



27530(New)

B.Sc. V Semester Degree Examination, February/March - 2023

ZOOLOGY (New)

Genetics

Paper : 5.1

Time : 3 Hours

Maximum Marks : 80

*Instructions to Candidates:*

- 1) Answer should be specific to the questions.
- 2) Draw neat labelled diagrams wherever necessary.

**I. Answer any TEN of the following.**

(10×2=20)

- 1) Any one application of Genetics
- 2) Chromonemata
- 3) Euploid
- 4) Nullisomic
- 5) Genome
- 6) Suppressor mutation
- 7) Acridine dyes
- 8) Genetic counselling
- 9) DNA Polymerases
- 10) Transcription
- 11) Significance of crossing over
- 12) Thalassemia.

**II. Answer any FOUR of the following.**

(4×5=20)

- 13) What is nucleosome? Give a brief account of nucleosome structure.
- 14) What is Z DNA and how was it discovered.
- 15) Discuss about the polygenes or multiple factors.
- 16) Give brief account of Genetic code characteristics.
- 17) Write in brief about the klinefelter's syndrome and Turner's syndrome.
- 18) Explain the sex-linkage in poultry.

[P.T.O.]





**III. Answer any FOUR of the following.****(4×10=40)**

- 19) What are ABO blood grouping in humans. In the following two cases of disputed parentage, enlist all the possible blood group phenotype of the father.
- i) Mother A<sup>-</sup>      Child B<sup>+</sup>
- ii) Mother O<sup>-</sup>      Child O<sup>+</sup>
- 20) Explain the role of Biotechnology in food and medicine.
- 21) Describe the different steps involved in the process of DNA Synthesis Discuss the role of different enzymes involved in the process.
- 22) Write about the common genetic disorders in man - in born errors of metabolism, Thalassemia and Huntington's chorea.
- 23) Explain the genic balance theory of drosophila and Gynandromorphism.
- 24) Discuss the modification in dihybrid ratio (9:3:3:1) due to different kinds of interactions of gene. Can you explain one modification with example.
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27530

B.Sc. V Semester Degree Examination, February/March 2022

ZOOLOGY

Paper – 5.1 : Genetics (New)

Time : 3 Hours

Max. Marks : 80

**Instructions :** 1) Answer should be specific to questions.  
2) Draw neat labelled diagrams **wherever** necessary.

I. Answer **any ten** of the following. (10×2=20)

- 1) Clinical genetics
- 2) Centromere
- 3) Phenotype and Genotype
- 4) RNA-polymerase
- 5) Epistasis gene
- 6) Wobble hypothesis
- 7) Chido-chat syndrome
- 8) Phenylketonuria (PKU)
- 9) Heterochromatin
- 10) Transcription
- 11) Gene therapy
- 12) Haemophilia.

II. Answer **any four** of the following. (4×5=20)

- 13) Describe the structure of Lampbrush Chromosome.
- 14) Illustrate inheritance of complementary factors.
- 15) Explain the structure of t-RNA.

P.T.O.



27530



16) Explain complete linkage and incomplete linkage in *Drosophila*.

17) Write a note on PCR technology.

18) What are properties of Genetic code ?

III. Answer **any four** of the following.

(4×10=40)

19) Describe the structure of DNA and explain semiconservative model of DNA replication.

20) Explain chromosomal mechanism of sex determination.

21) What are multiple alleles ? Explain characteristics and inheritance of multiple alleles of a blood group in man.

22) What are causes, effects and symptoms of sickle cell anaemia and Klinefelter's syndrome ?

23) Explain 'X' linked recessive eye colour gene in *Drosophila*.

24) Describe the role of biotechnology in agriculture.

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27530(New)

B.Sc. V Semester Degree Examination, March - 2021

ZOOLOGY

Genetics

Paper - Z 5.1

(New)

Time : 3 Hours

Maximum Marks : 80

*Instructions to Candidates:*

- 1) Answer should be specific to questions.
- 2) Draw neat labelled diagram wherever necessary.

I. Answer any **TEN** of the following.

(10×2=20)

- 1) Phenotype.
- 2) Cytogenetics.
- 3) Euchromatin.
- 4) Pseudoalleles.
- 5) Y-Linkage.
- 6) Gynandromorphism.
- 7) Lethal genes.
- 8) Purines.
- 9) Balbiani rings.
- 10) Phenylketonuria.
- 11) Cloning Vector.
- 12) Paliandrome sequence.

II. Answer any **FOUR** of the following.

(4×5=20)

- 13) What are properties of Genetic code?
- 14) What is crossing over? Write the significance of crossing over.
- 15) Illustrate the Inheritance of supplementary factors.
- 16) Describe the structure of m.RNA.
- 17) Write a note Rk-factors.
- 18) Explain sex-determination in Drosophila.

