

HSC Maharashtra Board question paper - March 2013

Note:

- i. Answers to Section-I and Section-II should be written in **Two Separate** answer books.
- ii. Questions from Section-I attempted in the answer book of Section-II and vice-versa will not be assessed / not given any credit.
- iii. All questions are compulsory.
- iv. Draw neat and labelled diagram wherever necessary.
- v. Figures to the right indicate full marks.
- vi. Answer to every new question must begin on a new page.

ZOOLOGY: SECTION – II

Q.1. Select and write the most appropriate answer from the given alternatives for each sub-question: [7]

- i. What will be the parent's blood groups if the blood group of a child is AB?
(A) A and O (B) B and O
(C) AB and O (D) A and AB
- ii. The good milk producer Indian buffaloes are _____.
(A) Nagpuri, Murrah and Surati
(B) Mehsana, Gir and Sindhi
(C) Jersey, Holstein and Nili
(D) Murrah, Sahiwal and Brown Swiss
- iii. Chancre are the primary lesions caused by-
(A) *Neisseria gonorrhoeae*
(B) *Treponema pallidum*
(C) *Plasmodium vivax*
(D) *Salmonella typhi*
- iv. The scientific key to understand biology and behavior of human is _____.
(A) Blue print (B) Genome
(C) Genetic linkage (D) DNA probe
- v. Damage to which endocrine gland may result in water and electrolyte imbalance?
(A) Thymus gland (B) Thyroid gland
(C) Adrenal gland (D) Parathyroid gland
- vi. In which device a fine spray of water is used for separation of ammonia and sulphur dioxide?
(A) Scrubber (B) Diesel engine
(C) Smokers (D) Electrostatic precipitator
- vii. Which is the correct order in which the proteins participate in clotting of blood?
(A) Prothrombinase → Prothrombin → Thromboplastin → Thrombin
(B) Thromboplastin → Prothrombinase → Prothrombin → Thrombin
(C) Prothrombin → Thromboplastin → Thrombin → Prothrombinase
(D) Thrombin → Prothrombin → Thromboplastin → Prothrombinase

- Q.2. (A) Answer in One sentence each :** (6) [12]
- Define commensalism.
 - Give the name of process involved in DNA fragmentation.
 - Name the term for the transmission of HIV from pregnant mother to foetus.
 - What are the major sources of air pollution?
 - Name the hormone purified from dog's pancreas by Banting and Best.
 - What is the major achievement of animal breeding?
 - What is space wave propagation? State its three components.
- (B) Sketch and label seminiferous tubule as seen in the T.S. of testis.** (2)
- (C) Attempt Any TWO of the following :** (4)
- Define the term 'natality'. How natality is calculated?
 - Enlist the steps involved in solving disputed parentage by DNA profiling.
 - Arrange the following stages of the human evolution in the order of their increasing cranial capacity.
 - Neanderthal man
 - Cro-Magnon man
 - Homo erectus*
 - Homo habilis*
 - Enlist the number and names of motor cranial nerves in human being.
- Q.3. (A) Attempt Any TWO of the following :** (6) [9]
- Give the adverse effects of opioids, cannabinoids, and morphines on human health.
 - Describe hypertension. Add a note on angina pectoris.
 - Explain the mechanical methods of birth control.
- (B) Sketch and label phases in oogenesis** (3)
- Q.4. How kidney functions are regulated? Add a note on kidney transplantation.** [7]

OR

What is sex linkage? Explain the inheritance of colour blindness and haemophilia with suitable charts.