



K23U 2389

Reg. No. :

Name :

**V Semester B.Sc. Degree (C.B.C.S.S.-O.B.E.- Regular/Supplementary/
Improvement) Examination, November 2023
(2019-2021 Admissions)
CORE COURSE IN ZOOLOGY
5B08ZLG : Genetics**

Time : 3 Hours

Max. Marks : 40

Instruction : Give illustrations and figures **wherever** necessary.

- I. Essay Questions. (**Each** question carries **8** marks). Answer **any two** : **(2×8=16)**
- 1) Describe mutations from chromosomal aberrations in detail.
 - 2) Explain the characterisation of human chromosomes using banding techniques.
 - 3) What is epistasis ? Describe the types of epistasis.
 - 4) Explain the influence of hormones and environment in sex determination in organisms.
- II. Short Essay Questions. (**Each** question carries **4** marks). Answer **any two** : **(2×4=8)**
- 5) Explain sex linked diseases.
 - 6) Describe the conventions followed in pedigree construction.
 - 7) Write a short essay on eugenics, euthenics and euphenics.
- III. Short Answer Questions. (**Each** question carries **2** marks). Answer **any six** : **(6×2=12)**
- 8) Write a short note on thalassemia.
 - 9) Give a note on gynandromorphs, with examples.
 - 10) Comment on the relationship between linkage and genetic recombination.
 - 11) A man of blood group AB marries a woman of O group. What are the possible blood groups of their children ?
 - 12) What are Kappa particles ?
 - 13) What is criss-cross pattern of inheritance ? Cite an example.
 - 14) What is Bombay blood group ?
 - 15) Differentiate between monohybrid and dihybrid crosses.

P.T.O.

IV. Multiple Choice Questions. (**Each** question carries **0.5** marks). Answer **all**. (**8** \times **0.5=4**)

- 16) Erythroblastosis foetalis is found in the children having
- Rh negative parents
 - Rh negative mother and Rh positive father
 - Rh positive parents
 - Rh negative father and Rh positive mother
- 17) Select the test cross from the following :
- $Tt \times Tt$
 - $TT \times Tt$
 - $TT \times TT$
 - $Tt \times tt$
- 18) Which is a polygenic trait ?
- Human skin colour
 - Haemophilia
 - Frameshift mutation
 - Widow's peak
- 19) The F₂ monohybrid genotypic ratio in Mendelian crosses
- 9 : 3 : 3 : 1
 - 9 : 4 : 1
 - 3 : 1
 - 1 : 2 : 1
- 20) Genic balance theory was proposed by
- Hugo de Vries
 - Calvin Bridges
 - Gregor Mendel
 - Mary Lyon
- 21) Patients suffering from albinism are deficient in the enzyme
- homogentisic acid oxidase
 - phenylalanine hydroxylase
 - tyrosinase
 - phosphogalactose uridyl transferase
- 22) Inheritance of comb pattern in poultry follows
- complementary gene action
 - supplementary gene action
 - polygenic inheritance
 - lethal gene inheritance
- 23) SRY gene is located on chromosome
- X
 - Y
 - 11
 - 22