[P.T.O.]





(2)

27530(New)

III. Answer any **FOUR** of the following.

(4×10=40)

- 19) Describe the structure of Eukaryotic chromosome.
  - 20) Explain the process of protein synthesis.
  - 21) Explain inheritance of color blindness in man.
  - 22) Write an account on causes and symptoms of Edward and Patau's syndrome.
  - 23) Explain semi conservative method of DNA-replication.
  - 24) DNA-Finger printing technology and its applications.
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B.Sc. V Semester Degree Examination, September - 2020

ZOOLOGY

Genetics

Paper : Z 5.1

Time : 3 Hours

Maximum Marks : 80

*Instructions to Candidates:*

- 1) Answer should be specific to questions.
- 2) Draw neat labelled diagram wherever necessary.

I. Answer any **Ten** of the following:

(10×2=20)

1. Variation.
2. Genotype.
3. Dihybrid cross.
4. Back cross.
5. mRNA.
6. Hetrochromatin.
7. Patau's syndrome.
8. Sickle cell anaemia.
9. Linkage group.
10. Colour blindness.
11. Gynandromorph.
12. Plasmid.

II. Answer any **Four** of the following:

(4×5=20)

13. Dominant epistasis with example.
14. Crossing over.
15. Lamp brush Chromosome.
16. Turner's syndrome.
17. Rh factor.
18. Role of Biotechnology in agriculture.

[P.T.O.]





(2)

11530

III. Answer any **Four** of the following :

(4×10=40)

19. Explain semiconservative method of DNA replication.
  20. Define multiple alleles with inheritance of blood groups in man.
  21. Explain supplementary factor with suitable example.
  22. Explain the causes and syndrome of albinism and sickle cell anaemia.
  23. Explain Chromosomal basis of sex- determination.
  24. Explain the process of r DNA technology.
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B.Sc. V Semester Degree Examination, Oct./Nov.- 2019

ZOOLOGY  
GENETICS  
PAPER- Z 5.1

Time : 3 Hours

Maximum Marks : 80

**Instructions to Candidates:**

1. Answer should be specific to the questions.
2. Draw neat labelled diagram wherever necessary.

**I. Answer any ten of the following:**

(10×2=20)

- 1) Dihybrid cross.
- 2) Clinical Genetics
- 3) Balbiani ring.
- 4) Chargaff rule.
- 5) Epistatic gene.
- 6) Significances of crossing over.
- 7) DNA Helicase.
- 8) Inter sex
- 9) Positive Eugenics.
- 10) Hypertrichosis.
- 11) Patau's syndrome.
- 12) Gene cloning.

**II. Answer any four of the following:**

(4×5=20)

- 13) Describe properties of genetic code.
- 14) Describe sex linkage in poultry.
- 15) Explain inheritance of supplementary factor with suitable example.
- 16) Describe role of X-Y chromosome in sex- determination.

[P.T.O.]





- 17) Explain coupling and repulsion Theory.
- 18) Describe the role of Biotechnology in agriculture.

**III. Answer any four of the following:**

**(4×10=40)**

- 19) Explain structure of Eukaryotic chromosome.
  - 20) Explain the process of translation in protein synthesis.
  - 21) What are multiple alleles? Explain with suitable examples.
  - 22) What are gene mutations? Write a note on types of gene mutation.
  - 23) What are the causes and syndrome of albinism and sickle cell anemia?
  - 24) Explain DNA finger printing technology and its significances.
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11530

B.Sc V Semester Degree Examination, Oct./Nov. - 2018

**ZOOLOGY**

**Genetics**

**Paper - Z - 5.1**

Time : 3 Hours

Maximum Marks : 80

**Instructions to Candidates:**

1. Answer should be specific to the questions.
2. Draw diagrams wherever necessary.

**I. Answer any TEN of the following.**

**(10×2=20)**

1. Population Genetics.
2. Heterozygous Genotype.
3. Euchromatin.
4. Terminating codons.
5. Pyrimidines.
6. Epistatic Gene.
7. Pseudoalleles.
8. Crossing over.
9. Substitution point mutation.
10. Y-Linkage.
11. Palindrome sequence.
12. Tag - DNA polymerase.

**[P.T.O.]**







(2)

11530

**II.** Answer any **FOUR** of the following.

(4×5=20)

13. Describe the structure of Lampbrush chromosome.
14. Illustrate inheritance of complementary factors.
15. Explain inheritance of ABO blood group in man.
16. Explain semi conservative method of DNA replication.
17. What are causes and Symptoms of Albinism.
18. Write a note on inheritance of hemophilia in man.

