



Estd. 1861

BOYS' HIGH SCHOOL AND COLLEGE
FINAL TERM EXAMINATION (2024-25)
CLASS - IX
BIOLOGY (SCIENCE PAPER – 3)

TIME- 2 HOURS

MM- 80

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

Section A (40 marks)

Attempt all questions from this section.

Question 1.

Choose the correct answer from the given alternatives-

[15]

- i. Which of the following is a yellow coloured pigment?
 - a. Carotene
 - b. Xanthophyll
 - c. Pheoplasts
 - d. Chlorophyll
- ii. _____ converts inactive trypsinogen to active trypsin.
 - a. Enterokinase
 - b. Erepsin
 - c. Steapsin
 - d. Invertase
- iii. Which of the following are the types of parenchyma tissue?
 - a. Aerenchyma and collenchyma
 - b. Aerenchyma and chlorenchyma
 - c. Chlorenchyma and collenchyma
 - d. Aerenchyma and parenchyma
- iv. Which of the following is not a congenital disease?
 - a. Colour blindness
 - b. Albinism
 - c. Cancer
 - d. Haemophilia
- v. Which of the following adaptations, a flower must possess to achieve self-pollination?
 1. Bisexuality
 2. Homogamy
 3. Cleistogamy
 4. Dichogamy
 5. Heterostyly
 - a. 1, 2 and 3
 - b. 2, 3 and 4
 - c. 3, 4 and 5
 - d. 1, 2, 3, 4 and 5
- vi. Which of the following seeds show hypogeal germination?
 - a. Sunflower
 - b. Bean
 - c. Castor
 - d. Mango
- vii. Which of the following is a denitrifying bacteria?
 1. *Thiobacillus denitrificans*
 2. *Rhizobium*
 3. *Pseudomonas*
 4. *Nitrosomonas*
 - a. 1, 2 and 3
 - b. 1 and 4
 - c. 1 and 3
 - d. 2 and 4
- viii. Which of the following is not a modified sweat gland?
 - a. Mammary gland
 - b. Meibomian gland
 - c. Ceruminous gland
 - d. All of these
- ix. Epicalyx is found in which of the following flowers:
 - a. *Hibiscus*
 - b. *Petunia*
 - c. Spider lily
 - d. Sunflower
- x. Presence of pneumatic bones is a characteristic feature of:
 - a. Mammals
 - b. Amphibians
 - c. Aves
 - d. Reptilians
- xi. The deficiency of Vitamin B₁₂ in the body causes:
 - a. Scurvy
 - b. Cheilosis
 - c. Rickets
 - d. Pernicious anaemia
- xii. Total volume of air a person can breathe in after a normal expiration (=3500 ml) is:
 - a. Residual volume
 - b. Inspiratory capacity
 - c. Tidal volume
 - d. Vital capacity
- xiii. Which of the following is an antiseptic?
 - a. Mercurochrome
 - b. Benzoic acid
 - c. Iodine
 - d. All of these
- xiv. Which among the following is used to dump the waste collected in the cities?
 - a. River
 - b. Oceans
 - c. Landfills
 - d. Towns
- xv. Which of the following process occurs in cytoplasm?
 - a. Krebs cycle
 - b. Glycolysis
 - c. Both a. and b.
 - d. Terminal oxidation



Question 2.

- i. Match the items in Column A with those in column B-

[5]

| Column A | Column B |
|---------------------------|--------------------|
| 1. Derivative of mesoderm | a) Plague |
| 2. Stratified epithelium | b) Yellow fever |
| 3. Epidemic disease | c) Dermis |
| 4. Endemic disease | d) Stratum corneum |
| 5. Impermeable to germs | e) Epidermis |

- ii. State whether the following statements are true or false. Also rewrite the false statements correctly:-

[5]

- Sites of landfills should be so selected that flood water cannot reach there.
- In vaccination, antibodies are injected in the body.
- Congenital diseases pass on from a patient to a healthy person by mere touch.
- Stratum granulosum and stratum spinosum collectively are called as stratum malpighii.
- The waste may be solid, liquid or gaseous.

