



RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY

FACULTY OF SCIENCE

DIRECTION NO.32 OF2012

EXAMINATION LEADING TO ONE YEAR POST GRADUATE

DIPLOMA IN ORNITHOLOGY

WHEREAS, the Maharashtra Universities Act, 1994 hereinafter referred to as Act, has come into force from 22nd July, 1994 and was amended from time to time.

AND

WHEREAS, the university under its power and duties is expedient to make provision for research and for the advancement and dissemination of knowledge in various branch of studies. The proposals in this regard being recommended by the respective Board of Studies, Faculties and Academic Council are to be approved by the Management council for the institution of such Degrees, diplomas, Certificates and other academic distinctions by giving effect to it by virtue of promulgating suitable Ordinances and syllabus for the respective courses to be started from the academic session 2012-13 and onwards.

AND

WHEREAS, as per recommendation of the Board of Studies in Zoology under Faculty of Science has approved the syllabus of One Year Post-Graduate Diploma in Ornithology course along with scheme of examination in its meeting held on 22-03-2012 . and accepted by Faculty of Science held on 18.9.2012 .The faculty recommendation was accepted by the Hon'ble Vice-Chancellor on behalf of the Academic Council & Management council under Section 14(7) of the Maharashtra Universities Act, 1994 on 5.10.2012.

AND

WHEREAS, the same course should be implemented by way of issuing appropriate direction under section 14(8) of Maharashtra University act, 1994, by the Hon'ble Vice- Chancellor

. (2)

AND

WHEREAS, the University Grants Commission, New Delhi has approved and recommended its financial assistance to various colleges of excellence to promote this programme under the UGC Scheme of Innovative Programme – Teaching and Research in Interdisciplinary and Emerging areas under time bound programme and the same is mandatory to implement by all the universities under the jurisdiction of University Grants Commission by granting necessary affiliation to run this course at the respective colleges OR in broader terms if any colleges under the jurisdiction of the university desires to run the course by seeking any financial assistance from any apical body or at self sustainable level by following standard procedure of seeking new regular course to be started from the session 2012-13 and onwards.

AND

WHEREAS, the Academic session 2012-13 would commence from 1st July, 2012 it is felt expedient in the interest of the student to give effect to the decision of Academic Council & Management Council to start One Year Post-Graduate, “Diploma in Ornithology Course from the session 2012-13.”

AND

WHEREAS, the Ordinance making is a time consuming process.

Now, therefore, I, Dr. V.S. Sapkal, Vice-Chancellor, Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur in exercise of the power vested under section 14(8) of the Maharashtra University Act of 1994 do hereby issue the following direction.

1. Title of the Direction:

This Direction may be called “Examination leading to One Year Post-Graduate Diploma in Ornithology.”

(3)

2. Nature of the Course:

This one year P.G. Diploma course shall be a full time regular course.

3. Eligibility Criteria:

The students seeking admission to this course should have obtained B.Sc. Degree of R.T.M.Nagpur University or of any UGC recognized and other Deemed University possessing second division with one of its subject as Zoology or Environmental Science at degree level.

4. Application of other Ordinances of University:

The students admitted to this Diploma course shall be governed by the general Ordinances of the University which are applicable to all the regular or ex-students. These Ordinances includes complete as well as relevant provision of Ordinance No. 1,2,6,7-A,9,10,19,109, Ordinance No. 30 of 2006, (amended Ordinance No. 4 of 006), Direction 9 of 2008, Direction 5 of 2004 wherever applicable accordingly.

5. Fee Structure & Intake Capacity for the course:

As per the rules and guidelines of UGC for such programmes or the fees decided at university level or any other competent authority with students intake of 10(ten).

6. Syllabus:

The syllabus for this course as prescribed by he Board of Studies in terms of annual pattern.

7. Medium of Instruction/Examination:

The medium of instruction and writing of examination shall be in English only.

