[This question paper contains 2 printed pages.]

Your Roll No.....

Sr. No. of Question Paper : 6461 **L**

Unique Paper Code : 3184001002

Name of the Paper : Landmark Discoveries in Science

Name of the Course : **B.Sc. (H) Biomedical Science GE**

Semester : II

Duration : 3 Hours Maximum Marks : 90

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. Attempt **five** questions in all.
3. Question no. **1** is compulsory.
4. Subparts of the questions should be attempted together.

1 (a) Define any **five:** (2x5=10)

(i) Flea glasses
(ii) Phenotype
(iii) Codons
(iv) dNTP
(v) Mithridatism
(vi) Attenuation

(b) Give the contribution of **any four** scientists in the field of Biology: (2x4=8)

(i) Chargaff
(ii) Baltimore
(iii) Herbert Boyer
(iv) Friedrich Miescher
(v) Alexander Flemming
(vi) Stanley Cohen

2. (a) Explain the set of experiments that conclusively established DNA as the genetic material. (9)

(b) What were the Koch's postulates? Explain the experiments he conducted to prove them. (9)

3. (a) Explain the construction and working of a compound microscope. (9)

(b) How can *in vitro* amplification of DNA be carried out in a laboratory? Elaborate the components used and the steps involved in this technique? (9)

P.T.O.

4. (a) How did Aristotle, Epicurus and Darwin contribute towards the theory of evolution. (6)

(b) X-rays are an important component in the field of medicine as well as research. Justify. (6)

(c) Match the following (**any six**) (1x6=6)

(i) John Tyndall	(a) Honeycomb structure
(ii) Vital force	(b) uptake of DNA
(iii) Robert Hooke	(c) Dust did indeed carry germs
(iv) RT-PCR	(d) Theory of spontaneous generation
(v) Transformation	(e) Semi-conservative replication
(vi) BCG	(f) Swan neck experiment
(vii) DNA	(g) RNA to cDNA

5.(a) State the three Mendelian laws of inheritance. What experiments led to the formulation of these laws? (9)

(b) What are restriction enzymes? Enumerate and differentiate between the different types of restriction enzymes (9)

6. Write short note on **any four** (4.5x4=18)

(i) Foldscope
(ii) Structure of DNA
(iii) Radioisotopes
(iv) Vaccines
(v) Cloning