

DHANAMANJURI UNIVERSITY, MANIPUR
JUNE - 2021

Name of Programme : M.Sc Zoology
Semester : Second
Paper Code : ZOO - 507
Paper Title : Biochemistry and Immunology
Full Marks : 40

*The figures in the margin indicate full marks for the questions.
Answer any four questions of the following*

1. Explain the primary, secondary and tertiary structure of proteins. 10
Or
Write short notes on **any two** of the following 5X2=10
a) Van der Waals interaction
b) Competitive and non-competitive enzyme inhibition
c) ATP as universal currency of free energy
2. Explain how many ATPs are produced by oxidation of one molecule of glucose through aerobic glycolysis. 10
Or
Describe the urea cycle reactions and its regulations. 10
3. Explain in detail about the humoral and cell mediated immunity. 10
Or
Write short note on **any two** of the following 5X2=10
a) Structure and function of MHC
b) Diagnosis of hypersensitive reaction
c) Immuno diagnosis of tumors
4. Describe the secondary immunodeficiency diseases. 10
Or
Describe how vaccination produces immunity. 10

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Name of Programme : M.Sc Zoology
Semester : Second
Paper Code : ZOO - 508
Paper Title : Applied Zoology and Animal behaviour / Ethology
Full Marks : 40

*The figures in the margin indicate full marks for the questions.
Answer any four questions of the following*

1. Give an account of scope and prospects of sericulture in India. 10
2. Describe the indigenous and modern methods of Apiculture. 10
3. What is lac? How lac is extracted? Give the economic importance of lac. $2 + 4 + 4 = 10$
4. Write short notes on any two of the following: $5 \times 2 = 10$
 - (a) Induced fish breeding
 - (b) Integrated fish farming
 - (c) Transgenic fishes
5. Give an account of life cycle and pathogenicity of *Echinococcus granulosus*. 10
6. Give the public health importance of mosquitoes and fleas. 10
7. What is communication? Give an account of communication in any animal group that you have studied. $2 + 8 = 10$
8. Discuss the role of hormones in animal behaviour. 10

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Name of Programme : M.Sc Zoology
Semester : Second
Paper Code : ZOO - 509
Paper Title : Animal Physiology and Endocrinology
Full Marks : 40

*The figures in the margin indicate full marks for the questions.
Answer all questions.*

- Q1. What is blood clotting? Explain the role of Extrinsic and Intrinsic factors on it. 2+8=10
OR
Give a brief account on the physiology of digestion and absorption of proteins. 5+5=10
- Q2. Describe the mechanism of skeletal muscle contraction. 10
OR
Describe the transmission of nerve impulse through synapse. 10
- Q3. Describe the photochemistry of vision? 10
OR
Explain the physiology of hearing. 10
- Q4. What is pregnancy hormone explain why it is called so. 10
OR
Write short notes on **any two** of the following: – 5+5=10
- (a) Addison's disease.
(b) Diabetes insipidus.
(c) Graves disease

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JUNE - 2021

Name of Programme : **M.Sc. Zoology**
Semester : **Second**
Paper Code : **ZOO – 510**
Paper Title : **Evolution, Biosystematics and Taxonomy**
Full Marks : 40

The figures in the margin indicates full marks for the questions.
Answer all questions

1. What is Organic Evolution? Give an account on the Modern Synthetic Theory of Organic Evolution. 2+8=10

Or

Define Speciation. Explain the different types of Speciation. 1+9=10
2. Give an account on the origin of Species. 10

Or

What is Isolating Mechanism? Describe the different types of Isolating Mechanism in evolution with suitable examples. 2+8=10
3. What do you mean by ICZN ? Give an account on the important rules of International Code of Zoological Nomenclature. 2+8=10

Or

Write short notes on the following : 5+5=10
 - (a) Biological species concept
 - (b) Cytological approach in modern taxonomy.
4. What is Taxonomic Hierarchy? Give an account on Linnaean Hierarchy in classification. 2+8=10

Or

Describe the techniques of preservation and processes of identification of specimens. 10

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Name of Programme : **M.Sc. Zoology**
Semester : **Second**
Paper Code : **OPE-002**
Paper Title : **Biodiversity and Climate change**
Full Marks : **40**

The figures in the margin indicates full marks for the questions.
Answer all questions

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| 1. | Describe the major causes for the loss of biodiversity. | 10 |
| | Or | |
| | Give an account on the Biodiversity Hotspots in India | 10 |
| 2. | Explain two strategies for conservation of biodiversity | 5+5=10 |
| | Or | |
| | Write short notes on | 5+5=10 |
| | a. National Parks | |
| | b. Sanctuaries | |
| 3. | Give an account on Wild life Protection Act. | 10 |
| | Or | |
| | Write short notes on | 5+5=10 |
| | a. Bioprospecting for sustainable development | |
| | b. Biopiracy and protection measure | |
| 4. | Describe the cause and effects of global warming. | 5+5=10 |
| | Or | |
| | Give an account of the cause and impact of climate change. | 5+5=10 |

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