(4)

8. Conduct of Examination:

The Examination leading to the course of One Year Post-Graduate Diploma in Ornithology shall be held once in a year only (i.e. Summer) at such place and on such dates as may be decided by the university.

9. Scheme of Examination:

The scheme of Examination shall be as per Appendix-A (Annual Pattern). However, the scheme of examination reflects the basic structure of theory, practical and Project work. The details/title of the theory paper can be suitably modified in future considering the need of the subject without disturbing the main structure.

10. Project :

Project shall be assessed by the external examiner and project guide as internal examiner. However, final marks shall be awarded by external examiner. The project examination shall be held alongwith practical examination.

11. Other Rules:

(i) Successful examinee obtaining 60% or more marks in the aggregate at both of the examination shall be placed in the First division and those obtaining less than 60% in the second division and those obtaining less than 45% marks of aggregate but not less 35% of marks shall be placed in third division.

(ii) An examinee who is unsuccessful at the examination will be eligible for admission to the next written and practical examination on payment of fresh fees prescribed for the examination together with an ex-student fee as applicable and on compliance of the conditions of the Ordinance enforced from time to time.

(5)

(iii) For being eligible for exemption in a paper or practical **or** project work, the candidates must have obtained not less than 35% of marks.

(iv) Provision of Ordinance No. 7-A relating to the condonation of deficiency of marks for passing the examination and of Ordinance No. 10 relating to the exemptions and compartments shall apply to the examination under this Ordinance.

(v) As soon as possible after the examination, but not later than 30th June, next following in case of examination held in April the Management council shall publish the list of successful examinees. The names of the first three examinees passing the examination with more than 60% marks in the minimum prescribed being arranged in order of merit.

(vi) An examinee who is successful at an examination and obtains not less than 75% of the total marks prescribed in a subject shall be declared to pass the examination with Distinction in that subject.

(vii) Notwithstanding anything to the contrary in this ordinance no person shall be admitted to this examination, if he/she has already passed this examination or an equivalent examination of any other statutory university.

12. Award of Diploma:

A successful examinee shall be awarded DIPLOMA in prescribed form signed by the Vice-Chancellor of the University.

Nagpur.

Dated:

(Dr. V.S. Sapkal)
Vice-Chancellor

P.G. Diploma (One Year) in Ornithology Scheme of Examination

The examination for Diploma shall consist of 2 Theory Paper of 100 marks each practical with field work & viva voce of 100 marks and project report of 100 marks. Intake capacity will be of 10 students per year.

The examination of Theory Papers and project shall be conducted by RTM Nagpur University Nagpur. The two Theory Papers, practical & project shall be as follows.

- (a) Paper-I - (Morphology, Physiology & Behavior (120 hrs)
- (b) Paper-II – (Avian diversity & conservation) (120 hrs)
- (c) Practical with field work – (160 hrs)
- (d) Project Report – (160 hrs)

The scope of paper & the project work for the examination shall be as indicated in the syllabus.

In order to pass the examination, an examinee shall obtain not less than 35% marks in each of the paper including practical & project report as shown in appendix “A”.

An applicant for admission to the 1 year P.G. diploma in Ornithology shall be required to conduct a field study in Ornithology research & submit a project report thereon under the supervisor recognized for the purpose & get the clearance certificate thereof for the work from the head of the Institution/Coordinator of the course & submit it at the time of practical examination for evaluation by the external practical examiner.

The fees for the admission to the examination shall be as per university norms,

Successful examinees shall receive a diploma in the prescribed form signed by the Vice-Chancellor of the university

Appendix – A

Sr. No.	Paper	Max. Marks	Min. pass Mark	
(a)	I Morphology, Anotomy & Behavior	100	35	Students have to pass the Theory & Practical separately
(b)	II Avian diversity, and conservation	100	35	
(c)	Practical with field work & viva voce	100 (75+25)	35	
(d)	Project Report	100	35	

An applicant for admission to the One Year Post Graduate Diploma in Ornithology shall be required to conduct a field study in Ornithology research and submit a project report thereon under the Supervisor recognized for the purpose and get the clearance certificate thereof for the work from the Head of the Institution/ Co-ordinator of the course and submit it at the time of practical examination for evaluation by the external examiner.

