and progesterone

Ans. (a) adrenaline and noradrenaline

(ix) Complete the analogy and choose the correct option. *Homo erectus* : Peking man : : _____ : Handyman

- (a) Ramapithecus
- (b) *Homo habilis*
- (c) *Homo sapiens*
- (d) *Homo neanderthalensis*

Ans. (b) *Homo habilis*

(x) In the process of tubular reabsorption, which specific molecules are reabsorbed from the filtrate in human kidneys?

- 1- Glucose
- 2- Ammonia
- 3- Amino acid
- 4- Uric acid

- (a) 1 and 3
- (b) 2 and 4
- (c) 1 and 2
- (d) 3 and 4

Ans. (a) 1 and 3

(xi) Implantation is :

- (a) attachment of the blastocyst to the uterine wall
- (b) release of ovum from the follicle
- (c) development of an embryo without fertilisation
- (d) formation of ova from germ cells

Ans. (a) attachment of the blastocyst to the uterine wall

(xii) In photosynthesis, photolysis of water is used in

- (a) reduction of NADP^+
- (b) oxidation of FAD
- (c) oxidation of NADP^+
- (d) reduction of FAD

Ans. (b) reduction of NADP^+

(xiii) A steroid hormone that regulate the metabolism of glucose is

- (a) Cortisone
- (b) Cortisol
- (c) Serotonine
- (d) Adrenaline

Ans. (b) Cortisol

(xiv) Name the disease, caused due to abnormal constituent of bile pigments, in urine.

- (a) Stone
- (b) Haematuria
- (c) Jaundice
- (d) Glycosuria

Ans. (c) Jaundice

(xv) The growth of human population is indicated by :

- (a) S-shaped growth curve
- (b) J-shaped growth curve
- (c) a parabola
- (d) wave pattern

Ans. (b) J-shaped growth curve

Question 2.

(i) Name the following:

[5]

- (a) The part of the brain associated with memory
- (b) The ear ossicle which is attached to the tympanum
- (c) The type of gene, which in the presence of a contrasting allele is not expressed
- (d) The hormone secreted by Islets of Langerhans.
- (e) The process of conversion of ADP into ATP during photosynthesis

[5]

Ans. (a) Cerebrum (b) Malleus (c) Recessive allele
(d) Glucagon (by α cells), Insulin (by β cells) and Somatostatin (by δ cells)
(e) Photophosphorylation

(ii) Arrange and rewrite the terms in each group in the correct order so as to be in a logical sequence beginning with the term that is underlined.

[5]

- (a) Spongy cells, Upper epidermis, Stoma, Palisade tissue, Substomatal space
- (b) Spinal cord, Motor neuron, Receptor, Effector, Sensory neuron
- (c) Endodermis, Cortex, Soil water, Xylem, Root hair

- (d) Pancreas, Liver, Intestine, Anus, Rectum
- (e) Intestine, Liver, Intestinal artery, Hepatic Vein, Hepatic Portal Vein

- Ans.**
- (a) Upper epidermis, Palisade tissue, Spongy cells, Substomatal space, Stoma
 - (b) Receptor, Sensory neuron, Spinal cord, Motor neuron, Effector
 - (c) Soil water, Root hair, Cortex, Endodermis, Xylem
 - (d) Liver, Pancreas, Intestine, Rectum, Anus
 - (e) Intestinal artery, Intestine, Hepatic Portal Vein, Liver, Hepatic Vein

- (iii)** Match the items given in Column I with the most appropriate ones in Column II and rewrite the correct matching pairs. **[5]**

Column I

- (a) Urethra
- (b) Beta cells of Pancreas
- (c) Meiosis
- (d) Protective covering of the brain
- (e) Constriction of the pupil of the eye

Column II

- 1. Glucagon
- 2. Meninges
- 3. Iris
- 4. Micturition
- 5. Insulin
- 6. Skin Cell
- 7. Sperm

- Ans.**
- (a) Urethra — 4. Micturition
 - (b) Beta cells of Pancreas — 5. Insulin
 - (c) Meiosis — 7. Sperm
 - (d) Protective covering of the brain — 2. Meninges
 - (e) Constriction of the pupil of the eye — 3. Iris

- (iv)** Choose the odd one out from the following terms and name the category to which the others belong: **[5]**

- (a) Chlorophyll, mesophyll, carotene, xanthophyll
- (b) Pellagra, Beri-beri, Kwashiorkor, Scurvy
- (c) Lateral horn, central canal, pons, dorsal ganglion
- (d) Basophil, eosinophil, monocyte, neutrophil
- (e) Glucose, insulin, fats, proteins

- Ans.**
- (a) **Mesophyll** : Mesophyll is the tissue found between the upper and lower epidermis of the green leaves whereas all others are different kinds of pigments found in the plants.
 - (b) **Kwashiorkor** : It is a protein deficiency disease whereas others are vitamin deficiency diseases.
 - (c) **Pons** : It is a part of the brain whereas all others are parts of spinal cord.
 - (d) **Monocytes** are the agranulocytes of WBCs while the rest are granulocytes of WBCs.
 - (e) **Insulin** : It is a hormone whereas all others are different kinds of food nutrients.

