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**. (8×0.5=4)
　　16) Erythroblastosis foetalis is found in the children having
　　　　a) Rh negative parents
　　　　b) Rh negative mother and Rh positive father
　　　　c) Rh positive parents
　　　　d) Rh negative father and Rh positive mother
　　17) Select the test cross from the following :
　　　　a) Tt × Tt　　　b) TT × Tt　　　c) TT × TT　　　d) Tt × tt
　　18) Which is a polygenic trait ?
　　　　a) Human skin colour　　　b) Haemophilia
　　　　c) Frameshift mutation　　　d) Widow's peak
　　19) The F2 monohybrid genotypic ratio in Mendelian crosses
　　　　a) 9 : 3 : 3 : 1　　　b) 9 : 4 : 1　　　c) 3 : 1　　　d) 1 : 2 : 1
　　20) Genic balance theory was proposed by
　　　　a) Hugo de Vries　　　b) Calvin Bridges
　　　　c) Gregor Mendel　　　d) Mary Lyon
　　21) Patients suffering from albinism are deficient in the enzyme
　　　　a) homogentisic acid oxidase
　　　　b) phenylalanine hydroxylase
　　　　c) tyrosinase
　　　　d) phosphogalactose uridyl transferase
　　22) Inheritance of comb pattern in poultry follows
　　　　a) complementary gene action　　　b) supplementary gene action
　　　　c) polygenic inheritance　　　d) lethal gene inheritance
　　23) SRY gene is located on chromosome
　　　　a) X　　　b) Y　　　c) 11　　　d) 22