A

(20623)

M.Sc.-II Sem.

Printed Pages : 3

Roll No. .....03.....

12071

M.Sc. Examination, June-2023

ZOOLOGY

(Biostatistics and Bioinformatics)

(H-2062)

Time : 3 hours] *[Maximum marks : 50*

Note: *Attempt **all** the sections as per instructions.*

Section-A

(Very Short Answer Type Questions)

Note: Attempt any **five** questions. Each question carries 2 marks. Very short answer is required not exceeding 75 words. 5×2=10

1. Geometric mean 2
2. Electronic mail 2
3. PowerPoint 2
4. ROM 2
5. Blastin 2
6. Joystick 2
7. Qualitative variables. 2

Section-B

(Short Answer Type Questions)

Note: This section contains three questions, attempt any **two** questions. Each question carries 5 marks. Short answer is required not exceeding 200 words. 2×5=10

8. What is mode? Explain it with the help of suitable example. 5

9. Gene Prediction. 5

10. Basics of operating system. 5

Section-C

(Long Answer Type Questions)

Note: This section contains four questions, attempt any **three** questions. Each question carries 10 marks. Long answer is required in detail. 3×10=30

11. What is Internet? Explain the role of internet in modern education system and research. 10

12. What are the types of measure of depression? Explain the merits and demerits of standard deviation. 10

13. Comment on the following: 10

(a) Chi square Test

(b) C language and its programming

14. What is the difference between primary and secondary database? Describe secondary database in detail. 10

A

(20623)

M.Sc.-II Sem.

Printed Pages : 3

Roll No. 2200187004

12072

M.Sc. Examination, June-2023

ZOOLOGY

Genetics

(H-2063)

Time : 3 hours] *[Maximum marks : 50*

Note: *Attempt all the sections as per instructions.*

Section-A

(Very Short Answer Type Questions)

Note: Attempt all five questions. Each question carries 2 marks. Answer should not exceed 75 words.

5×2=10

1. Lamp brush chromosome. 2
2. Mendel's law of segregation. 2
3. Sickle cell anaemia. 2
4. Hetero chromatin. 2
5. Pseudogenes. 2

[P.T.O.

Section-B

(Short Answer Type Questions)

Note: This section contains three questions, attempt any **two** questions. Each question carries 5 marks. Answer should not exceed 200 words.

$2 \times 5 = 10$

6. Tay-Sachs disease. 5

7. DNA finger printing. 5

8. Morphology of T_4 phage. 5

Section-C

(Long Answer Type Questions)

Note: This section contains five questions, attempt any **three** questions. Each question carries 10 marks.

$3 \times 10 = 30$

9. Describe Somatic cell hybridization and role in chromosome mapping? 10

10. Describe structural alteration of chromosome. 10

11. Describe the basic structure of nucleosome. Discuss different histone molecule organization in nucleosome. 10

12. Write short note on the following:

(a) In born error of metabolism. 5

(b) Poisson distribution in Linkage map. 5

13. Write short notes on the following:

(a) FISH Technique. 5

(b) Bacterial transformation 5

A

(20623) Roll No. 03

M. Sc.-II Sem.

12073

M. Sc. Examination, June 2023

ZOOLOGY

Mammalian Physiology

(H-2064)

Time : Three Hours] *[Maximum Marks : 50*

Note : Attempt questions from all Sections as per instructions.

Section-A

(Very Short Answer Type Questions)

Answer all the *five* questions. Each question carries 2 marks. Very short answer is required not exceeding 75 words. 2×5=10

1. Explain Neurons.

2. Write a function of pancreatic secretion.

3. BMR.

4. Energy Balance.

5. Name the two major components of blood.

Section-B

(Short Answer Type Questions)

Answer any *two* questions out of the following three questions. Each question carries 5 marks. Short answer is required not exceeding 200 words.

5×2=10

6. Differentiate between diabetes mellitus and diabetes insipidus.

7. Explain thermoregulation.

8. Explain stress and adaptation.

Section-C

(Long Answer Type Questions)

Answer any *three* questions out of the following five questions. Each question carries *10 marks*. Answer is required in detail. 10×3=30

9. Describe the role of pancreas in the digestion of proteins.

10. What is cardiac cycle ? Describe the different stages in detail.

11. What is respiration ? Differentiate between external and internal respiration.

12. Explain Neurons. How a nerve impulse is carried through a synapse ?

13. Give a detailed account of physiology of excretion, kidney and urine formation in mammals.

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(20623) Roll No. 03

M. Sc.-II Sem.

12074

M. Sc. Examination, June 2023

ZOOLOGY

Biochemistry

(H-2065)

Time : Three Hours] *[Maximum Marks : 50*

Note : Attempt questions from all Sections as per instructions.

Section-A

(Very Short Answer Type Questions)

Answer any *five* questions. Each question carries 2 marks. Very short answer is required not exceeding 75 words. 2×5=10

1. Write about Ramchandran Plot.

2. What is Antihemorrhagic vitamin?

3. What is Gibb's free energy of activation?

4. Nucleotides.

5. Write about bond energy and bond strength.

6. Yellow enzyme.

Section-B

(Short Answer Type Questions)

Answer any *two* questions out of the following three questions. Each question carries 5 marks. Short answer is required not exceeding 200 words.

5×2=10

7. What are co-enzymes ? Describe various types of co-enzymes.

8. Describe compound lipids with suitable examples.

9. Explain the clover leaf model of t-RNA.

Section-C

(Long Answer Type Questions)

Answer any *three* questions out of the following five questions. Each question carries 10 marks. Answer is required in detail. 10×3=30

10. Give an detailed account of β-oxidation of fatty acids along with its stoichiometry.

11. Describe the different forms of molecular structure of DNA.

12. ATP is regarded as universal currency of free energy in biological systems. Justify the statement.

13. Why enzymes are important for biological systems ? Give the brief classification of enzymes along with their examples.

14. Attempt any two of the following :

(i) Buffers and their biological importance

(ii) Polysacchrides

(iii) Glycolysis.