**III.** Answer any **FOUR** of the following.

(4×10=40)

19. Describe chemical composition and different types of RNA.
  20. Describe mechanism of crossing over and write its significance.
  21. Write a note on any four syndromes caused by chromosomal mutation.
  22. Describe chromosomal basis of sex determination.
  23. Explain role of Eugenics in improvement of human race.
  24. Explain production of insulin by genetic engineering.
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11530

**B.Sc. V Semester Degree Examination, Nov./Dec. - 2017**

**ZOOLOGY**

**Z-5.1 : Genetics**

Time : 3 Hours

Maximum Marks : 80

**Instructions to candidates :**

- 1) Answer Should be specific to the questions.
- 2) Draw diagrams wherever necessary.

**I. Answer any 10 of the following :**

**(10 × 2 = 20)**

1. Dominant allele
2. r.RNA
3. Non sense Codon
4. Lethal gene
5. Isoallele
6. Gynandromorph
7. Hypertrichosis
8. Significance of crossing over.
9. Colourblindness
10. Aneuploidy
11. Alkaptonuria
12. DNA Ligase

**[P.T.O**







(2)

11530

**II. Answer any Four of the following :**

**(5 × 4 = 20)**

13. What is dominant epistasis? Illustrate inheritance of plumage pattern in poultry birds.
14. Explain inheritance of coat colour in rabbit.
15. Write a note on frame shift mutations.
16. What are causes and effects of sickle cell anaemia?
17. Describe complete and incomplete linkage with a suitable example.
18. Explain DNA amplification by PCT technology.

**III. Answer any Four of the following :**

**(10 × 4 = 40)**

19. Describe the structure of Eukaryotic chromosome.
20. What is chemical composition of DNA? Describe Watson and crick model of DNA.
21. Describe mechanism of transcription in protein synthesis.
22. What is Sexlinked inheritance? Illustrate Criss Cross inheritance in Drosophila.
23. Describe chromosomal basis of sex determination in different Animals.
24. What are applications of Biotechnology in agriculture.





27531

B.Sc. V Semester Degree Examination, Sept./Oct. 2023  
**ZOOLOGY**

**5.2 : Animal Behaviour, Evolution and Palaeontology (New)**

Time : 3 Hours

Max. Marks : 80

**Instructions :** 1) Answer should be specific to the questions.  
2) Draw neat labelled diagrams wherever necessary.

**SECTION – A**

(10×2=20)

I. Answer any ten of the following :

- 1) Instincts.
- 2) Navigation.
- 3) Oviparous.
- 4) Biological clock.
- 5) Leaf insect.
- 6) Mermaids purse.
- 7) Gene flow.
- 8) Casts and moulds.
- 9) Vestigial organs.
- 10) Microevolution.
- 11) Latitudinal bird migration.
- 12) Reflexes.

**SECTION – B**

(4×5=20)

II. Answer any four of the following :

- 13) Write a note on anadromous fish migration with special reference to Hilsa and Anguilla.
- 14) Write a note on Circadian rhythms.

P.T.O.







- 15) Write a note on mimicry and its types.
- 16) What are the unique characters of homohabilus ?
- 17) Write a note on sympatric speciation.
- 18) Write a note on bee dance.

### SECTION – C

III. Answer **any four** of the following :

**(10×4=40)**

- 19) Explain in detail bird migration.
  - 20) Explain Lamarckism.
  - 21) Describe social organisation in honey bees.
  - 22) Explain parental care in Amphibians.
  - 23) Describe Kohlar and Kaffka experiment on Chimpanzee for insight learning.
  - 24) Define fossils. Explain different types of fossils and its fossilization along with significance.
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27531

**B.Sc. V Semester Degree Examination, February/March 2022  
ZOOLOGY**

**Paper – 5.2 : Animal Behaviour, Evolution and Palaeontology (New)**

Time : 3 Hours

Max. Marks : 80

**Instructions :** 1) Answer should be specific to the questions.

2) Draw **neat** labelled diagram **wherever** necessary.

I. Answer any ten of the following.

(10×2=20)

- 1) Instinct.
- 2) Habituation.
- 3) Longitudinal Bird migration.
- 4) Stick insect.
- 5) Tunnel nest.
- 6) Parental care in Tilapia.
- 7) Protective mimicry.
- 8) Endogenous Rhythms.
- 9) Genetic drift.
- 10) Struggle for existence.
- 11) Gametic Isolation.
- 12) Stabilizing Natural Selection.

P.T.O.