Instructions to Theory Paper Setter:

Each paper will have five questions of 20 marks each. Break-up of each question shall be as follows.

Q.1 to 4: One long question from each unit. 20 Marks each.

OR

Two short notes (a) and (b) from the same unit. 10 Marks each

and **Q.5:** Short notes a), b), c) and d) (one from each unit) 05 Marks each

SYLLABUS

“One Year Post Graduate Diploma in Ornithology”

The syllabus is based on six theory periods each of one hour duration and two practicals each of three hours duration per week. The students will devote eight hours duration per week for carrying out project work.

The examination shall comprise of two theory papers, practical and project work. Each theory paper shall be of three hours duration and carry 100 marks. The practical shall be of 10 hours duration for two days and carry 100 marks. The project will be of 100 marks. The students shall have to pass separately in theory, practical and project.

Paper-I (Morphology, Anatomy and Behaviour)

Total Periods: 120

Max. Marks: 100

Unit-I Anatomy of Birds

- Study of anatomy of birds with special emphasis of adaptations to terrestrial, aquatic and arboreal habitat. Skeleton of Fowl.

Unit-II Bird Behaviour and Ecology

- Breeding biology: Mating systems - monogamy, polygamy and polyandry, courtship, nest building, clutch, incubation, growth of nestlings, parental care, fledging period, brood parasitism.
- Foraging behaviour: Food, feeding, predator avoidance and defense, territoriality.
- Social systems: Solitary, communal, flocks- mixed species, single species.

Unit-III Population Dynamics, Migration and Birds Physiology

- Factors affecting bird populations,- Food, predation, competition
- Reasons, types of migration, orientation and navigation, migratory birds of India.
- Study of general bird physiology, physiological adaptations.
- Behavioural adaptations.

Unit-IV Bird Morphology, Bird Communities and Birds & Man

- Study of general bird morphology.
- Morphological adaptations.
- Guilds, stratification, resource partitioning.
- Economic importance of birds, hazards of birds to aviation. Effects of anthropogenic activity on birds.

Paper-II (Avian Diversity and Conservation)

Total Periods: 120

Max. Marks: 100

Unit-I Field Ornithology

- Bird study techniques - Equipment, areas of study, field kit, data recording, bird photography.
- Field Study Techniques - Bird ringing techniques: application, recording body measurements, usefulness of bird ringing data, ring recovery, Radio-telemetry, Use of hi-tech gadgets like GPS, CCTV camera, night vision equipment, etc. in bird study. Satellite pictures, Google Maps.

Unit-II Analysis of Field Data and Pterological Studies

- Analysis of field data - Applying statistics to evaluate to data. Interpretation of data. Time budget analysis. Habitat utilization. Moulting pattern. Pellet and excreta analysis. Preparation of bird distribution maps.
- Role of birds in Ecosystem - pollination, seed dispersal, insect control.
- Pterological studies a) Feather structure and types b) Development of feathers, study of moult.

Unit-III Conservation of Birds

- Endangered bird species - Threatened birds in India. Red Data Book. IUCN criteria.
- Artificial breeding and release of endangered birds.
- Recent conservation issues, decline of vultures.
- Role of NGO's in conservation of birds. Legal protective measures. Bird sanctuaries.

Unit-IV Indicator species:

- Grassland, desert, wetland, forest, Himalayan. Bird biodiversity hotspots in India.
- An overview of the history of Ornithology in India.
- Birds in folklore and Indian culture.

