

# MHT CET 2024 Solution

## ( 30 April - Shift 2 )

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**Ques 1. Which enzyme converts trypsinogen into trypsin ?**

**Ans.** Enterokinase

**Solu.** Enterokinase, also known as enteropeptidase, is the enzyme responsible for converting trypsinogen into its active form, trypsin, in the small intestine. This activation step is crucial for initiating the cascade of digestive processes in the small intestine.

**Ques 2. How many DNA copies are produced after five cycles of PCR. (Polymerase Chain Reaction) ?**

**Ans.** 32

**Solu.** In each cycle of PCR, the number of DNA copies doubles. So, after the first cycle, you have 2 copies, after the second cycle, you have 4 copies, after the third cycle, you have 8 copies, after the fourth cycle, you have 16 copies, and after the fifth cycle, you have 32 copies. So the correct answer is 32 DNA copies after five cycles of PCR.

**Ques 3. Which of the following is function of the hypothalamus?**

**Ans.** Homeostasis

**Solu.** Homeostasis is indeed one of the primary functions of the hypothalamus. It regulates various physiological processes to maintain a stable internal environment within the body, such as body temperature, thirst, hunger, and the release of hormones from the pituitary gland. The

hypothalamus acts as a control center, receiving input from different parts of the body and orchestrating appropriate responses to maintain balance.

**Ques 4. Cerebrospinal fluid uses were given and had to eliminate the wrong one.**

**Ques 5. Sea anemone and clownfish relation.**

**Ans.** mutualism

**Solu.** The relationship between sea anemones and clownfish is indeed an example of mutualism. Clownfish live within the tentacles of sea anemones, gaining protection from predators due to the anemone's stinging cells, while the anemone benefits from the nutrients provided by the clownfish's waste and possibly by the cleaning actions of the fish on its tentacles. Additionally, the clownfish may also help attract prey for the sea anemone. It's a fascinating example of mutualistic symbiosis where both species benefit from the relationship.

**Ques 6. Hemodialysis cellophane tube use.**

**Ans.** Historically, cellophane tubes were used in hemodialysis for their semipermeable properties.

**Ques 7. Pharynx and larynx statement - based Question.**

**Ques 8. Repolarisation, depolarisation whole mechanism steps were asked to assemble in an orderly manner.**

**Ans.** polarization Depolarization Repolarization Resting potent

**Ques 9. Which is source of ethylene?**

**Ans.** plants, particularly fruits, Etc

**Ques 10. Geitonogamy definition**

**Ques 11. Spermatogenesis definition.**

**Ques 12. Statement on definition euploidy and aneuploidy.**

**Ques 13. Match pair monosomy, nullisomy, trisomy, tetrasomy.**

**Ques 14. Which is dominant autosomal disorder?**

**Ques 15. Which is restriction endonuclease.**

**Ques 16. Early atmosphere which is not found**

**A Oxygen**

**B Carbon dioxide**

**C Nitrogen**

**D Ammonia**

**Ans. A**

**Solu.** The early Earth's atmosphere likely did not contain significant amounts of oxygen. Instead, it was composed primarily of gases such as carbon dioxide, nitrogen, and water vapor, along with smaller amounts of other gases like methane and ammonia. Oxygen began to accumulate in the atmosphere later, primarily as a result of photosynthesis by early photosynthetic organisms. So, option A, oxygen, is the correct answer.

**Ques 17. Which are Plants natural inhibitors?**

**Solu.** Plants produce natural inhibitors, such as allelochemicals, phytotoxins, antifeedants, and phytoalexins, which serve to inhibit the

growth of competing plants, deter herbivores, and defend against microbial infections. These compounds play essential roles in plant defense mechanisms and have various applications in agriculture, medicine, and industry.

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