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

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**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 glucoseWhat is the name of the molecule? | Amylose | cellulose | Glycogen | Chitin |  |  |  |  |
| **15.** | The diagram shows an electronmicrograph of a typical animal cellWhat 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)**

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| **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 diagrama. Write down the names of label part Q,P and Rb. Write down the functions of Q,P and R |

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| **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.