PRACTICAL

Total Periods: 120

Max. Marks: 100

- Frequent field visits to nearby garden, wetland and forest.
- Learning basic bird identification techniques.
- Understanding basic equipments used in bird study.
- To understand the various adaptations in birds to terrestrial, aquatic and arboreal habitats.
- Identifying the migratory birds at these habitats.
- Understanding the morphological adaptations in these birds.
- Understanding the feather structure and types.
- Methods of collecting field data and its statistical analysis.
- Collecting data on threatened birds of India. Use of internet for collection of data.
- Collecting information on birds in folklore in our area.
- Identification and check-listing of birds in the areas visited during the course period.
- Visit to BNHS Bird Ringing Station at Point Calimere, Tamil Nadu (Subject to BNHS permission) to have practical experience of bird ringing.

Distribution of Marks:

Total Marks: 100

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|--|----------|
| 1) Spotting (Total 5 spots – 1 basic equipment, 1 feather,
1 photograph, 1 nest and 1 claw) | 15 Marks |
| 2) Model Study | 15 Marks |
| 3) Web Surfing of Birds | 20 Marks |
| 4) Web Surfing of Birds Habitat | 20 Marks |
| 5) Collection of Feathers and Claws | 05 Marks |
| 6) Practical Record | 05 Marks |
| 7) Viva Voce | 20 Marks |

PROJECT

Total Periods: 120

Max. Marks: 100

Research Project

Research/review/data collection based projects will be assigned to the students on different topics of Ornithology. Evaluation of the project will be carried out by the external examiner during the annual practical examination.

Reference Books:

1. The Book of Indian Birds

By Salim Ali.

BNHS 2002, hardcover 326 pages, colour plates depicting, 538 species.

ISBN : 0-19-566523-6

2. Handbook of the Birds of India and Pakistan: Vol 1-10

By Salim Ali & S. Dillon Ripley.

OUP India hardcover 3121 pages, illustrated.

ISBN: 0195655060.

3. Pocket Guide to the Birds of the Indian Subcontinent

By R. Grimmett, C. Inskipp & T. Inskipp.

OUP New Delhi, Second Edition. Softcover 384 p., Colour plates and maps.

4. A Field Guide to the Birds of the Indian Subcontinent.

By Krys Kazmierczak & B. van Perlo

Yale University Press, 2000 hardcover: 352p., colour plates & map.

ISBN : 0300079214.

5. Birds of South Asia: The Ripley Guide;

By Pamela C. Rasmussen & John C. Anderton.

Smithsonian Institution & Lynx Edicions, 2005. Hardcover Vol 1 & 2. ISBN: 84-87334-67-9.

6. Birds of Prey of the Indian Subcontinent.

By Rishad Naoroji.

Om Books/Helm 2006 hardcover 692 pages colour plates & photographs.

ISBN 9788187107699

7. Important Bird Areas in India Priority sites for conservation

By Asad Rahmani & Zafar Islam (Eds)

BNHS/IBCN/Birdlife 2004, hardcover 1334 pages. Maps & photos, ISBN:

9780195673333.

8. Birds in Our Lives

By Ashish Kothari

Orient Longman 2007, softcover 308 pages, Colour photographs.

ISBN 9788173715860.

9. Birds of Indian Subcontinent: A Field Guide. 2011.

By Manakadan R., Ranjit, J. C. Daniels, Nikhil Bhopale.

Bombay Natural History Society and OUP.

**10. Birds of South Asia The Ripley Guide Volume 2: Attributes And Status
(2005):**

By Pamela C., John C. Anderton Rasmussen.

Smithsonian and Lynx Edicions.

**11. Bird Trapping and Bird Banding: A Handbook for Trapping Methods All
Over the World.**

By Hans Bub, Karin Wuertz-schaefer, Frances Hamerstrom.

Cornell University Press.

12. Statistics in Ornithology

By B. J. T. Morgan, Philip M. North, Byron J. T. Morgan.

Springer Publications.
