

## **M-6546**

**M.Sc. (IV<sup>th</sup> Semester) Examination, 2020**

### **ZOOLOGY**

**(Metagenomics-Epigenetics-Chromatin Biology)**

*Time Allowed : Three Hours*

*Maximum Marks : 70*

**Note :** Attempt all the five questions. One question from each unit is compulsory. All questions carry equal marks.

#### **Unit - I**

**Q. 1.** Discuss the organization of DNA in eukaryotes.

**Or**

Write short notes on :

- (a) Transposones
- (b) SINE

#### **Unit - II**

**Q. 2.** Discuss various types chromatin modification and their role in modification of gene expression.

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**P.T.O.**

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**Or**

Write short notes on :

- (a) Gene silencing
- (b) Differentiate between euchromatin and heterochromatin

#### **Unit - III**

**Q. 3.** Describe Neurospora as a model organism for genetic studies in eukaryotes.

**Or**

Write short notes on :

- (a) RNA interference
- (b) Epigenetics

#### **Unit - IV**

**Q. 4.** Give an account on chromatin remodelling and its importance.

**Or**

Write short notes on :

- (a) Histone variants and epigenetics
- (b) Dosage compensation in Drosophila

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**Unit - V**

**Q. 5.** Give an account on epigenetic determinants in cancer with suitable examples.

**Or**

Write short notes on :

- (a) Nuclear transplantation
- (b) Pluripotent stem cells