27531



II. Answer **any four** of the following :

(4×5=20)

- 13) Write a note on Taxes.
- 14) Explain migratory behaviour of European eels.
- 15) What are different types of Exogenous Rhythms ?
- 16) Explain different types of colouration in animals with examples.
- 17) What are unique characters of Homo erectus ?
- 18) Write a note on allopatric speciation mechanisms.

III. Answer **any four** of the following :

(4×10=40)

- 19) Explain social organisation in honey bees.
  - 20) Write an essay on parental care in amphibians.
  - 21) Describe nesting behaviour in birds.
  - 22) Explain Kohler- Koffka experiment on Chimpanzees.
  - 23) Explain Lamarckism.
  - 24) Describe types of fossilization and write about significance of fossils in evolution studies.
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11531

**B.Sc. V Semester Degree Examination, February/March 2022**  
**Paper – 5.2 : ZOOLOGY**  
**Animal Behaviour, Evolution and Palaeontology (Old)**

Time : 3 Hours

Max. Marks : 80

**Instructions :** 1) Answer should be specific to the question.  
2) Draw **neat** labelled diagrams **wherever** necessary.

I. Answer **any ten** of the following :

(10×2=20)

- 1) Worker bee
- 2) Habituation
- 3) Caladromous migration
- 4) Altriciality in birds
- 5) Knee-Jerk reflex
- 6) Circadian Rhythm
- 7) Instinct behaviour
- 8) Nesting behaviour of tailor bird
- 9) Leaf insect
- 10) Genetic drift
- 11) Allopatric speciation
- 12) Homo habilis.

II. Answer **any four** of the following :

(4×5=20)

- 13) Explain communication in honey bees.
- 14) Write a brief note on semilunar rhythms with suitable examples.
- 15) Explain sympatric speciation.
- 16) Write a note on fish Hilsa migration.
- 17) Court ship behaviour in scorpion.
- 18) What are unique characters of Australopithicus ?

P.T.O.





11531



III. Answer **any four** of the following :

**(4×10=40)**

- 19) Describe insight learning in animals with suitable examples.
  - 20) Explain different types of migrations in birds.
  - 21) Describe Parental care in amphibians.
  - 22) What is mimicry in animals ? Write about different types of mimicry with examples.
  - 23) Explain the principles of Darwin Wallace theory of Natural Selection.
  - 24) Write a note on different types of fossils and write about evolutionary significance of fossils.
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B.Sc. V Semester Degree Examination, March - 2021

**ZOOLOGY**

Animal behaviour, Evolution and palaeontology

Paper : 5.2

(New)

Time : 3 Hours

Maximum Marks : 80

**Instructions to Candidates:**

- 1) Answer should be specific to Questions.
- 2) Draw neat labelled diagram wherever necessary.

**I. Answer any Ten of the following.****(10×2=20)**

- 1) Insight learning.
- 2) Territoriality.
- 3) Brood pouch in fishes.
- 4) Reflexes.
- 5) Circannual Rhythms.
- 6) Viviparity.
- 7) Floating nest.
- 8) Birds migratory routes.
- 9) Warning mimicry.
- 10) Use and disuse principle of evolution.
- 11) Genetic drift.
- 12) Weismann germ plasm theory.

**II. Answer any FOUR of the following.**

- 13) Nesting behaviour in baya.
- 14) Navigation in birds.
- 15) Protective colouration.
- 16) Sympatric speciation.
- 17) Dominant hierarchy in macaques
- 18) Australopithecus.

**(4×5=20)****[P.T.O.]**





(2)

27531(New)

III. Answer any **FOUR** of the following.

(4×10=40)

- 19) Describe social organisation in Honey bees.
  - 20) Explain parental care in amphibians.
  - 21) Describe migratory behaviour in fishes Idilsa and Anguilla.
  - 22) Explain pavlov's classical conditioning experiment on Dogs.
  - 23) Explain Darwin-Wallace theory of natural selection.
  - 24) Write a note on different types of fossils.
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B.Sc. V Semester Degree Examination, September- 2020

ZOOLOGY

Animal Behaviour Evolution and Palaeontology

Paper : Z 5.2

Time : 3 Hours

Maximum Marks : 80

*Instructions to Candidates:*

- 1) Answer should be specific to questions.
- 2) Draw neat labelled diagram wherever necessary.

I. Answer any **Ten** of the following:

(10×2=20)

1. Diapause.
2. Biological clock.
3. Oviparous.
4. Pollination.
5. Nocturnal.
6. Stick Insect.
7. Hibernation.
8. Instinct.
9. Territory.
10. Monogamy.
11. Genetic drift.
12. Gastroliths.

