

Syllabus for One Year M. Phil. degree course in Zoology, to be effective from Academic Year 2010-2011.

Duration of the M. Phil. Degree course in Zoology shall be for a period of 12 months. The course comprises of Two parts (As per Regulation 3 of the existing Regulations for M. Phil. Degree course of the University of Mysore – 1998) –

Part-I is of first six months devoted to course work, and  
Part-II is of next six months devoted to research/dissertation work.

Following are the proposed Papers for Fully self financed One Year M. Phil. Degree course in Zoology.

**PART - I (First Six Months):**

Paper Number	Title of the Paper /Practical
ZMP-1.1	General Paper (Research Methodology)
ZMP-1.2	Elective – I*

- **\*\* Elective-II paper shall be in the area concerned directly with the research topic to be carried out by the student**

**PART - II (Second Six Months):**

ZMP-2.1	Dissertation
ZMP-2.2	Viva Voce

**Recognized guides can accept only one M. Phil. student in an academic year.**

**Scheme of Examination:**

Each Paper has 100 marks, out of which 70 are for theory proper and 30 for IA.

**Scheme of Examination for One Year (Two Semester) M. Phil. Degree course in Zoology**

Sem. No	Paper No	Title of the Paper	Theory	IA	Total
<b>Part-I</b>	ZMP-1.1	General paper	100 (50)*	100 (50)	200 (100)*
<b>(First Six Months)</b>	ZMP-1.2	Elective – I	100 (50)*		100 (50)*

Internal Assessment  
(IA)

One Assignment	50 (25)*
One Seminar	50 (25)*

**Grand Total 300 (150)\***

<b>Part-II</b>	ZMP-2.1	Dissertation	200 (100)*
<b>(Second</b>			
<b>Six</b>	ZMP-2.2	Viva Voce	100 (50)*
<b>Months)</b>			
<b>Total</b>		<b>Grand Total</b>	<b>300 (150)*</b>

**Part-I and Part-II Grand Total = 600 (300)\***

**\*Number in brackets indicate minimum required for passing.**

**Note: Paper ZMP 1.1 shall be set by the external examiner.  
Paper ZMP 1.2 shall be set by the respective guide only  
All the papers shall be valued by external examiners and internal valuation shall be done by respective guides.**

**Question Paper Pattern of each theory paper –**

**Time 3 Hrs**

**Max. Marks: 100**

Each question paper shall consists of 8 essay type questions, out of which 5 have to be answered ( 20 X 5 = 100)

Sd/-

(Prof. Dr. Sadanand M Yamakanamardi)  
Chairman, PG BoS in Zoology.

## **SYLLABUS FOR Part – I:**

### **Paper ZMP-1.1, General paper (Research Methodology)**

**(3 Hrs per week X 16 = 48)**

**Time: 3 Hrs**

**Max. Marks: 70**

#### **Section-A: Computer and its application in Biology –**

**12 Hrs**

- Main, Mini, and Micro computers. Hardware, Software – storage and devices like – RAM, ROM, Disks, Tapes. I/O devices – monitors, Keyboards, Printers, Plotters', etc., Directory concepts –file operations.
- Operating systems – DOS, Windows, Linux – Overview. Booting, DOS files, DOS internal and external commands. File management – creations, editing deleting and copying.
- Word Processing – Text files, word processors, file operations and other utilities under MS Office, Spreadsheets (Excel).
- Data Base Concepts – Information retrieval, information systems in India. Information sources / search aids, search operations, Internet, Web site.

#### **Section-B, Biostatistics and its application in Biology -**

**14 Hrs**

- Statistical concepts – Data structure, sampling methods, collection, classification and tabulation of data, graphical and diagrammatic representation, histogram, frequency, polygon, frequency curve, bar graph, Pie chart, etc.
- Testing of hypothesis – experimental designs, data transformations
- Measure of central frequency – Mean, median and mode.
- Measure of dispersion of data – Range, semi-interquartile range, mean deviation, standard deviation, standard error, coefficient of variation, confidence limits.

- e. Types of distribution of data – Normal, Binomial Poisson.
  - 1. Statistical tests – Z-tests, t-test, Anova and Acova, Multiple comparison – LSD and DMRT, Chi-square test, Regression estimates and correlation coefficient. Non-parametric statistics, sign test, rank sum test, rank correlations.

**Section-C, Research Methodology:**

**22 Hrs**

1. Introduction: Scope and significance of research methodology.
2. Review of literature, identifying the gaps and formulating the hypothesis.
3. Research material:
  - a) Use of taxonomic keys
  - b) Samples: Collection, transport, handling and preservation of microorganisms, planktons, insects, animals from natural and lab bred population. Water and air samples.
  - c) Relevance of sample size
  - d) Culture and maintenance of samples
  - e) Safe disposal of used and rejected samples and materials.
4. Selection methods:
 

Reviewing, standardization of the methods, modification and experimental design- collection, analysis, statistical inference, presentation of the data.
5. Review of research articles (To be done by students. Each student can select one paper review and present it).
6. Demonstration of writing a research proposal
7. The student will identify a topic for research and prepare a document with the following information:
  - a) Back ground of research problems
  - b) Objectives
  - c) Strategies for experimental work
  - d) Expected results
  - e) Preparation of rough draft and bibliography

The student will also present and defend the research proposal  
Evaluation of research proposal

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**Paper – ZMP-1.2, Elective-I**  
**(from broad area of students research):**

**(3 Hrs per week X 16 = 48)**

**Time: 3 Hrs**

**Max. Marks: 70**

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**Paper – ZMP-1.3, Elective-II**

(Syllabus for this paper is concerned with the area of the students research topic proper, shall be set by the concerned guide and to be taught by the research guide only.

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**Part-II:**

**Paper ZMP-2.1, Dissertation**

Research work to be carried out by the student as per Elective I (Paper - ZMP 1.2) and to be submitted as dissertation.

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**Paper ZMP-2.2, Viva Voce**

The research work and dissertation has to be defended by the candidate through viva voce.

Sd/-

(Prof. Dr. Sadanand M Yamakanamardi)  
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