



PATNA UNIVERSITY

पटना विश्वविद्यालय

NAAC Accredited B+ Grade

Letter No.Acad/384/AKS/2248

Dated: 10-02-26

To

1. The Dean, Faculty of Science, Patna University
2. The Head, Department of Zoology, Patna University
3. The Controller of Examinations, Patna University

Subject:- Regarding the approved revised syllabus of Ph.D. Coursework in Zoology.

Sir/Madam,

I am directed to inform you that the Academic Council vide its meeting dated 08/01/2026 (Agenda AC.26.1.7) has approved the revised syllabus of Ph.D. Coursework in Zoology received vide the letter no.nil dated 24/12/2025 of the Head, Department of Zoology, Patna University.

Enclosure:- Approved revised syllabus of Ph.D. Coursework in Zoology.

Shalin
10-2-2026
Registrar

Patna University, Patna

Memo No. Acad/384/AKS/2248(A)

Dated: 10-02-26

✓ Copy along with its enclosure forwarded to the In charge, I. T. Cell, Patna University for uploading on the University website.

Shalin
10-2-2026
Registrar

Patna University, Patna

9/1/2026

Annexure - VIII

Date: 24-12-2025



To,

The Registrar,
Patna University, Patna

Subject: Revised syllabus of coursework in Zoology

Madam,

The Department Council of the Department of Zoology, in its meeting held on 25-11-2025 (copy enclosed) decided to revise the PhD coursework syllabus (Paper II) of Zoology in the light of recent developments in research in Zoology. A committee was constituted for the revision (copy enclosed). The revised syllabus (copy enclosed) was approved in the Departmental council meeting dated 28-11-2025.

I, therefore request you to kindly place the revised syllabus in the incoming meeting of the academic council so that it can be introduced from the next batch of PhD research scholars.

Thank you

Shalini
02-01-2026

S.O. A. Gadenil

24-12-25

Prof. Parimal Kumar Khan
Professor and Head
Department of Zoology,
Patna University, Patna
Head of the Dept. of Zoology
Patna University

Dr. Ajay Singh

03/01/26

25-11-2025

A meeting of Departmental Council was held under the Chairmanship of Prof. P.K. Khan, Head, Department of Zoology, Patna University, Patna on 25.11.2025 at 2:00 pm in the Head's chamber to discuss the constitution of the committee regarding updation and revision of PhD course work curriculum in Zoology.

following members were present -

1) Prof. P.K. Khan	Head & chairman	<i>P.K.K.</i> 25.11.25
2) Prof. Shobla Yasmin	member	<i>Shobla</i> 25.11.25
3) Dr. Anupma Kumari	"	<i>Anupma</i> 25.11.25
4) Dr. G.B. Choudhary	"	<i>G.B.C.</i> 25.11.25
5) Dr. G.K. Azad	"	<i>G.K.A.</i> 25.11.25
6) Dr. Dilip Kumar	"	<i>Dilip</i> 25.11.25

The matter was discussed in detail and it was unanimously resolved to constitute the committee for the updation and revision of PhD coursework curriculum in Zoology with following members -

1) Prof. P.K. Khan	- chairman
(Head, Dept. of Zoology, PU)	
2) Prof. Birendra Prasad	External member
(Head, Dept. of Botany, PU)	
Director IQAC, Patna Univ)	
3) Prof. Shobla Yasmin	member
4) Dr. Anupma Kumari	"
5) Dr. Gyanendra Bahadur Choudhary	"
6) Dr. Gyanendra Kumar Azad	"
7) Dr. Dilip Kumar	"

This committee will revise and upgrade the existing PhD coursework curriculum in Zoology to be placed before the Departmental Council Patna University shortly.

P.K.K.
25.11.25

Shobla
25.11.25

Anupma
25.11.25

G.B.C.
25.11.25

G.K.A.
25.11.25

Dilip
25.11.25

28-11-2025

A meeting of Departmental Council was held under the chairmanship of Prof. P.K. Khan, Head, Department of Zoology, Patna University, Patna on 28-11-2025 at 2:00 pm in the hands chamber to discuss following agenda -

- (i) Revision and upgradation of Ph.D. coursework in zoology to be effective from current Academic session 2025.
- (ii) Revision of ordinance and regulation under CBCS of M.Sc.

