

NALANDA OPEN UNIVERSITY

M.Sc. Zoology, Part-I PAPER-I

(Non-Chordates and Chordates)

Annual Examination, 2018

Time: 3 Hours.

Full Marks: 80

*Answer five questions in all, selecting at least Two Questions from each Group.
All Questions carry equal marks.*

GROUP 'A'

1. Why most of the sponges regardless of their size are limited to feeding on microscopic food ?
2. What is Coelom ? Describe organization of coelom in Annelida.
3. Describe the organs of respiration in Prawn.
4. Give an account of evolutionary significance of different larval forms of invertebrates.
5. Write notes on any two of the following :
 - (a) Botryoidal tissues
 - (b) Acolomate
 - (c) Bipinaria larva
 - (d) Medusa of obelia colony

GROUP 'B'

6. Classify living Reptiles up to orders with important characters with examples.
7. Describe the brain of Amphibia and compare it with that of mammals.
8. Describe the different types of feather available in Birds.
9. Trace the evolution of aortic arches in Vertebrates.
10. Write notes on any two of the following:
 - (a) Macropus
 - (b) Adaptive radiation
 - (c) Sea-horse
 - (d) Ampula of Lorengini of dogfish

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Examination Programme, 2018

M.Sc. Zoology, Part-I

<i>Date</i>	<i>Papers</i>	<i>Time</i>	<i>Examination Centre</i>
24.05.2018	Paper-I	12.00 Noon to 3.00 PM	Nalanda Open University, Patna
26.05.2018	Paper-II	12.00 Noon to 3.00 PM	Nalanda Open University, Patna
28.05.2018	Paper-III	12.00 Noon to 3.00 PM	Nalanda Open University, Patna
30.05.2018	Paper-IV	12.00 Noon to 3.00 PM	Nalanda Open University, Patna
01.06.2018	Paper-V	12.00 Noon to 3.00 PM	Nalanda Open University, Patna
05.06.2018	Paper-VI	12.00 Noon to 3.00 PM	Nalanda Open University, Patna
07.06.2018	Paper-VII	12.00 Noon to 3.00 PM	Nalanda Open University, Patna
09.06.2018	Paper-VIII	12.00 Noon to 3.00 PM	Nalanda Open University, Patna

NALANDA OPEN UNIVERSITY
M.Sc. Zoology, Part-I
PAPER-II
(Taxonomy, Biodiversity and conservation)
Annual Examination, 2018

Time: 3 Hours.

Full Marks: 80

*Answer five questions in all, selecting at least Two Questions from each Group.
All Questions carry equal marks.*

GROUP 'A'

1. Describe different types of biodiversity.
2. Give an account of hierarchy of categories.
3. Describe the major features of biosphere reserves and their significance.
4. What is the rule of Zoological nomenclature ? Write a short note on international code of zoological nomenclature.
5. Write notes on any **Two** of the following :-
 - (a) Intraspecific species.
 - (b) Zoological types
 - (c) Cytotaxonomy and Molecular taxonomy
 - (d) Uses of biosystematics in Commerce

GROUP 'B'

6. Describe characteristics and adaptation of forest biome.
7. What do you mean by Wild-life ? How does it help in the maintenance of environment ?
8. Give different reasons that tropical forests are vital to the World's ecosystem.
9. Describe the characteristic features of faunal adaptation of marine biome.
10. Write notes on any **Two** of the following :-
 - (a) Census of threatened species
 - (b) Ex-Situ
 - (c) Core Zone
 - (d) Magnitude of biodiversity

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प्रायोगिक परामर्श कक्षा एवं प्रायोगिक परीक्षा का कार्यक्रम दिनांक 28.05.2018 को प्रकाशित किया जायेगा ।

NALANDA OPEN UNIVERSITY
M.Sc. Zoology, Part-I
PAPER—III
(Ecology, Environmental Biology and Toxicology)
Annual Examination, 2018

Time: 3 Hours.

