T.Y.B.Sc. (Sem. V) Oct. 2014

Zoology

III. Molecular Biology and Taxicology

QP Code : 05095

(2½ Hours) **[Total Marks : 75**

N.B. (1) **All** questions are **compulsory.**
(2) **Figures** to the **right** indicate **full** marks.
(3) Draw **neat** and labelled **diagrams** wherever **necessary.**

1. Describe the following :—
   (a) Hershey-Chase experiment. 7
   OR
   (a) Excision repair mechanism. 7
   (b) Semiconservative nature of DNA replication. 8
   OR
   (b) Photoreactivation. 8

2. Explain the following :—
   (a) Lac operon. 7
   OR
   (a) DNA binding Domains. 7
   (b) Alkylating and intercalating agents. 8
   OR
   (b) Heterochromatin and euchromatin. 8

3. Describe the following :—
   (a) Measurement of dose response relationship. 7
   OR
   (a) Scope of toxicology. 7
   (b) Venom of Honeybee and Coelenterates. 8
   OR
   (b) Threshold dose and NOEL. 8

4. Explain the following :—
   (a) Phase I reaction. 7
   OR
   (a) Distribution and accumulation of toxicants. 7
   (b) Susceptibility of kidney and examples of nephrotoxicants. 8

5. Write short notes on :—

(a) Theta (θ) mode of replication in bacteriophages. 4

OR

(a) SOS repair mechanism. 4

(b) UV radiation. 4

OR

(b) Transition and transversion. 4

(c) Caffeine. 4

OR

(c) Mycotoxin. 4

(d) Paracetamol 3

OR

(d) Margins of safety. 3
