

SECTION – A (40 marks)

Answer all the questions from this section

Question 1

Select the correct answer to the questions from the given option (Write the correct answer only):

[15]

- i. **Which of the following processes require energy to conduct it?**
 - a) Diffusion of water vapour
 - b) Active transport
 - c) Osmosis
 - d) Diffusion of water
- ii. **The plant part used for micropropagation is called**
 - a) Callus
 - b) Plantlet
 - c) Explant
 - d) Stalk
- iii. **The organ in the women body where the gestation period is spent by the embryo is**
 - a) Fallopian tube
 - b) Uterus
 - c) Urethra
 - d) Ureter
- iv. **Which of these is not a part of endocrine system?**
 - a) Seminal vesicles
 - b) Pituitary
 - c) Pancreas
 - d) Thyroid
- v. **The decomposers are also 'heterotrophs' because**
 - a) They can make their own food
 - b) They ultimately depend on plants for their food
 - c) They lie at all trophic levels
 - d) They clean the environment
- vi. **Assertion (A): Pituitary is called as the master gland.**
Reason (R) : It controls the functions of whole body.
 - a) Both A and R are false.
 - b) A is true but R is false.
 - c) Both are true but R is not the correct explanation of A.
 - d) R is true A is false
- vii. **A girl called Mamta was chased by a dog while she was returning from school.Despite being sick for past few days she ran fast and could save herself.What do you think helped Mamta to protect herself during such situation?**
 - a) Release of thyroxine as it is a protein.
 - b) Release of adrenaline as it helped supply extra energy to her muscles
 - c) Release of insuline as it changed glucose to glucagon
 - d) Enjymes that digested food faster than ever
- viii. **Four friends were discussing about changes that occur in one's body during adolescence and reason behind it**
Nayan : boys develop a low pitched voice due to increase in size of larynx.
Naina : we get pimples due to stretching in skin when our height increases.
Neel : boys grow beard due to high rush of adrenaline in their blood
Bikram :boys grow beard due to release of androgens in adolescence
Which of them are saying the correct things?
 - a) Nayan and Neel
 - b) Bikram and Nayan
 - c) Neel and Bikram
 - d) Nayan and Naina

- ix. Which of the following processes would ensure the repetition of exact parental characteristics in the new plants
- a) Insect pollination
 - b) Wind pollination
 - c) Tissue culture
 - d) Unisexuality of flowers
- x. In which of the following relationships both the organisms involved are benefitted
- a) Predation
 - b) Parasitism
 - c) Pyramids
 - d) Symbiosis
- xi. Which one of the following would favour fastest transpiration?
- a) Wet soil, high temperature, high humidity
 - b) A dry, windy day with intense sunlight
 - c) Night time, hot environment, dry air
 - d) A hot, humid still day
- xii. Which of these hormones adapt us to environmental stress?
- a) Cortisone
 - b) Insulin
 - c) Glucagon
 - d) Thyroxine
- xiii. Which of these parts of flower are directly involved in sexual reproduction of plant?
- a) Calyx and corolla
 - b) Ovule and pollengrain
 - c) Pedicel and thalamus
 - d) Seed and fruit
- xiv. Assertion (A) : Transpiration is necessary for the plants
Reason (R) : it pulls water to great heights in tall plants and cools them down.
- a) Both A and R are false.
 - b) A and R are true but R is not the correct explanation of A.
 - c) A is true but R is false
 - d) Both the statements are true and R is the correct explanation for A.
- xv. Which of the following structures are not directly helpful in water absorption by plants and ascent of sap
- a) Leaves
 - b) Root hair
 - c) Xylem
 - d) Flowers

Question 2

- i. Name the following [5]
- a) The unicellular extension of epidermal cell of roots
 - b) The stalk of flowers.
 - c) An endocrine gland found above the kidney
 - d) A plant macronutrient
 - e) The condition in which a person becomes abnormally tall.
- ii. Choose the odd one out and write the category of the rest [5]
- a) vulture, bacteria, kite, crows
 - b) GH, ATP, TSH, FSH,
 - c) ovaries, testes, uterus, fallopian tube
 - d) Prostate gland, thyroid gland, cowper's gland, seminal vesicles
 - e) High temperature, humidity, intense sunlight, wind

- iii. Match the items in column A with most appropriate ones in column B and rewrite the correct matching pairs. [5]

A	B
a) Zinc	1. Scrotum
b) Phosphorus	2. Oestrogen
c) Puberty	3. Plant hormone
d) Testes	4. Constituent of cell membrane
e) Plants	5. Starter of food chain
	6. Trophic level 2

- iv. Fill in the blanks with appropriate terms: [5]

- The form in which leaves store glucose is _____.
- Transport of food in plants through phloem is called _____.
- The cylindrical cells in phloem which have no nucleus are called _____.
- Wood in plants is formed of the conducting tissue called _____.
- Cell sap in root hairs is at _____ concentration than surrounding soil water.