Full Marks: 80

*Answer five questions in all, selecting at least Two Questions from each Group.
All Questions carry equal marks.*

GROUP 'A'

1. Describe different types of Competition found in nature.
2. Describe the role of predation in nature.
3. Describe the evolution of life history traits.
4. Describe the different categories of mutualism. How mutualism is evolved in nature ?
5. Write notes on any **Two** of the following:—
 - (a) Intertidal zone
 - (b) Deciduous forest
 - (c) Ecological Pyramid
 - (d) Life table

GROUP 'B'

6. Describe the impact of temperature on various life processes.
7. Explain how animals are adapted with the change in environment.
8. How do human interfere with carbon cycle.
9. What is competitive exclusion principles.
10. Write notes on any **Two** of the following:—
 - (a) Acid rain
 - (b) Mountain Sickness
 - (c) Tolerance
 - (d) Estuaries

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For Practical Counselling Class & Practical Examination Programme Please See on Back Page.

NALANDA OPEN UNIVERSITY

M.Sc. Zoology, Part-I

PAPER-IV

(Ethology and Evolution)

Annual Examination, 2018

Time: 3 Hours.

Full Marks: 80

*Answer five questions in all, selecting at least Two Questions from each Group.
All Questions carry equal marks.*

GROUP 'A'

1. Define learning and give an account of types of learning.
2. Describe the various aspects of mating behaviour found in animals.
3. give an account of habital-selection.
4. Give an account of Parental care in Fishes.
5. Write notes on any **Two** of the following:—
 - (a) Circardial Rhytham
 - (b) Innate behaviour
 - (c) Biological clock
 - (d) Navigation

GROUP 'B'

6. Give an account of Isolating mechanism.
7. What is Cultural evolution ? Why Cultural evolution is more or less rapid than biological evolution.
8. Write an essay on Lamarkism.
9. Describe the "Hardy-Weinberg Law" of genetic equilibrium.
10. Write notes on any **Two** of the following:—
 - (a) Gene pool
 - (b) Phylogenetic tree
 - (c) Reproductive variation
 - (d) Species concept

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<p>For Practical Counselling Class & Practical Examination Programme Please See on Back Page.</p>
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NALANDA OPEN UNIVERSITY

M.Sc. Zoology, Part-I
PAPER-V

(Animal physiology and Biochemistry)
Annual Examination, 2018

Time: 3 Hours.

Full Marks: 80

*Answer five questions in all, selecting at least Two Questions from each Group.
All Questions carry equal marks.*

GROUP 'A'

1. Describe the physiological adaptation in animals in fresh water environment.
2. Describe the physiology of excretion in vertebrates.
3. What do you mean by Mimicry ? Describe both protective and aggressive mimicry in detail.
4. Describe the Zonation and Community Structure of Ocean.
5. Write notes on any **Two** of the following :—
 - (a) Bergmann's rule
 - (b) Tubular Reabsorption
 - (c) Bioluminescence
 - (d) Zooplankton

GROUP 'B'

6. Describe the oxidation of unsaturated fatty acid.
7. Give an account of urea cycle.
8. Give an account of β -Oxidation of fatty acid.
9. Explain how energy is obtained from the metabolism of amino acid.
10. Write notes on any **Two** of the following :—
 - (a) Saturated fatty acid
 - (b) Catalytic activity of enzyme
 - (c) Lipotropic factor
 - (d) Ribozyme

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<p>For Practical Counselling Class & Practical Examination Programme Please See on Back Page.</p>
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NALANDA OPEN UNIVERSITY

M.Sc. Zoology, Part-I
PAPER-VI

(Cytogenetics and Microbial Genetics)

Annual Examination, 2018

Time: 3 Hours.