- (v)** Give the exact location and function of each of the following structural substances : **[5]**

- (a) Amniotic fluid
- (b) Lenticels
- (c) Adrenal gland
- (d) Vitreous chamber
- (e) Trophoblast

- Ans.**
- (a) **Location** – Inside the amnion in the uterus
Function – It acts as a cushion and shock absorber for the embryo.
 - (b) **Location** : surface of old woody stem
Function : Lenticular transpiration occurs in old plants.
 - (c) **Location** : At the top of each kidney
Function : It secretes adrenaline and nor-adrenaline hormones.
 - (d) **Location** : A cavity of the eye filled with vitreous humour, located posterior to the crystalline lens and anterior to the retina

Function : It helps in maintaining the shape of eye ball and protects retina and its nerve endings.

- (e) **Location :** The zygote gets transformed into blastocyst after fertilisation. The outer layer of the cells of blastocyst is called trophoblast

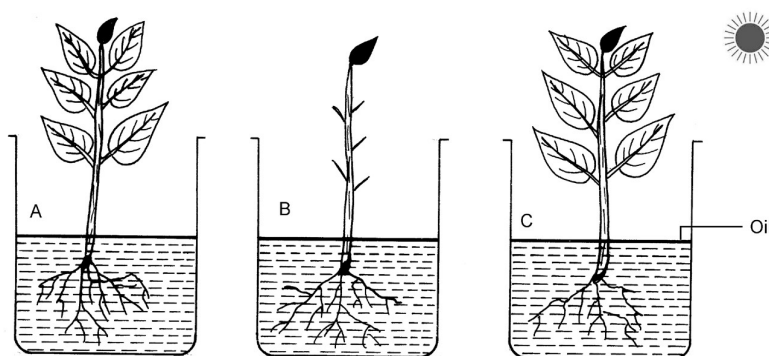
Function : Trophoblast give rise to the embryonic membranes, the chorion and the amnion.

SECTION - B

(Attempt **any four** questions from this Section.)

Question 3.

- (i) Define the term 'Ascent of sap'. [1]
- (ii) Differentiate between blood and lymph. [2]
- (iii) Explain tubular secretion in brief. [2]
- (iv) Where is the vision best in the eye? Why is it so? [2]
- (v) Three plants A, B and C are placed in beakers containing coloured water. The water in each beaker is covered with a layer of oil. Plant A is left intact; while leaves are removed from plant B. Plant C is exposed to strong sunlight. [3]



- (a) In which plant A, B or C, would water move up the fastest?
- (b) In which plant would water move slowly?
- (c) Why is water covered with oil?

Ans.

- (i) **Ascent of sap** is the upward transport of water (alongwith dissolved inorganic mineral salts) from roots to aerial parts of the plant.

(ii) Difference between blood and lymph

Blood	Lymph
(1) It is a red-coloured tissue fluid.	Lymph is a yellow-coloured fluid.
(2) Blood flow starts from heart and after flowing through arteries, capillaries and veins, it returns back to the heart.	Lymph flow starts from tissue spaces and after flowing through lymph capillaries and lymphatic vessels, it enters the blood.
(3) It contains more proteins, calcium and phosphorus.	It contains less proteins, calcium and phosphorus.
(4) It contains RBCs with haemoglobin, hence red in colour.	Only leucocytes are present; RBCs are absent.

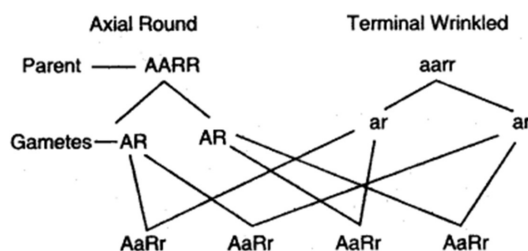
- (iii) **Tubular Secretion** is a process reverse of tubular reabsorption occurring in kidneys. In this process, the proximal convoluted tubule removes waste materials from the blood and passes these into the filtrate by the process of secretion.
- (iv) The distribution of rods and cones is not uniform on the retina. A particular spot called the macula or **yellow spot** contains the maximum number of sensory cells, particularly the cones. As a result, this is the region of the

brightest vision and also of the colour vision. The rest of the retina has fewer cones and more rods.

- (v) (a) Water moves up fastest in plant C as transpiration is enhanced in the presence of sunlight. It results in rapid absorption of water from the roots to aerial parts.
 (b) Water moves slowly in plant B as there are no leaves and little or no transpiration will take place.
 (c) Water is covered with oil as a precaution to prevent evaporation of water from the beaker.