II. Answer any **Four** of the following:

(4×5=20)

13. Social organisation in termites.
14. Types of migration in fishes.
15. Nest constructed by birds.

[P.T.O.]







16. Types of mimicry with examples.
17. Homoerectus.
18. Allopatric speciation.

(4×10=40)

**III. Answer any Four of the following:**

19. Describe Parental care in fishes.
20. Explain social organisation in honey bees.
21. Explain different types of taxis with examples.
22. Explain insight learning with experiment on chimpanzee.
23. Describe bird migration.
24. Explain Principles of Lamarckism with examples.





B.Sc. V Semester Degree Examination, Oct. /Nov.- 2019

ZOOLOGY

Animal behaviour, Evolution and Palaeontology

PAPER- 5.2

Time : 3 Hours

Maximum Marks : 80

*Instructions to Candidates:*

1. Answer should be specific to questions.
2. Draw neat labelled diagrams wherever necessary.

**I. Answer any ten of the following:**

(10×2=20)

- 1) Promedane of due
- 2) Brood pouch
- 3) Nocturnal
- 4) Mermaids purse
- 5) Territory
- 6) Drifting
- 7) Hibernation
- 8) Biological clock
- 9) Polygamy
- 10) Oviparous
- 11) Isolation
- 12) Homo habilis

**II. Answer any four of the following:**

(4×5=20)

- 13) Caste system in termites.
- 14) Circannual rhythms
- 15) Types of mimicry with examples.
- 16) Kinds of nest constructed by birds

[P.T.O.]





- 17) Types of fossils
- 18) Sympatric speciation

**III.** Answer any **four** of the following:

**(4×10=40)**

- 19) Describe different types of innate behaviour with examples.
  - 20) Give an account of different modes of parental care in amphibians.
  - 21) Explain different types of bird migration.
  - 22) Write a note on colouration in animals.
  - 23) Social organisation in honey bees.
  - 24) Darwin-Wallace theory of Natural selection.
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11531

B.Sc. V Semester Degree Examination, Oct./Nov - 2018

**ZOOLOGY**

**Animal Behaviour Evolution and Paleontology**

**Paper - 5.2**

Time : 3 Hours

Maximum Marks : 80

**Instructions to Candidates:**

1. Answer should be specific to questions.
2. Draw neat labelled diagram wherever necessary.

**I. Answer any TEN of the following.**

**(10×2=20)**

1. Viviparous
2. Nasute
3. Navigation
4. Catadromous migration
5. Reflexes
6. Forager
7. Camouflage
8. Imprinting
9. Intraspecific struggle
10. Nocturnal
11. Mutation
12. Complementary caste.

**II. Answer any FOUR of the following.**

**(4×5=20)**

13. Courtship in Scorpion and Peacock.
14. Mimicry in Animals with examples.
15. Nest constructed by Amphibians.
16. Allopatric speciation.
17. Different types of Taxes with examples.
18. Pre human phase.

**[P.T.O.]**







(2)

11531

**III. Answer any FOUR of the following.**

**(4×10=40)**

19. Parental care in Fishes.
  20. Social organisation in honeybees.
  21. What is chronobiology? Explain various types of rhythms.
  22. Nesting behaviour in birds.
  23. Process of fossilization and types of fossils.
  24. Describe Kohlar and Koffka experiment on Chimpanzee.
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11531

B.Sc. V Semester Degree Examination, Nov./Dec. - 2017

**ZOOLOGY**

**Paper - 5.2 : Animal Behaviour, Evolution and Palaeontology**

Time : 3 Hours

Maximum Marks : 80

**Instructions to candidates :**

- 1) Answer Should be specific to the questions.
- 2) Draw neat labelled diagram wherever necessary.

**L Answer any 10 of the following :**

**(10 × 2 = 20)**

1. Soldiers
2. Chamaeleon
3. Community nest
4. Instinct
5. Gene flow
6. Motivation.
7. Courtship
8. Protective mimicry
9. Mould
10. Brood pouch
11. Aestivation
12. Tunnel nest

**[P.T.O]**







(2)

11531

**II. Answer any Four of the following :**

**(5 × 4 = 20)**

13. Circannual Rhythms.
14. Explain taxis with examples.
15. Nest constructed by fishes.
16. Colouration in animals.
17. Sympatric speciation.
18. Homoerectus

**III. Answer any Four of the following :**

**(10 × 4 = 40)**

19. Nesting behaviour in birds.
20. Parental care in Amphibians.
21. Note on fish migration.
22. Social behaviour in honey bee.
23. Lamarckism.
24. Thorndikes experiment on cat.