Full Marks: 80

*Answer five questions in all, selecting at least Two Questions from each Group.
All Questions carry equal marks.*

GROUP 'A'

1. Give an account of banding number, banding nomenclature and classification of human karyotypes.
2. Describe the characterization of human chromosome on the basis of different banding technique.
3. Write an essay on cell harvesting.
4. Describe structural and functional organization of Lampbrush chromosome.
5. Write notes on any **Two** of the following :—
 - (a) Chromosomal puffs
 - (b) Down's syndrome
 - (c) Radiation hybrid
 - (d) Squash preparation

GROUP 'B'

6. describe the cytogenetic effects of ionised and non-ionised radiation.
7. Describe the genetic regulation of cell cycle in eukaryotes.
8. Describe the physical mapping of Chromosomes.
9. Give an account of finger printing technique.
10. Write notes on any **Two** of the following:—
 - (a) Turner's Syndrome
 - (b) T4-phase
 - (c) Bacteriophages
 - (d) DNA finger printing

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<p>For Practical Counselling Class & Practical Examination Programme Please See on Back Page.</p>
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NALANDA OPEN UNIVERSITY

M.Sc. Zoology, Part-I
PAPER-VII

(Molecular Biology and Genetics)

Annual Examination, 2018

Time: 3 Hours.

Full Marks: 80

*Answer five questions in all, selecting at least Two Questions from each Group.
All Questions carry equal marks.*

GROUP 'A'

1. What is molecular biology ? Discuss its important scopes for humans.
2. Describe the two classical experiments which demonstrated the semiconservative mode of DNA replication.
3. Describe the process of Splicing.
4. Give an account of mechanism of translation, Compare it with prokaryotes and eukaryotes.
5. Write notes on any **Two** of the following:—
 - (a) Sigma factor
 - (b) Proof reading
 - (c) Enhancer site
 - (d) Antiterminator

GROUP 'B'

6. Describe the Holiday model of genetic recombination.
7. Describe the recombination of Protein in E.Coli.
8. What is tetranucleotide hypothesis ?
9. Describe the procedure of gene cloning.
10. Write notes on any **Two** of the following:—
 - (a) Chromosomal maps
 - (b) Gene Conversion
 - (c) AFLP
 - (d) Reverse Transcription

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**For Practical Counselling Class & Practical Examination Programme
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NALANDA OPEN UNIVERSITY

M.Sc. Zoology, Part-I
PAPER–VIII

(Basic physiology and chemical principles and instrumentation)

Annual Examination, 2018

Time: 3 Hours.

Full Marks: 80

*Answer five questions in all, selecting at least Two Questions from each Group.
All Questions carry equal marks.*

GROUP 'A'

1. What is free energy ? Describe its role in bio-chemical reactions.
2. Discuss the third law of thermodynamics.
3. Give detailed account of Prospects of Biochemical engineering.
4. Explain how biological energy transducers play an important role in all living organisms ?
5. Write notes on any **Two** of the following:—
 - (a) Entropy
 - (b) Acidic buffer
 - (c) Energy rich bonds
 - (d) ATP

GROUP 'B'

6. Write the principle and application of gas liquid chromatography.
7. Give an account of different types of Electrophoresis.
8. Explain these :—
 - (a) Photo Sensitization
 - (b) Photo inhibitors
9. Give an account of thin layer Chromatography.
10. Write notes on any **Two** of the following:—
 - (a) X-Ray
 - (b) Sedimentation
 - (c) Indicator
 - (d) Redox potential

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**For Practical Counselling Class & Practical Examination Programme
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NALANDA OPEN UNIVERSITY
M.Sc. Zoology, Part-II
PAPER-IX
(Quantitative Biology and Microbiology)
Annual Examination, 2018

Time: 3 Hours.

