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HSSC-(P-I)-A/2024  
(For All Sessions)

Paper Code	6	4	6	1
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## Biology (Objective)

(Group-I)

Time: 20 Minutes Marks : 17

Note: Write Answers to the Questions on the objective answer sheet provided. Four possible answers A, B, C and D to each question are given. Which answer you consider correct, fill the corresponding circle A, B, C or D given in front of each question with Marker or Pen ink on the answer sheet provided.

1.1 The most recent era is:

- (A) Paleozoic (B) Mesozoic (C) Cenozoic (D) Proterozoic

2. Monosaccharides which are rare in nature and occur in some bacteria are:

- (A) Hexoses (B) Pentoses (C) Trioses (D) Tetroses

3. An activated enzyme with a polypeptide chain and a co-factor is:

- (A) Apoenzyme (B) Holoenzyme (C) Coenzyme (D) Activator

4. Which of the following are involved in the breakdown of old organelles:

- (A) Lysosomes (B) Glyoxisomes (C) Peroxisomes (D) Ribosomes

5. HIV belongs to group of viruses called:

- (A) DNA virus (B) Pox virus (C) Retro virus (D) Bacteriophage

6. If the whole cell of bacteria is covered by flagella, the bacteria is called:

- (A) Atrichous (B) Peritrichous (C) Amphitrichous (D) Lophotrichous

7. The vector of "African sleeping sickness" is:

- (A) Mosquito (B) House fly (C) Yellow fly (D) Tsetse fly

8. The group of fungi in which sexual reproduction is not observed:

- (A) Ascomycota (B) Basidiomycota (C) Deuteromycota (D) Zygomycota

9. The rhizome in Adiantum is protected by:

- (A) Ramenta (B) Stipe (C) Fronds (D) Stomium

10. Excretory system in Arthropods is composed of:

- (A) Flame cells (B) Malpighian tubules (C) Nephridia (D) Nephrons

11. Which of the following are not included in amniotes:

- (A) Birds (B) Reptiles (C) Mammals (D) Amphibians

12. Dark reaction of photosynthesis occurs in the part of chloroplast named as:

- (A) Stroma (B) Grana (C) Inter-grana (D) Inner membrane

13. The first action spectrum was obtained by T.W.Engelman in 1883 working on:

- (A) Volvox (B) Nostoc (C) Spirogyra (D) Chlorella

14. In cockroach partly digested food is temporarily stored in:

- (A) Colon (B) Crop (C) Gizzard (D) Rectum

15. Respiratory pigment present in muscles is called:

- (A) Haemoglobin (B) Haemocyanin (C) Haemoerthrin (D) Myoglobin

16. The left systematic arch disappears in:

- (A) Birds (B) Fish (C) Mammals (D) Reptiles

17. The narrowing and hardening of arteries is called as:

- (A) Apoptosis (B) Necrosis (C) Atherosclerosis (D) Sclerosis

**Biology** (Subjective)**(GROUP-I)**

Time: 2:40 Hours

**SECTION-I**

RWP-1-24

**2. Write short answers of any eight parts from the following:**

(8x2=16)

- i. What are terpenoids? Give two examples.
- ii. Draw diagrammatic representation of an enzyme – substrate reaction (Lock and Key Model)
- iii. How enzyme concentration affects the rate of enzyme action?
- iv. What are inhibitors? Give their types.
- v. Differentiate septate and non septate hyphae
- vi. Compare obligate parasites with facultative parasites.
- vii. Differentiate polyps and medusae.
- viii. How infestation is different from disinfestations?
- ix. What do you know about pinworms?
- x. Name the scales of fish.
- xi. The oxygen releases during photosynthesis comes from water, how you prove?
- xii. What is the importance of phosphorylation in energy driving reactions?

**3. Write short answers of any eight parts from the following:**

(8x2=16)

- i. What is biological method? Name its steps in order.
- ii. What is biological control? Give an example.
- iii. How outer membrane of mitochondria differs from inner membrane?
- iv. Why peroxisomes are called so?
- v. Write two characteristics of protozoa.
- vi. Give at least two examples of Dinoflagellates. Which pigments are found in them?
- vii. In which group, the giants of protist kingdom are included? Name any giant protist.
- viii. Why *pelomyxa palustris* may be the most primitive of all eukaryote-like forms?
- ix. How breathing is different from cellular respiration?
- x. What changes occur in animal during diving reflex?
- xi. What is brain haemorrhage? Give its preventive measures.
- xii. What is pericardium? Write its function.

**4. Write short answers of any six parts from the following:**

(6x2=12)

- i. How virion differs from prion?
- ii. What are plasmids? Give their role
- iii. Give two important features of Lycopsida.
- iv. Differentiate over topping and plannation.
- v. What are paraphyses? Give their function.
- vi. Compare homospory with heterospory.
- vii. Give the role of secretion in digestion.
- viii. How pepsinogen is converted into pepsin?
- ix. Differentiate herbivores and carnivores with example.

**SECTION-II****Note Attempt any three questions. Each question carries equal marks:**

(8x3=24)

5. (a) How diseases can be controlled? Give preventive measures. (2+2=4)
- (b) Explain respiration in cockroach. Draw its labeled diagram. (2+2=4)
6. (a) Describe three main types of RNA. (4)
- (b) Discuss important features of ascomycota. (4)
7. (a) What are plastids? Discuss their types and functions. (1+1+2=4)
- (b) How digestion in Duodenum takes place? Write role of liver and pancreas. (1+3=4)
8. (a) Discuss the structure of a virion (4)
- (b) Define immunity. Discuss its types. (1+3=4)
9. (a) Describe habitat, occurrence and reproduction in Nostoc (1+1+2=4)
- (b) Sketch various steps of Krebs' cycle (2+2=4)

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