- v. State whether the following statements are true or false. If false, correct the statement by changing the underlined word only. [5]

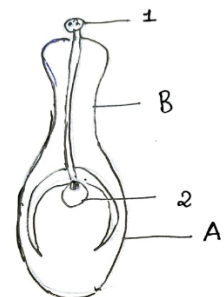
- In phloem the conduction is bidirectional.
- Flora includes the plants naturally occurring in that area.
- The mineral iron is required for synthesis of thyroxine.
- Hyposecretion of adrenaline leads to cretinism.
- The tigers take the lowermost position in pyramid of biomass.

Section B (40 MARKS)

Answer any four questions from this section

Question 3

- Define 'Hormone'. [1]
- Name two diseases that can occur due to hyposecretion of hormones (name the hormone and the disease) and write one symptom of each. [2]
- What is parasitism? How is it different from symbiosis? Give two examples of parasites that affect human body. [2]
- Write two ways in which insulin lowers blood sugar level. [2]
- Redraw the diagram given below and answer the questions that follow: [3]
 - Identify the structure and mention its location in flower.
 - Label part numbered 1 and 2.
 - What is the fate of this structure (A) and 2 after fertilization?

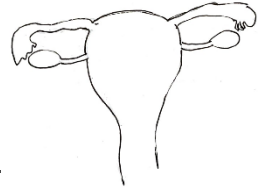


Question 4

- What is fertilisation? [1]
- Write three characteristics of a wind pollinated flower. Give one example of a water pollinated flower. [2]
- Give biological reason why are testes present outside the body in scrotal sac? [2]
- 'Despite being an advanced and beneficial technique tissue culture can not be used widely' justify the statement citing two reasons. Name two plants that can be grown by this technique. [2]
- Draw a neat well labelled diagram of a sperm and ova. What is the product of fertilization in humans called? [3]

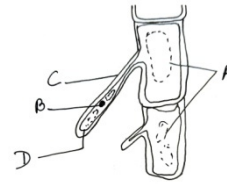
Question 5

- i. Define 'regeneration'. [1]
 - ii. Write the location and function of cowper's glands. What is semen? [2]
 - iii. Mention the two types of forest found in India along with two examples of flora and fauna found there. What risk can imbalance in nature bring to human life, explain giving two examples. [2]
 - iv. What is the difference between a scavenger and a decomposer? Give two examples of each. [2]
 - v. Given below is a diagram of female reproductive system. Redraw the same and answer the questions that follow: [3]
- a) Write the name of the organ where the ova are produced and label it in the diagram.
- b) Where does the fertilization occur in this system? Label it in the diagram.
- c) Write two physical changes that occur in a female body during adolescence.



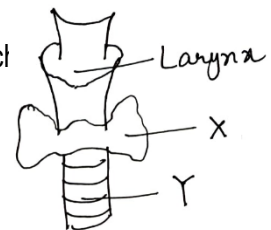
Question 6

- i. Define 'stress'. [1]
- ii. Explain how yoga and time management can help relieve stress (two ways each). [2]
- iii. Write the functional difference between Insulin and glucagon. Write the location of pancreas in body. [2]
- iv. Give reason why food webs are necessary for stability in ecosystem. Give one example of a food web (mention names of its constituent). [2]
- v. Redraw and label the magnified view of a root hair and mention two characteristics which make them well suited for absorbing water. [3]



Question 7

- i. Define transpiration. [1]
 - ii. Write down two ways in which transpiration helps the plants explaining how it is achieved. [2]
 - iii. Define abiotic factors and biotic factors giving two examples of each. [2]
 - iv. What are 'lichens'? Define 'ecosystem'. [2]
 - v. Redraw the diagram and answer the questions. [3]
- a) Which organ system is 'X' a part of?
- b) What is the effect of hyposecretion of thyroxine in adults (disease)? Write its two symptoms.
- c) How is 'X' related with TSH? Label 'X' and 'Y'.



***** All the Best *****