Full Marks: 80

*Answer five questions in all, selecting at least Two Questions from each Group.
All Questions carry equal marks.*

GROUP 'A'

1. Calculate the Arithmetic mean of the number of forest on sunflower as give below :

Class interval	Frequency	Class interval	Frequency
10-20	2	60-70	10
20-30	7	70-80	03
30-40	17	80-90	02
40-50	29	90-100	01

2. Discuss the assumption for Chi-square test. Mention important properties of Chi-Squares.
3. Define probability distribution. Explain different types of probability distribution.
4. Discuss the assumption for analysis of variance.
5. Write notes on any **Two** of the following:—
(a) Poisson distribution
(b) Level of Significance
(c) Partial Correlation
(d) Correlation Coefficient

GROUP 'B'

6. What do you mean by bioinformatics ?
7. Describe the structure, pathogenesis of mode of HIV infection.
8. Write an essay on "Host microbe interaction".
9. Describe in brief the beneficial activities of microbes.
10. Write notes on any **Two** of the following:—
(a) Single cell protein
(b) Industrial microbiology
(c) Homology and analogy
(d) Chaperones

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Examination Programme, 2018
M.Sc. Zoology, Part-II

Date	Paper	Time	Examination Centre
11.06.2018	Paper-IX	12.00 Noon to 3.00 PM	Nalanda Open University, Patna
13.06.2018	Paper-X	12.00 Noon to 3.00 PM	Nalanda Open University, Patna
19.06.2018	Paper-XI	12.00 Noon to 3.00 PM	Nalanda Open University, Patna
21.06.2018	Paper-XII	12.00 Noon to 3.00 PM	Nalanda Open University, Patna
23.06.2018	Paper-XIII	12.00 Noon to 3.00 PM	Nalanda Open University, Patna
25.06.2018	Paper-XIV	12.00 Noon to 3.00 PM	Nalanda Open University, Patna
27.06.2018	Paper-XV	12.00 Noon to 3.00 PM	Nalanda Open University, Patna
29.06.2018	Paper-XVI	12.00 Noon to 3.00 PM	Nalanda Open University, Patna

NALANDA OPEN UNIVERSITY
M.Sc. Zoology, Part-II
PAPER-X
(Biotechnology)
Annual Examination, 2018

Time: 3 Hours.

Full Marks: 80

*Answer five questions in all, selecting at least Two Questions from each Group.
All Questions carry equal marks.*

GROUP 'A'

1. Explain the procedure and advantages of fluorescence method by DNA assay.
2. Explain the Southern blotting in detail.
3. Discuss the advantage of vacuum blotting over capillary blotting.
4. "Raman spectroscopy is good Scientific Research tool" Justify your answer in detail.
5. Write notes on any **Two** of the following:—
 - (a) Radiation detecting devices.
 - (b) Limitations of fluorescence microscope
 - (c) Stage scanning and Beam scanning
 - (d) Modern confocal microscope

GROUP 'B'

6. What do you understand by transmission electron microscopy ? Discuss its structure and function.
7. What is apoptosis ? Describe briefly comet Assay technique for the detection of apoptic cells.
8. Give the steps name involved in the preparation of Permanent Slide.
9. Write the description of basic feature of HPLC and its applications.
10. Write notes on any **Two** of the following:—
 - (a) Write the types of absorbent used during TLC
 - (b) Nuclear and plasma stains
 - (c) Immunosensor
 - (d) Write the basic principle of RIA

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<p>For Practical Counselling Class & Practical Examination Programme Please See on Back Page.</p>

NALANDA OPEN UNIVERSITY

**M.Sc. Zoology, Part-II
PAPER–XI**

(Immunology, Cells and Tissues)
Annual Examination, 2018

Time: 3 Hours.

Full Marks: 80

*Answer five questions in all, selecting at least Two Questions from each Group.
All Questions carry equal marks.*

GROUP 'A'

1. Give a detailed account of acquired immune response.
2. Give a detailed account of structure of MHC molecules.
3. What are adjuvants ? Write a brief account on adjuvants and their properties.
4. What are secondary lymphoid organs ? Write a brief account of each of them.
5. Write notes on any **Two** of the following:—
 - (a) Atopy
 - (b) Natural killer cells
 - (c) Macrophage
 - (d) Mismatched transfusion

GROUP 'B'

6. Give an account of fluidmosaic model of cell membrane.
7. How microfilament and microtubule play their role in Cytoskeleton ?
8. Describe the relationship between cell surface receptor and secondary messenger system.
9. Describe cell movement and intracellular transport.
10. Write notes on any **Two** of the following:—
 - (a) Radial spokes
 - (b) Adipose tissues
 - (c) AMP Kinase
 - (d) Peripheral protein

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<p>For Practical Counselling Class & Practical Examination Programme Please See on Back Page.</p>
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NALANDA OPEN UNIVERSITY

M.Sc. Zoology, Part-II

PAPER–XII

(Parasitology)

Annual Examination, 2018

Time: 3 Hours.

