

BOARD QUESTION PAPER : MARCH 2018

Note:

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

SECTION – I

[BOTANY]

Q.1. Select and write the most appropriate answer from the given alternatives (along with its alphabet number) for each sub-question:

[7]

- i. The phenotypic ratio of incomplete dominance is _____.
(A) 1 : 1 (B) 3 : 1
(C) 1 : 2 : 1 (D) 9 : 3 : 3 : 1
- ii. Nucleoside is a nucleotide without _____.
(A) sugar (B) nitrogen base
(C) hydrogen bond (D) phosphate group
- iii. Which of the following is white button mushroom?
(A) *Agaricus bisporus* (B) *Pleurotus florida*
(C) *Volvariella volvacea* (D) *Candida* sp.
- iv. Brown rust of wheat is caused by _____.
(A) viruses (B) bacteria
(C) fungi (D) aphids
- v. The reaction centre of PS-II is _____.
(A) Chl – a, 700 (B) Chl – a, 680
(C) Chl – a, 673 (D) Chl – a, 650
- vi. The enzymes required for synthesis of ATP are located on _____.
(A) oxysomes (B) cristae
(C) matrix (D) ribosomes
- vii. In a food chain, the herbivores are represented by _____.
(A) producers (B) primary consumers
(C) secondary consumers (D) decomposers

Q.2. (A) Answer each question in 'One' sentence only:

(6)[12]

- i. What is leaching?
- ii. Define chemoautotrophs.
- iii. Name the cell organelle in which Krebs' cycle occurs.
- iv. What is 'deforestation'?
- v. Give the microbial source of Vit. B₁₂.
- vi. What is primary treatment of sewage?

(B) Sketch and label a pollen grain of angiosperms. **(2)**

(C) Attempt any TWO of the following: **(4)**

- i. Enlist the basic steps involved in recombinant DNA technology.
- ii. Give 'two' examples of microbial pesticides with their hosts.
- iii. Give the significance of respiration.
- iv. Explain the energy pyramid.

Q.3. (A) Attempt any TWO of the following: **(6)[9]**

- i. With the help of a suitable diagram describe the structure of a nucleosome.
- ii. Describe the steps of PCR technique.
- iii. Describe different steps involved in tissue culture technique.

(B) Sketch and label T.S. of a leaf showing Kranz anatomy. **(3)**

Q.4. With the help of a neat and labelled diagram describe the development of female gametophyte of angiosperms. **[7]**

OR

Explain "the law of independent assortment" with a suitable example.

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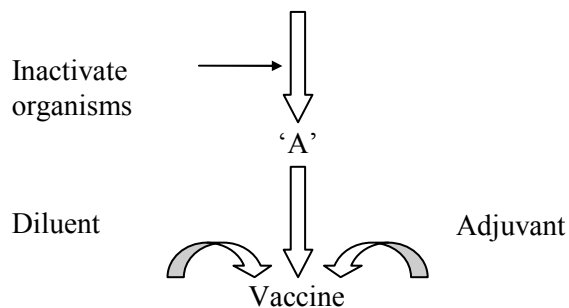
SECTION – II

[ZOOLOGY]

Q.5. Select and write the most appropriate answer from the given alternatives (along with its alphabet number) for each sub-question:

[7]

- i. _____ is used for desalination of brackish water.
(A) Reverse osmosis (B) Ion-exchange
(C) Adsorption (D) Electrodialysis
- ii. Which of the following is mesodermal in origin?
(A) Retina (B) Enamel of teeth
(C) Heart (D) Liver
- iii. _____ is an exotic breed of cow.
(A) Gir (B) Sindhi
(C) Sahiwal (D) Jersey
- iv. _____ maintains basal metabolic rate.
(A) Thyroxine (B) ADH
(C) GH (D) Oxytocin
- v. Which of the following is an example of ZW-ZZ type of mechanism of sex determination?
(A) Honey bee (B) Fish
(C) Bird (D) Human being
- vi. Transfer of gene between populations that differ genetically from one another is called _____.
(A) Gene mutation (B) Gene flow
(C) Genetic drift (D) Genetic recombination
- vii. In the given diagram of vaccine manufacturing process 'A' is _____.



- (A) antigen (B) antibody
- (C) antitoxin (D) antibiotics

- Q.6. (A) Answer each question in 'one' sentence only:** (6)[12]
- i. Longer toes and long prehensile tail indicate which adaptation?
 - ii. What does 'IUCD' indicate?
 - iii. Name the valve between left atrium and left ventricle and give its significance.
 - iv. Give the use of bovine growth hormone.
 - v. State any 'two' symptoms of Down's syndrome.
 - vi. Mention any 'one' skeletal difference between ape and man.
- (B) Sketch and label the structure of Antibody.** (2)
- (C) Attempt any TWO of the following:** (4)
- i. Name the causative organism of 'typhoid' and draw its diagram.
 - ii. State the economic importance of 'lac culture'
 - iii. 'All organisms produce more young ones'. Comment.
 - iv. Describe 'agranulocytes' with the help of diagrams.
- Q.7. (A) Attempt any TWO of the following:** (6)[9]
- i. Define parasitism and give any 'two' types with suitable example of each.
 - ii. Describe the structure of chromosome with a suitable diagram.
 - iii. Define 'genomics'. Give any 'two' applications of it.
- (B) Sketch and label Malpighian body.** (3)
- Q.8.** Describe the histology of 'human testis'. Write a note on human sperm. [7]

OR

With the help of a neat and labelled diagram describe the anatomy of 'human eye'. Explain the mechanism of vision.