Question 4.

- (i) Expand the abbreviation – ACTH. [1]
 (ii) List the changes that occur during the dark adaptation in our eye. [2]
 (iii) Why has the Government made it mandatory for all the salt manufactures to supply iodised salt? [2]
 (iv) In criss-cross inheritance, one particular character is transmitted from grandfather to grandson. Give reason. [2]
 (v) Given below is a schematic diagram showing Mendel's Experiment on sweet pea plants having axial flowers with round seeds (AARR) and Terminal flowers with wrinkled seeds (aarr). Study the same and answer the questions that follow: [3]



- (a) Give the phenotype of F_1 progeny.
 (b) Give the phenotypes of F_2 progeny produced upon by the self-pollination of F_1 progeny.
 (c) Give the phenotypic ratio of F_2 progeny.

Ans.

- (i) ACTH – Adrenocorticotrophic Hormone
 (ii) The major changes occurring in the eye during dark adaptation are as follows :
 i The pupils dilate to allow more light to enter the eye.
 i The pigment of the rods, visual purple, is regenerated.
 (iii) Under activity of the thyroid results in a swelling called 'Goitre' in the throat. It is more common in the hills like Himalayas and North-Eastern region of India. Iodised salt is the best remedy for iodine deficiency. That is the reason why the Government has made it mandatory for the salt manufacturers to supply iodised salt.
 (iv) Criss-cross inheritance is a type of inheritance in which an X linked recessive gene is transmitted from male parent (father) to F_2 male progeny (grandsons) through its F_1 heterozygous females (daughters which are called carriers).
 (v) (a) Axial round
 (b) Axial round, axial wrinkled, terminal round, terminal wrinkled.
 (c) 9:3:3:1

Question 5.

- (i) What is industrial melanism? Explain with an example. [1]
 (ii) What is the difference between passive and active absorption of water in plants? [2]
 (iii) Where is thyroid gland situated? Give its function. [2]
 (iv) "The term osmotic pressure is taken as an index of certain properties of a solution." Justify the statement. [2]
 (v) Fill the blanks and complete the table. [3]

	Cranial size	Height	Locomotion
Cro magnon			
<i>Homo habilis</i>			

Ans.

(i) Industrial melanism is a term that describes how some animals change colour in response to environmental changes caused by pollution. In polluted regions, the tree trunks became black and the white-coloured moths were replaced by the black-coloured variety.

(ii) **Passive absorption** : Water absorption in rapidly transpiring plants takes place by passive mechanism. In this, root functions as passive absorption surface and water moves through the root.

Active absorption : It occurs with the help of ATP, generated in the root respiration. In this, expenditure of metabolic energy is required.

(iii) Thyroid gland is situated in front of the neck, below the larynx.

Function :

It secretes thyroxine that controls tissue metabolism and growth.

It stimulates absorption of glucose and the rate of glucose oxidation.

(iv) The term osmotic pressure is more usefully employed as an index of certain properties of a solution, rather than as a designation for an actual pressure which accompanies the process of osmosis. It is a rate of the maximum potential pressure which can be developed in the solution as a result of osmosis. It is the pressure by which water molecules enter the solution through a semi-permeable membrane.

	Cranial size	Height	Locomotion
Cro magnon	1450-1600 cm ³	180cm(5.5 -6 feet)	Perfect bipedalism
<i>Homo habilis</i>	680-735 cm ³	150cm(4.5 -5 feet)	Bipedal gait(not fully erect)

Question 6.

(i) Define Retina.

[1]

(ii) Write differences between artery and vein.

[2]

(iii) Where are neurons found? Give their specific function.

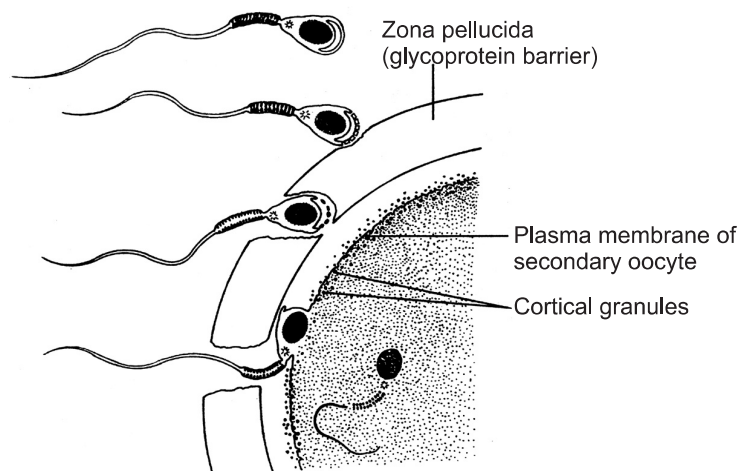
[2]

(iv) What is a test-tube baby? Give a brief.