Full Marks: 80

*Answer five questions in all, selecting at least Two Questions from each Group.
All Questions carry equal marks.*

GROUP 'A'

1. What do you mean by Vectors ? Describe the importance in transmission of Parasites.
2. Describe the life history and Pathogenic effect of *Wuchereria bancrofti*.
3. Describe the history, symptoms, pathogens and control of malaria.
4. Describe the role of antigen-antibody reaction in clinical parasitology.
5. Write notes on any **Two** of the following:—
 - (a) Pathogenesis of Kala-azar.
 - (b) Encystment
 - (c) T-lymphocytes
 - (d) Immunoblot

GROUP 'B'

6. What are the secondary lymphoid organs and summarize their functions in the immune response.
7. Discuss poultry diseases and also their general prevention and control.
8. Enumerate prevention and control of live-stock diseases.
9. Describe various classes of antibodies and their biological activities.
10. Write notes on any **Two** of the following :—
 - (a) Liver fluke
 - (b) Natural Killer Cells
 - (c) Macrophages
 - (d) Bone Marrow

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**For Practical Counselling Class & Practical Examination Programme
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NALANDA OPEN UNIVERSITY

M.Sc. Zoology, Part-II

PAPER–XIII

(Developmental Biology)

Annual Examination, 2018

Time: 3 Hours.

Full Marks: 80

*Answer five questions in all, selecting at least Two Questions from each Group.
All Questions carry equal marks.*

GROUP 'A'

1. Describe the differentiation of Primordial germ cells in vertebrates.
2. Describe the structure of matured mammalian gametes.
3. Write an essay on early development of vertebrates.
4. What do you mean by vitellogenesis ? Discuss in detail.
5. Write notes on any **Two** of the following:—
 - (a) Ovulation
 - (b) Neurulation
 - (c) Macrolecithal egg
 - (d) Copulation

GROUP 'B'

6. Define metamorphosis ? Discuss the physiological and biological metamorphic changes in Amphibians.
7. Give an account of role of ecdysone in insect metamorphosis.
8. Describe the method of bone marrow transplantation.
9. Describe characteristic features of application of Stem Cells.
10. Write notes on any **Two** of the following:—
 - (a) Totipotency of cell
 - (b) Juvenile hormone
 - (c) Adult stem cell
 - (d) External fertilization

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<p>For Practical Counselling Class & Practical Examination Programme Please See on Back Page.</p>
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NALANDA OPEN UNIVERSITY

M.Sc. Zoology, Part-II

PAPER–XIV

(Endocrinology)

Annual Examination, 2018

Time: 3 Hours.

Full Marks: 80

Answer five questions in all, selecting at least Two Questions from each Group.

All Questions carry equal marks.

GROUP 'A'

- Describe histophysiology of Pituitary gland.
- Describe the biosynthesis and functions of thyroxine.
- Describe the chemistry, synthesis, storage and release of Insulin.
- Give an account of Cortical hormones and also discuss its physiological effects.
- Write notes on any **Two** of the following:—
 - Adrenaline
 - Physiological actions of glucagon
 - Thyrocalcitonin
 - Acromegaly

GROUP 'B'

- Describe endocrine functions of Testis.
- Describe the histology and biosynthesis of hormones of ovary.
- Discuss the role of hormone in metabolism.
- Describe the mechanism of action of hormones.
- Write notes on any **Two** of the following:—
 - Menstrual cycle
 - Noradrenaline
 - Mineralo corticoides
 - Ovulation

