

Section-A

(Multiple Choice Questions (MCQ's))

Q.1 Choose the correct answer for each from the given options:

- (i) Bile salts are involved in:
 (a) Detoxification (b) Protein digestion
 (c) Emulsification (d) Modification of some by products
- (ii) Total number of bones in human limbs:
 (a) 30 (b) 60 (c) 90 (d) 120
- (iii) Pineal glands _____
 (a) Responds to external conditions of light and darkness
 (b) Develops the gonads (c) Both (a) & (b) (d) Sustains blood pressure
- (iv) How does a zygote differ from an ovum?
 (a) A zygote has more chromosomes (b) A zygote is smaller
 (c) A zygote is much larger (d) A zygote divides meiotically
- (v) Which one of the following hormones causes development of male characteristics?
 (a) Adrenaline (b) Thyroxin (c) Estrogen (d) Androgens
- (vi) The coelom is formed by splitting the following segment of mesoderm.
 (a) Epimere (b) Hypomere (c) Mesomere (d) Lateral plates
- (vii) The lack of exposure of skin to the sunlight may lead to.
 (a) Anemia (b) Malaria (c) Cholera (d) Rickets

- (viii) A more or less genetically isolated population is called _____.
 (a) Stable (b) Deme (c) Genetic drift (d) Genetic equilibrium

Section-B

(Short Answer)

Note: Answer any TEN of the following. Question No.2 is compulsory which carries 03 marks and all other questions carry 02 marks.

- Q.2 Distinguish between any ONE of the following:
 (a) Darwin's theory and Lamarck's theory.
 (b) Darwin's theory and Lamarck's theory.
 (c) Exoskeleton and Endoskeleton.
- Q.3 How do blood vessels in the skin help regulate body temperature during hot and cold external conditions?
- Q.4 Draw a diagram of SARCOMERE and label its parts.
- Q.5 What happens to neurotransmitters after they are released?
- Q.6 Why is a single ovum produced by oogenesis?
- Q.7 Name four biotechnology products used as the treatment of human. Also give the name of the diseases or defects for which these products are required.
- Q.8 Parthenogenesis is neither strictly asexual nor sexual, explain.
- Q.9 In fishes, reptiles and birds cleavage is termed as MEROBLASTIC or INCOMPLETE, why?
- Q.10 Give advantages of the Ozone layer. What is the effect of depletion of it?
- Q.11 Define TWO of the following:
 (i) Afforestation (ii) Hydrothermal Vents
 (iii) Embryonic Induction (iv) In-vitro fertilization
- Q.12 Differentiate between DWARFISM and CRETINISM.
- Q.13 What is negative feedback? Give an example.
- Q.14 What type of tissues of the body can regenerate?

Section-C (Descriptive Answer)

Note: Answer any ONE of the following questions, which carries 13(7+6) marks.

Draw labeled diagram where necessary.

- Q.15 (a) Define Organic Evolution. Describe briefly following evidences of evolution.
 (i) From Paleontology (ii) From comparative Anatomy
 (iii) From Vestigial Organs
 (b) State and explain the factors related to contraction of skeletal muscles.
- Q.16 (a) What is NERVE IMPULSE? Explain the mechanism of development and transmission of Nerve Impulse.
 (b) Describe the structure of NEPHRON with the help of neat and labeled diagram.