

## LONG QUESTIONS

### LONG QUESTION NO. 5

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| <ul style="list-style-type: none"> <li>✓ Write note on osmoregulation in marine fishes.</li> <li>✓ Write down the structure of a nephron.</li> <li>✓ Discuss excretion in Cockroach.</li> <li>✓ Describe various kidney problems and their cure in human.</li> <li>✓ Discuss major homeostatic functions of liver</li> </ul> | <ul style="list-style-type: none"> <li>✓ Write about Necrosis and Apoptosis.</li> <li>✓ Define non-disjunction and discuss its effect with one example.</li> <li>✓ Explain about interphase of cell cycle.</li> <li>✓ Explain the stages of prophase I of meiosis I.</li> <li>✓ Describe the excretion in plants.</li> </ul> |
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### LONG QUESTION NO. 6

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| <ul style="list-style-type: none"> <li>✓ Define and explain briefly the fibrous, cartilag and synovial joints.</li> <li>✓ What is endoskeleton? Describe bone and cartilage.</li> <li>✓ What is Sliding Filament Model of muscle contraction? What does it explain?</li> <li>✓ Write a note on human appendicular skeleton.</li> <li>✓ Write down the mechanism of muscle contraction.</li> <li>✓ Describe the significance of secondary growth in dicot stem.</li> <li>✓ Discuss the arrangement of vertebrae in vertebral column. Also describe rib cage.</li> </ul> | <ul style="list-style-type: none"> <li>✓ Write a note on grazing.</li> <li>✓ Write a note on nitrogen cycle.</li> <li>✓ Define succession. Explain the different stages of xerosere.</li> <li>✓ Discuss the flow of energy in food chain of an ecosystem.</li> <li>✓ Explain the biotic component of an ecosystem.</li> <li>✓ Give an account of paratonic movement in plants.</li> </ul> |
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### LONG QUESTION NO. 7

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| <ul style="list-style-type: none"> <li>✓ What are receptors? Describe their different types.</li> <li>✓ Write a note of thyroid gland?</li> <li>✓ Describe in detail the role of adrenal glands</li> <li>✓ Write any four differences between nervous and chemical coordination.</li> <li>✓ Define and explain feedback mechanism?</li> <li>✓ Describe initiation of nerve impulse.</li> <li>✓ Describe the role of auxins.</li> <li>✓ Nervous system of Hydra is better developed than of Planaria. Discuss.</li> </ul> | <ul style="list-style-type: none"> <li>✓ Describe comparative embryology and molecular biology as an evidence of evolution.</li> <li>✓ Describe evidence of evolution by comparative anatomy.</li> <li>✓ Describe the evidences of evolution from Biogeography and fossil record.</li> <li>✓ Discuss evolution from prokaryotes to eukaryotes.</li> <li>✓ Explain the Theory of Inheritance of Acquired Characteristics.</li> <li>✓ State different factors affecting the gene frequency.</li> </ul> |
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### LONG QUESTION NO. 8

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| <ul style="list-style-type: none"> <li>✓ What is incomplete dominance? Explain it with an example.</li> <li>✓ Explain the ABO blood group system.</li> <li>✓ What is Mendel's law of segregation? Illustrate it with an example</li> <li>✓ Discuss sex-linkage in humans with one example.</li> </ul> | <ul style="list-style-type: none"> <li>✓ Write a note on test tube babies.</li> <li>✓ Give a comprehensive comparison between asexual and sexual reproduction.</li> <li>✓ Explain Sexually Transmitted Diseases in humans.</li> <li>✓ Describe human female reproductive system.</li> </ul> |
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- ✓ Describe the genetics of color-blindness in humans.
- ✓ Explain in detail diabetes mellitus and its types.
- ✓ Explain different patterns of sex determination in animals.

- ✓ Describe the birth in man.
- ✓ Define and explain photoperiodism.
- ✓ Explain different patterns of sex determination in animals.

**LONG QUESTION NO. 9**

- ✓ Write a note on tissue culture and cloning.
- ✓ What is the methodology for producing recombinant DNA to be used in gene cloning?
- ✓ 3. What is the polymerase chain reaction (PCR), How it is carried out to produce multiple copies of a DNA segment?
- ✓ What is DNA finger printing, a process that utilizes the entire genome?

- ✓ Define and explain regeneration.
- ✓ Discuss different phases of plant growth.
- ✓ What is aging? Describe its causes and symptoms.
- ✓ Define abnormal development. Explain different factors causing abnormalities.
- ✓ Describe the role of nucleus in development.