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M.Sc. Zoology, Part–II

Programme for Practical Counselling Classes and Practical Examination, 2018

Venue : 1st Floor, Biscomaun Tower, Patna

Practical Counselling Class Programme

Enrollment No.	Batch	Date	Paper	Time (Daily)
All Old Students	Z1	23.07.2018 & 24.07.2018	IX to XVI	9.00 AM to 3.00 PM
160270001 to 160270160	Z2	28.07.2018 & 30.07.2018	IX to XVI	9.00 AM to 3.00 PM
160270161 to 160270430	Z3	03.08.2018 & 04.08.2018	IX to XVI	9.00 AM to 3.00 PM
160270431 to 160270600	Z4	09.08.2018 & 10.08.2018	IX to XVI	9.00 AM to 3.00 PM
160270601 to 160270809	Z5	16.08.2018 & 17.08.2018	IX to XVI	9.00 AM to 3.00 PM

Practical Examination Programme

Date	Time					
	9.00 AM to 11.00 AM		11.30 AM to 1.30 PM		2.00 PM to 4.00 PM	
	Batch	Paper	Batch	Paper	Batch	Paper
25.07.2018	Z1	IX	Z1	X	Z1	XI
26.07.2018	Z1	XII	Z1	XIII	Z1	XIV
27.07.2018	Z1	XV	Z1	XVI	—	
31.07.2018	Z2	IX	Z2	X	Z2	XI
01.08.2018	Z2	XII	Z2	XIII	Z2	XIV
02.08.2018	Z2	XV	Z2	XVI	—	
06.08.2018	Z3	IX	Z3	X	Z3	XI
07.08.2018	Z3	XII	Z3	XIII	Z3	XIV
08.08.2018	Z3	XV	Z3	XVI	—	
11.08.2018	Z4	IX	Z4	X	Z4	XI
13.08.2018	Z4	XII	Z4	XIII	Z4	XIV
14.08.2018	Z4	XV	Z4	XVI	—	
18.08.2018	Z5	IX	Z5	X	Z5	XI
20.08.2018	Z5	XII	Z5	XIII	Z5	XIV
21.08.2018	Z5	XV	Z5	XVI	—	

NALANDA OPEN UNIVERSITY

M.Sc. Zoology, Part-II PAPER–XV

(Applied Entomology)
Annual Examination, 2018

Time: 3 Hours.

Full Marks: 80

*Answer five questions in all, selecting at least Two Questions from each Group.
All Questions carry equal marks.*

GROUP 'A'

- Describe the mouth parts of insects and give a note on their feeding mechanism.
- Describe respiration in terrestrial insects.
- Give an account of oviposition in insects.
- Describe male and female reproductive organs in insects.
- Write notes on any **Two** of the following:—
 - Chemoreceptor
 - Hermaphroditism
 - Malpighian tubules
 - Poly embryology

GROUP 'B'

- Give an account of biological control of insect pests.
- Describe the methods of estimation of pest population.
- Describe the life-cycle of two pests of cereals and their control.
- Write an essay "Insects-host plant interaction".
- Write notes on any **Two** of the following:—
 - Pests of oil seed crops
 - Carbamates
 - Migrant pests
 - Mixed Cropping

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M.Sc. Zoology, Part–II Programme for Practical Counselling Classes and Practical Examination, 2018 Venue : 1st Floor, Biscomaun Tower, Patna

Practical Counselling Class Programme

Enrollment No.	Batch	Date	Paper	Time (Daily)
All Old Students	Z1	23.07.2018 & 24.07.2018	IX to XVI	9.00 AM to 3.00 PM
160270001 to 160270160	Z2	28.07.2018 & 30.07.2018	IX to XVI	9.00 AM to 3.00 PM
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160270601 to 160270809	Z5	16.08.2018 & 17.08.2018	IX to XVI	9.00 AM to 3.00 PM