[2]

(v) Study the following diagram and answer the questions which follow :

[3]



(a) What is the above diagram showing?

(b) Name the chemical released by acrosome during the above process.

(c) What do you understand by the term 'capacitation'?

Ans.

- (i) Retina is the innermost neural and sensory layer of the eye. It has rod and cone cells which aid in vision.

(ii)	Artery	Vein
	1. Arteries distribute blood from heart to different parts of the body.	Veins collect blood from different parts of body and pour it into the heart.
	2. Arteries are deep seated.	These are superficial.

- (iii) Neurons are found mainly in the brain and spinal cord.

They are specialised cells meant for reception, integration, interpretation and transmission of information.

- (iv) The test-tube babies are not reared in the **test-tubes**. When normal conception is not possible in some women, ovum is taken and fertilised by the sperm in a test-tube. Upon reaching 32-cell stage, it is implanted inside the uterus of the mother.

- (v) (a) Process of fertilisation in animals

(b) Sperm lysin

(c) The process of capacitation involves the changes occurring in mammalian sperm that enable it to fertilise the ovum.

Question 7.

- (i) Define Ultrafiltration. [1]

- (ii) Give the significance of root pressure in plants. [2]

- (iii) Differentiate between melanin and haemoglobin. [2]

- (iv) Wooden frames of doors get jammed during the monsoon season. Give reason. [2]

- (v) Draw well labelled diagrams to show both metaphase and anaphase stage of mitosis in a plant cell having four chromosomes. [3]

Ans.

- (i) **Ultrafiltration** is a process in which hydrostatic pressure causes water and small dissolved molecules and ions to move across a membrane (a fine filter) against the concentration gradient in glomerulus.

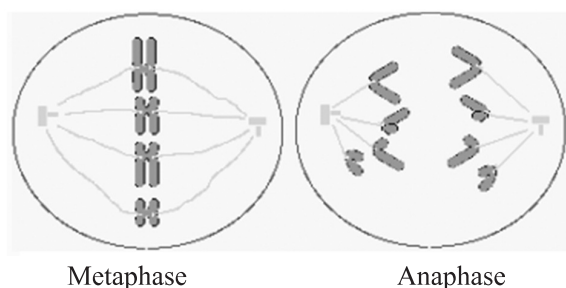
- (ii) Root pressure builds up force to push the water in xylem vessels up to a certain height which is sufficient for herbaceous small plants.

- (iii) **Melanin** : It is a dark-coloured protective pigment in the skin.

Haemoglobin : It is an iron-containing proteinaceous pigment present in the red blood cells which helps in transporting oxygen to the tissue cells from the lungs.

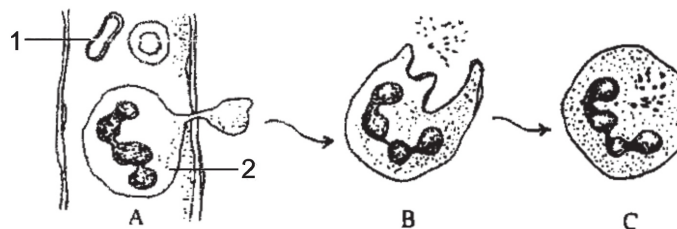
- (iv) During monsoon, the wooden doors or frames absorb the moisture and swell up due to imbibition. It makes them difficult to close or they get jammed.

- (v)



Question 8.

- (i) Define Turgor pressure. [1]
- (ii) Differentiate between Bowman's Capsule and Malpighian capsule. [2]
- (iii) State the law of Independent Assortment. [2]
- (iv) Give two main features of Bharat Stage (BS) vehicular standards. [2]
- (v) Study the following diagram carefully and then answer the questions that follow : [3]



- (a) Name the cell labelled 1.
- (b) Identify the phenomenon occurring in B.
- (c) Mention two structural differences between 1 and 2.

Ans.

- (i) **Turgor pressure** : The pressure of the cell contents on the cell wall is called the turgor pressure.
- (ii) **Bowman's Capsule** : It is a round, cup-shaped body that covers the glomerulus in a nephron.
Malpighian Capsule : The Bowman's capsule and the glomerulus of a nephron together form Malpighian capsule.
- (iii) **Law of independent assortment** : When two pairs of traits combine in a hybrid, segregation and inheritance of one pair of trait is independent of the other pair of trait.
- (iv) Some of the main features of Bharat Stage (BS) norms are
 - | The phasing out of two-stroke engine for two wheelers
 - | Introduction of electronic controls
- (v) (a) RBC (Red blood cell)
(b) Phagocytosis
(c) Nucleus is present in WBC (2) but absent in RBC (1). RBCs are biconcave while WBCs are irregular or amoeboid in shape.