

**FOURTH SEMESTER (CUCBCSS—UG) DEGREE EXAMINATION
APRIL 2020**

Zoology

ZOL 4C 04—GENETICS AND IMMUNOLOGY

Time : Three Hours

Maximum : 64 Marks

Part A

I. One word questions. Answer *all* questions. Each question carries 1 mark.

- 1 Who discovered jumping genes ?
- 2 Name the genetic disorder in which a person's blood is not able to clot normally.
- 3 High levels of glucose in the blood may be a sign of _____, _____ disease.
- 4 Diagrammatic representation of karyotype is known as _____.
- 5 Antibodies are made by _____ cells.
- 6 Name the vaccine against TB.
- 7 Spread of cancer to distant parts of the body from its original cells is called _____.
- 8 Chromosome which carries holandric genes is _____.
- 9 Name an organism in which sex is determined by external environmental factors.
- 10 Write the full form of ELISA.

(10 × 1 = 10 marks)

Part B

II. Short answer questions. Answer any *seven* questions. Each question carries 2 marks.

- 11 Interferons.
- 12 Innate immunity.
- 13 Criss cross inheritance.
- 14 Northern blotting.
- 15 Ichthyosis.
- 16 Barr body.

- 17 Split genes.
- 18 Eugenics.
- 19 Protoplast fusion.
- 20 Monoclonal antibodies.

(7 × 2 = 14 marks)

Part C

III. Paragraph questions. Answer *any four* questions. Each question carries 5 marks.

21. Give an account on primary immune deficiency diseases.
- 22 Give an account on various types of cancer.
- 23 Explain chromosomal mechanism of sex determination.
- 24 Give an account on various vectors used in genetic engineering.
- 25 . With suitable example explain anomalies due to autosomal mutation.
- 26 Give an account on genetic counseling.

(4 × 5 = 20 marks)

Part D

IV. Essay questions. Answer *any two* questions. Each question carries 10 marks.

- 27 What is genetic material ? Explain the various experiments which prove DNA as genetic material.
- 28 Give a detailed account on eukaryotic protein synthesis.
- 29 Explain the methodology and applications of various blotting techniques.
- 30 Give a detailed account of human chromosomal anomalies and disorders.

(2 × 10 = 20 marks)