

K18U 1530

Reg. No. :

Name :

V Semester B.Sc. Degree (CBCSS – Reg./Sup./Imp.)
Examination, November 2018
(2014 Admn. Onwards)
CORE COURSE IN ZOOLOGY
5 B08 ZLG : Hereditary Science

Time : 3 Hours

Max. Marks : 40

- I. Answer **any one** of the following : (1×8=8)
- 1) Explain the Cytoplasmic inheritance.
 - 2) Make a note on polygenic inheritance and recessive epistasis.
- II. Answer **any one** of the following : (1×8=8)
- 3) Describe the phenomenon of mutation.
 - 4) Explain any four Autosomal recessive diseases in man.
- III. Answer **any two** of the following : (2×4=8)
- 5) Make a note on Chromosomal basis of sex determination.
 - 6) Chromosome banding techniques.
 - 7) Explain on DNA sequencing.
 - 8) Describe genetic basis of blood group.
- IV. Answer **any six** of the following : (6×2=12)
- 9) Haemophilia.
 - 10) Linkage groups.
 - 11) Erythroblastosis foetalis.
 - 12) Genic balance theory.
 - 13) Ecogenetics of lung diseases.
 - 14) Crossing over.
 - 15) Klinefelter's syndrome.

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- 16) Pedigree analysis.
- 17) Southern blotting.
- 18) Holandric trait.

V. Answer the following.

(4×1=4)

19) Which of the following is a sex linked trait ?

- a) Haemophilia
- b) Anaemia
- c) Albinism
- d) Polydactyly

20) Genic balance theory was proposed by

- a) Lyon
- b) Johansson
- c) Bridges
- d) None of these

21) X/A ratio in super female is

- a) 1.0
- b) 0.5
- c) 1.5
- d) 0.6

22) Crossing over occurs in which stage of cell division ?

- a) Zygotene
- b) Pachytene
- c) Diplotene
- d) Leptotene

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Max. Marks : 40

Time : 3 Hours

- I. Answer **any one** of the following : (1×8=8)
- 1) Explain on Sex determination.
 - 2) What are mutagens and explain chromosomal aberrations ?
- II. Answer **any one** of the following : (1×8=8)
- 3) Explain the phenomenon of multiple allelism.
 - 4) Describe any four autöosomal recessive diseases.
- III. Answer **any two** of the following : (2×4=8)
- 5) Note on Environmental control of sex determination.
 - 6) Explain Linkage.
 - 7) Explain supplementary interaction of genes.
 - 8) Note on shell coiling in limnaea.
- IV. Answer **any six** : (6×2=12)
- 9) Alzheimer's disease.
 - 10) Y Linked Genes.
 - 11) Gynandromorphism.
 - 12) Kappa particles.
 - 13) Haemophilia.
 - 14) Crossing over.

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- 15) Trisomy 18.
- 16) Back Cross.
- 17) Klinefelters syndrome.
- 18) Banding techniques.

(4×1=4)

V. Choose the right answer :

- 19) Synaptonemal complex formation occurs during
a) Diplotene b) Zygotene c) Pachytene d) Leptotene
- 20) Circle in a pedigree chart shows
a) Affected female b) Affected male
c) Normal male d) Normal female
- 21) Which of the following is an example for single gene mutation ?
a) Sickle cell anemia b) Albinism
c) Phenylketonuria d) None of these
- 22) Genic balance theory was proposed by
a) Bridges b) Henking c) Baltzer d) Hugo Devries