- iii. Based on the given symptoms/mode of transmission/causative pathogen, identify each of the following diseases-

[5]

- Vomiting, diarrhoea, dehydration, fever, bacterial disease.
- Fever, headache, appearance of small watery sores on the skin, viral disease.
- Mild diarrhoea, constipation, blood mixed with stool, transmitted through contaminated food and water.
- Blocked lymph nodes in the limbs, swelling of body parts, spread by the bite of a male *Culex* mosquito.
- Tsetse* fly carries the infection, drowsiness during the day, insomnia at night, anxiety, swollen lymph nodes.

- iv. Give reason for each of the following statements-

[5]

- The waste, first of all has to be segregated before composting.
- Tailing is a significant threat to the environment.
- If a man survives an attack of smallpox, he never gets another attack throughout life, even if he exposes himself to the infection.
- There should be no stagnant water in the houses or localities; and if any then kerosene oil or petrol should be poured on it.
- Physical exercise is must for all age groups.

- v. Find the odd one out from each of the following and write the category to which the other three belong:

[5]

- Saliva, serums, vaccine, toxoids.
- Measles, mumps, polio, snake venom
- Chloromycetin, penicillin, erythromycin, streptomycin
- Formalin, iodine, cresol, phenol
- Diabetes, cancer, heart attack, haemophilia

Section B (40 Marks)

Attempt any four questions from this section.

Question 3.

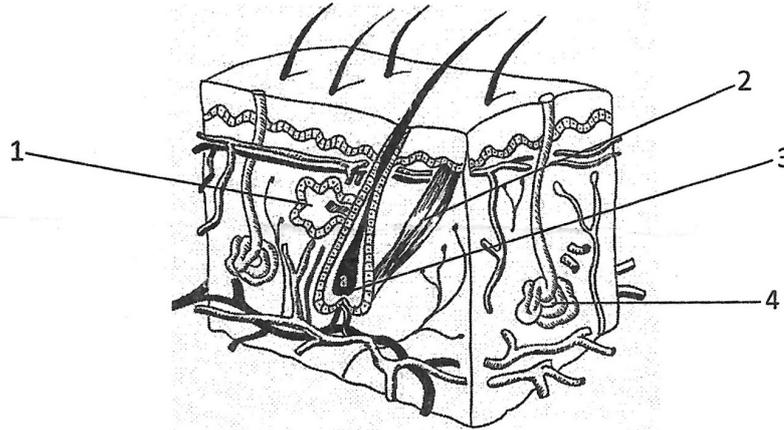
- Define immunisation. [1]
- Differentiate between-
 - Innate and acquired immunity
 - Active and passive immunity[2]
- Write the function of- a. Areolar tissue b. Villi [2]
- Explain the role of skin in regulation of body temperature. [2]
- Discuss the mode of transmission, symptoms, prevention and control of the disease Malaria. [3]

Question 4.

- i. Differentiate between- acne and pimples. [1]
- ii. Write the function of: - a. Cerumen b. Sebum [2]
- iii. Discuss the methods used for quick sedimentation of the fine solid waste during the sedimentation process of sewage treatment. [2]
- iv. Name the following- [2]
 - a. Prevention of spread of communicable diseases.
 - b. Study of mode of transmission of diseases.
 - c. Interval between infection and appearance of first symptoms of the disease.
 - d. Vector for diseases like cholera, typhoid, dysentery etc.
- v. Give a detailed description of the following- [3]
 - a. Microbiological process (digestion) of Sewage treatment.
 - b. Primary treatment of waste water.

Question 5.