Environmental Science in the light of Bihar State Higher Education Council, Patna (letter No. B-SHEC/04R/PV/M.Sc. Env. Sci/51/2023-724 dated 27-9-2025 and P.U. letter No. Acad/421/AKS/1798 dated 27-11-2025).

following members were present -

1) Prof. P.K. Khan	Head & chairman.	<i>Chair</i> 28.11.25
2) Prof. Shehla Yasmin	member	28.11.25
3) Dr. Anupama Kumari	"	28.11.25
4) Dr. G.B. Chand	"	28.11.25
5) Dr. G.K. Azad	"	28.11.25
6) Dr. Dildeep Kumar	"	28.11.25

The matter was discussed thoroughly and it was unanimously resolved that -

- (i) The committee constituted for revision & upgradation of Ph.D. course work curriculum in Zoology placed the revised syllabus for the same before the Departmental Research Council, Zoology, Patna University and after thorough discussion, the revised syllabus was approved unanimously by the Departmental Research Council, to be placed before the next meeting of Academic Council of Patna University.
- (ii) Regarding revision of ordinance & regulation under CBCS of M.Sc. Env. Sci, it was resolved to incorporate the specific changes suggested by BSHEC including fee structure, evaluation & performance and the provisions of UAC guidelines of NSQF, NCFE as well as multiple entry and exit system in the programme for its onward transmission to the next meeting of the Academic Council, Patna University for its approval.



DEPARTMENT OF ZOOLOGY

Patna University, Patna

NAAC Accredited B+ Grade

Ref. PGZOL/609A/2025

dated. 25.11.2025

Notice

A committee for upgradation & revision of Ph.D course work curriculum in Zoology has been re-constituted as follows:

- | | |
|--|-----------------|
| 1. Prof. P. K. Khan, HOD, Zoology, P.U. | Chairman |
| 2. Prof. Birendra Prasad, HOD, Botany, P.U. & Director, IQAC, P.U. | External Member |
| 3. Prof. Shahla Yasmin | Member |
| 4. Dr. Anupma Kumari | Member |
| 5. Dr. Gyanendra Bahadur Chand | Member |
| 6. Dr. Gajendra Kumar Azad | Member |
| 7. Dr. Dileep Kumar | Member |

The committee will revise and upgrade the existing PhD course work curriculum in Zoology to be placed before the ensuring meeting of Departmental Council.

M. Khan
25.11.2025
(Prof. P. K. Khan)
Head, Department of Zoology
Patna University, Patna
Head of the Dept. of Zoology
Patna University

DEPARTMENT OF ZOOLOGY, PATNA UNIVERSITY, PATNA

Revised Syllabus of PhD Coursework in Zoology

Paper- II

Unit I: Laboratory Practices and Experimentation on Animals

- A) Good Laboratory Practices: Principles and working, Safety of biological and radio-hazards and related precautions, disposal of biological and chemical wastes
- B) Laboratory managements of animals: Handling and ethics, guidelines and implementation of control and supervision of experiments on animals (CPCSEA) for the management of laboratory animals, ethical conservation in research on human beings

Unit II: Laboratory Equipment and Reagents

- A) Handling of General laboratory equipments: Weighing balance, pH meter, Homogenizer, autoclave, laminar hood, oven, incubator, Hot water bath/Sand bath, turbidity meter, spectrophotometer
- B) Common Laboratory Reagents: Preparation of solution, buffers, fixatives and stains

Unit III: Advance techniques in Life Sciences

- A) Molecular biology techniques: Basic concept and working of centrifugation, gel electrophoresis, western blotting, microscopy (light and fluorescence), SEM and TEM, ELISA, HPLC
- B) Assessment of Biodiversity: Sample collection methods, biodiversity assessment methods, eDNA technique

Unit IV: Toxicology

- A) Concept of toxicity, acute and chronic toxicity, toxicity tests, determination of LD50, LC50
- B) Genotoxicity assessment: comet assay, chromosome aberration test (CAT), micronucleus assay, western blotting (gamma H2AX antibody)

Unit V: In silico methodologies

- A) Databases, Sequence alignments, Gene ontology and enrichment analysis
- B) Structural modeling of proteins, Protein-protein/drug docking

28/11/25

28/11/25

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28/11/2025

28/11/2025