

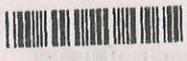
B.Sc. (Semester - V) Examination, October/November 2016
ZOOLOGY
Applied Genetics and Evolution

Duration : 2 Hours

Max. Marks : 80

- Instructions :** 1) Attempt **all** questions.
2) Figures to the **right** indicate **full** marks.
3) Draw **neat** labeled diagrams **wherever** necessary.

1. Explain briefly **any four** of the following : 16
- Inducible positive control.
 - Griffith's experiment.
 - Linkage map.
 - Familial and Sporadic cancer.
 - Sequential and Divergent evolution.
 - Applications of Chi-square test.
2. Write brief notes on **any four** of the following : 16
- Lactose is not real inducer.
 - Plasmids and its function.
 - Pulse field gel electrophoresis (PFGE).
 - Viral oncogenes (V.Onc).
 - Mean and Median.
 - Various kinds of Variation.
3. A) Explain in brief Lac operon mutations. 6
- OR
- A) Discuss the positive and negative regulation in Lac operon. 6
- B) What are Tumour suppressor genes ? How do they check the growth of cancerous cells in normal tissues. 6



4. A) What is Transformation ? Explain O.Avery, Macleod and McCarty's experiment. 6

OR

A) Describe the mechanism of specialized transduction in bacteria. 6

B) Briefly explain Correlation and its applications. 6

5. A) What is Genetic map ? Explain about three point test cross with suitable example. 6

OR

A) Explain in brief In situ hybridization (FISH). 6

B) Write in brief Hardy-Weinberg law and its applications. 6

6. A) Explain post mating Isolating mechanisms with examples. 6

OR

A) Discuss natural selection in action with Kettlewell's experiment. 6

B) What are fossils ? Describe the method for determination of age of fossils. 6