Practical Examination Programme

Date	Time					
	9.00 AM to 11.00 AM		11.30 AM to 1.30 PM		2.00 PM to 4.00 PM	
	Batch	Paper	Batch	Paper	Batch	Paper
25.07.2018	Z1	IX	Z1	X	Z1	XI
26.07.2018	Z1	XII	Z1	XIII	Z1	XIV
27.07.2018	Z1	XV	Z1	XVI	—	—
31.07.2018	Z2	IX	Z2	X	Z2	XI
01.08.2018	Z2	XII	Z2	XIII	Z2	XIV
02.08.2018	Z2	XV	Z2	XVI	—	—
06.08.2018	Z3	IX	Z3	X	Z3	XI
07.08.2018	Z3	XII	Z3	XIII	Z3	XIV
08.08.2018	Z3	XV	Z3	XVI	—	—
11.08.2018	Z4	IX	Z4	X	Z4	XI
13.08.2018	Z4	XII	Z4	XIII	Z4	XIV
14.08.2018	Z4	XV	Z4	XVI	—	—
18.08.2018	Z5	IX	Z5	X	Z5	XI
20.08.2018	Z5	XII	Z5	XIII	Z5	XIV
21.08.2018	Z5	XV	Z5	XVI	—	—

NALANDA OPEN UNIVERSITY

M.Sc. Zoology, Part-II PAPER–XVI

(Ichthyology and Inland Fisheries)

Annual Examination, 2018

Time: 3 Hours.

Full Marks: 80

Answer five questions in all, selecting at least Two Questions from each Group.
All Questions carry equal marks.

GROUP 'A'

- The Gastrointestinal tracts of fishes are modified according to their food and feeding habits. Justify this statement.
- Describe the process of gas exchange at lamellar surface and transport of O₂ and CO₂.
- Describe the aquatic resources in reference to riverine fishes of India.
- Describe the development of fertilized egg of any fish up to hatching of embryo.
- Write notes on any **Two** of the following:—
 - Chloride cells
 - Gonado Somatic Index (GSI)
 - Characteristics of Clarias Batrachus
 - Air Sac

GROUP 'B'

- What are the objective of fish culture ? Describe fish culture in fresh water.
- Describe induced breeding and add a note on the factors influencing it.
- Describe the different crafts and gear used in fish capture in marine water.
- Give an account of Protozoan and fungal diseases in fishes and their cure.
- Write notes on any **Two** of the following:—
 - Fate of Prawn Culture in India
 - Collection of Fish Seeds
 - Oceanography
 - Mahajal

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M.Sc. Zoology, Part–II Programme for Practical Counselling Classes and Practical Examination, 2018 Venue : 1st Floor, Biscomaun Tower, Patna

Practical Counselling Class Programme

Enrollment No.	Batch	Date	Paper	Time (Daily)
All Old Students	Z1	23.07.2018 & 24.07.2018	IX to XVI	9.00 AM to 3.00 PM
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Practical Examination Programme

Date	Time					
	9.00 AM to 11.00 AM		11.30 AM to 1.30 PM		2.00 PM to 4.00 PM	
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27.07.2018	Z1	XV	Z1	XVI	—	
31.07.2018	Z2	IX	Z2	X	Z2	XI
01.08.2018	Z2	XII	Z2	XIII	Z2	XIV
02.08.2018	Z2	XV	Z2	XVI	—	
06.08.2018	Z3	IX	Z3	X	Z3	XI
07.08.2018	Z3	XII	Z3	XIII	Z3	XIV
08.08.2018	Z3	XV	Z3	XVI	—	
11.08.2018	Z4	IX	Z4	X	Z4	XI
13.08.2018	Z4	XII	Z4	XIII	Z4	XIV
14.08.2018	Z4	XV	Z4	XVI	—	
18.08.2018	Z5	IX	Z5	X	Z5	XI
20.08.2018	Z5	XII	Z5	XIII	Z5	XIV
21.08.2018	Z5	XV	Z5	XVI	—	