- i. Give an example for each of the following: - [1]
 - a. Monoecious plant
 - b. Unisexual flower
- ii. Rewrite the following terms in an order so as to make a logical sequence: - [2]
 - a. Stratum corneum, stratum basale, stratum granulosum, stratum lucidum, stratum spinosum.
 - b. Drying, floatation, digestion, sedimentation, grit chamber, primary treatment
- iii. What is e-waste? What is the reason behind enormously increasing e-waste across the world? [2]
- iv. How is segregation of wastes different from dumping? [2]
- v. The given figure shows the vertical section of human skin. Study the same and answer the questions that follow- [3]

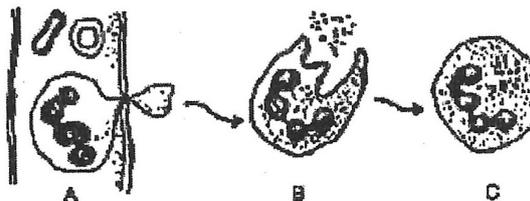


- a. Name the parts labelled as 1, 2, 3 and 4.
- b. What is the role of part labelled as 2 in our body?
- c. Write the name of the hormone responsible for goose flesh.

Question 6.

- i. Define- Threshing [1]
- ii. Following is a list of wastes generated from different sources. Sort them into the biodegradable and non-biodegradable wastes category: - [2]

Plastic, paper, glass, vegetable and fruit peel, egg shell, batteries, razor, milk cartons.
- iii. Explain the type of wastes generated from the agricultural activities. Also discuss in what ways can these be useful to farmers? [2]
- iv. Study the picture given below and answer the questions that follow- [2]



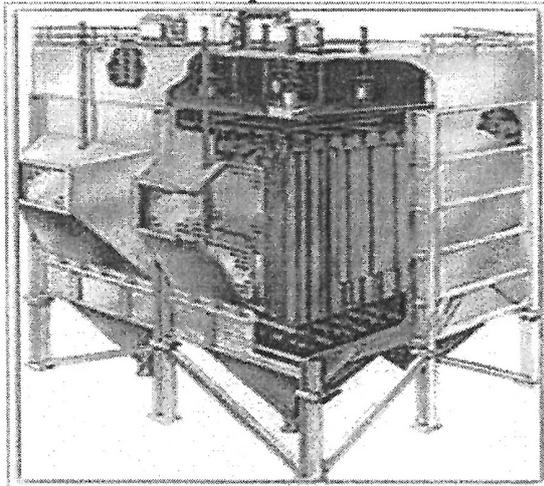
- a. Identify the phenomenon occurring in 'A' and define it.
- b. Explain the process occurring in 'B' and 'C'.
- v. Answer the following questions: - [3]
 - a. Expand AIDS
 - b. Mention some ways to take proper care of your eyes.
 - c. What do you mean by the statement- 'Antibodies are specific to the antigens'?

Question 7.

- i. What makes the modern incinerators efficient to deal with the released harmful gases? [1]
- ii. Read the paragraph given below and answer the questions that follow: - [2]

Humans, as mammals, share common characteristics with other mammals, such as nurturing their young ones through breast milk, which provides essential nutrients for growth. However, protein malnutrition in babies, due to early termination of breast-feeding and protein deficiency in diet can disrupt this natural process, leading to growth and developmental issues. Thus, proper nutrition in early stages of life for healthy growth is vital for all mammals, including humans.

- a. Name the diseases that are caused due to protein deficient diet and early termination of breast-feeding in children.
 - b. _____ is an oviparous mammal.
- iii. Study the figure given below and answer the questions that follow- [2]



- a. Identify the electric device shown in the image.
 - b. Briefly explain its working mechanism.
- iv. Explain in what ways do antibodies combat with specific antigens to protect us against the diseases. [2]
- v. Why? - [3]
- a. Glycolysis is also called as common pathway.
 - b. Yeast is used in bakeries and breweries.
 - c. Walls of trachea are supported by C-shaped cartilaginous rings.

Question 8.

- i. Skin is the 'master organ' of the body. Justify the statement. [1]
- ii. Differentiate between the following on the basis of the aspect mentioned in the bracket: - [2]
 - a. Hypogeal and epigeal germination (position of cotyledons)
 - b. Secondary nucleus and egg cell (post fertilisation change)
- iii. What is composting? How is compost prepared? [2]
- iv. Write a short note on- a. Nails b. Melanin [2]
- v. Describe the wastes generated from: - [3]
 - a. Oil refineries
 - b. Construction units
