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**Name of candidate\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Sign. of Candidate\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Sign. of Invigilator\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**BIOLOGY (HSSC-I)**

**SECTION –A (Marks: 17) Time Allowed: 25 Min**

**Note:** Section – A is compulsory. All parts of this section are to be answered on this page and handed over to the Centre Superintendent. Deleting/overwriting is not allowed. Do not use lead pencil.

Q.1 Fill the relevant bubble for each part. Each part carries one mark.

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|  | **Questions** | **A** | **B** | **C** | | **D** | **A** | **B** | **C** | **D** |
| **1.** | How many nitrogen atoms are present in adenine? | 2 | 5 | 3 | | 6 |  |  |  |  |
| **2.** | Tongue is involved in all of the following except: | Selection | Mastication | Mixing | | Swallowing |  |  |  |  |
| **3.** | Cocci forming irregular clusters are: | Streptococci | Diplococci | Staphylococci | | Sabrina |  |  |  |  |
| **4.** | Non-hyphal unicellular fungi are called: | Yeast | Toadstools | Mushrooms | | Fruiting  bodies |  |  |  |  |
| **5.** | \_\_\_\_\_\_\_\_ is the procedure that separates molecules on the basis of their size, shape, molecular weight and surface charge. | Centrifugation | Electrophoresis | Chromatography | | Spectrophotometery |  |  |  |  |
| **6.** | The largest lymph duct called thoracic lymph duct drains into | Subclavian  Vein | Pulmonary  Vein | Renal Vein | | Hepatic Portal Vein |  |  |  |  |
| **7.** | Viviparous animals are those in which | Internal  fertilization  with external development  in eggs | Internal fertilization with internal development inside female body | Internal fertilization and internal development followed by hatching of egg | | External  fertilization  with external development |  |  |  |  |
| **8.** | The bond formed between glucose and fructose to form sucrose is | 1,4 Glycosidic Linkage | 1,6 Glycosidic Linkage | 1,2 Glycosidic Linkage | | 1,3 Glycosidic Linkage |  |  |  |  |
| **9.** | During photorespiration, the glycolate is converted into glycine in a structure of cell called: | Golgi Bodies | Mitochondria | Glyoxisome | Peroxisome | |  |  |  |  |
| **10.** | \_\_\_\_\_\_\_\_is the yeast that grows in the mucous membrane of mouth or vagina. | Candida  albicans | Aspergillus fumigatus | Saccharomyces  cerevisiae | Aspergillus ﬂavus | |  |  |  |  |
| **11.** | Circinate vernation is important feature of? | Club mosses | Whish ferns | Horse tails | Ferns | |  |  |  |  |
| **12.** | These are highly evolved of all plants on the earth | Bryophytes | Pteridyophytes | Gymnosperms | Angiosperms | |  |  |  |  |
| **13.** | Nucleoproteins found in | Hormones | Egg yolk | Chromosomes | Milk | |  |  |  |  |
| **14.** | The diagram shows part of a molecule of a carbohydrate formed by glucose    What is the name of the molecule? | Amylose | cellulose | Glycogen | Chitin | |  |  |  |  |
| **15.** | The diagram shows an electronmicrograph of a typical animal cell  What is the function of the membrane system labelled X? | lipid synthesis | lipid synthesis and transport | protein synthesis | protein synthesis and transport | |  |  |  |  |
| **16.** | In case of a snake bite when you treat a person by Antivenom serum which type of immunity is provided by this action? | Humoral immune response | Passive immunity | Active immunity | naturally induced immunity | |  |  |  |  |
| **17.** | These cells also  release lysosome  enzymes  that kill  microorganisms? | Neutrophils | Lymphocytes | Basophils | Monocytes | |  |  |  |  |

**HCCS EDUCATIONAL SYSTEM**

**BIOLOGY HSSC I**

**(PRE BOARD EXAM, 2024)**

**(SUBJECTIVE)**

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| --- |
| **Time allowed: 2:35 Hours Total Marks Section B and C: 68** |
| **Note: The Questions of sections B and C are to be answered on the separately provided answer book. Use supplementary answer sheet i.e. sheet – B if required. Write your answers neatly and legibly.** |

**SECTION – B (42 Marks)**

**Q.2 Attempt all parts. All parts carry equal marks. (14 x 3 = 42)**

|  |
| --- |
| **1. Briefly discuss functions of micro bodies?** |
| **OR** |
| What is the fate of H+ of photolysis in the process of photosynthesis? |
| **2. Compare different types of RNA?** |
| **OR** |
| Illustrate the formation of triacylglycerol? |
| **3. Compare Lytic and Lysogenic cycle?** |
| **OR** |
| Compare outer body structure of euglenoids, dinofalgellates and diatoms? |
| **4. Discuss different growth phases in plants?** |
| **OR** |
| Discuss structure of an artery? |
| **5. Differentiate between cartilaginous and bony fishes?** |
| **OR** |
| Write short note on role of k+ ions in the opening and closing of stomata? |
| **6. Write short note on mode of action of NK cells?** |
| **OR** |
| Write short note on role of lymphoid organ in circulatory system? |
| **7. Differentiate between protostomes and deuterostomes?** |
| **OR** |
| Discuss general characteristics of phylum hemichordates? |
| **8. Antibodies against measles are produced by plasma cells during an immune response.**  **An antibody molecule is shown in the diagram**  **a. Explain the functions of the parts labelled**  **A, B and C**  **b. Write down the four mode of actions of antibodies** |
| **OR** |
| Cell membrane is the important boundary of a cell. A part of cell membrane shown in diagram  a. Write down the names of label part Q,P and R  b. Write down the functions of Q,P and R |

|  |
| --- |
| **9. Keeping in mind the cell mediated immune response. Answer the following questions.**   1. **Identify the structures A,B & C. Recognize the cell responsible for producing antibody?** 2. **How the role of Y and Z is different from each other?** |
| **OR** |
| What do you know about ECG and their use? |
| **10. What are the roles of Abscisic acid and ethene in plants growth and development?** |
| **OR** |
| Compare Apoplast, symplast and vacuolar pathway of water transport in plants? |
| **11. Write down steps of evolution of multiple vein leave?** |
| **OR** |
| Compare different groups of animal on the basis of body cavity |
| **12. Compare the evolutionary adaptations of the given phyla:** |
| **OR** |
| Draw life cycle of physarum? |
| **13. Differentiate between types of mycorrhizae?** |
| **OR** |
| How the evolution of pollen tube took place? Explain its importance. |
| **14. Compare endospore, exospore and cysts?** |
| **OR** |
| Why kingdom Protista is called as polyphyletic group |

**SECTION – C (26 Marks)**

**NOTE: Attempt all questions. All questions carry equal marks.**

**Q. 1 Write detail note on life cycle of angiosperms plants.**

**OR**

Discuss transport of food in plants with the help of pressure flow theory?

**Q2.Write detail note on conducting system of Heart.**

**OR**

Write detail note on structure of stomach.

**Q3. Write detail note on structure of gram positive and gram negative bacterial cell wall?**

**OR**

Write detail note on life cycle of HIV with the help of diagram?

**Q4. Write detail note on ETC in mitochondrion?**

**OR**

Write detail note on phylum Echinodermata.