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ARID AGRICULTURE UNIVERSITY  
RAWALPINDI**

**DEPARTMENT OF ZOOLOGY**

**(Ph.D. Programme)**



**Self Assessment Report**

**4<sup>th</sup> Cycle (2012-14)**

**Program Team**

**Dr. Mazhar Qayyum (Coordinator)**

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## **1. INTRODUCTION**

After the establishment in 1997, Department of Zoology started the PhD degree program in Zoology in 2001. The PhD degree comprises a minimum of three years of full-time study, a year of course work and two years research with an individual supervisor. The evaluation of PhD students involves midterm exam, final exam, comprehensive exam and open research defenses. The academic staff of the Department of Zoology is highly qualified and trained in the field. Students are encouraged to work on conventional as well as applied aspects that are at the cutting edge of new research and policy initiatives.

Presently, major research groups are Parasitology/Microbiology, Reproductive Physiology/Endocrinology, Genetics, Aquaculture and Fisheries and Wildlife/Ecology. The research groups have national and international research collaborations with researchers at prestigious organizations such as National Agriculture Research Council (NARC), Punjab Fish Hatcheries Islamabad, National Institute of Health (NIH), and for clinical exploration different healing centers of Rawalpindi and Islamabad, for example, General Hospital Rawalpindi and National Oncology Radiology Institute (NORI) and Institute of Biomedical and Genetic Engineering (IBGE), Islamabad. The Department also has collaborated with distinctive global institutions. Faculty members have won various research projects and travelling grants from Higher Education Commission (HEC), Pakistan and Pakistan Science Foundation (PSF). The PhD students have been visiting world's top research laboratories under the International Research Support Initiative Program (IRSIP) offered by HEC, Pakistan.

# **SECTION 1**

## **CRITERION-1: PROGRAM MISSION, OBJECTIVES AND OUTCOMES**

The program intends to create profoundly qualified Zoologists in Parasitology/Microbiology, Reproductive Physiology/Endocrinology, Aquaculture and Fisheries and Wildlife/Ecology keeping in view the interest of the graduating students and real time problems.

### **Mission Statement**

The project advances discoveries and learning of biology and zoology. We focus on the development of disciplinary and interdisciplinary research and education strategies and methodologies.

### **STANDARDS:**

#### **Standard 1-1: Documented measurable objectives**

#### **Objectives:**

1. A particular exploration theme in Parasitology and Microbiology, Reproductive Physiology and Endocrinology, Aquaculture and Fisheries and Wildlife and Ecology
2. Learn the research design, methodologies, and execution of the project
3. Ability to compose the reports, and present and defend the results in an open forum.

#### **Outcomes:**

- 1) The graduating students are represented considerable authority in the subject.
- 2) The graduates have the capacity to make and execute new research extends freely.
- 3) Graduates are confident to present their research papers at international and national meetings.

#### **Main elements to achieve objectives**

#### **Research**

- 1) Keep up significant exploration dimensions and pave paths to achieve excellence in the applied fields of biological sciences from molecular to the population level.
- 2) Support integrated research on all the dimensions
- 3) Promote basic and applied research in laboratory and field
- 4) Strengthen the basis of teaching and service of advanced disciplines of biology.

## Teaching

1. Impart practical knowledge and experience in biological sciences
2. Maintain a thorough, wide based real in organic sciences that gives a convincing learning background.
3. In order to adjust tin evolving world, promote universally useful critical thinking and logical capacities that have wide applications.
4. Stress the basic concepts of biological sciences leading to integration.
5. Prepare extraordinary graduate resulting in interdisciplinary correspondence.

**TABLE-1: OBJECTIVES ASSESSMENT**

| S. # | Objective  | How Measured   | When Measured   | Improvement Identified                      | Improvement made   |
|------|--|--|---|---|--|
| 1    | A particular exploration theme in Parasitology and Microbiology, Reproductive Physiology and Endocrinology, Aquaculture and Fisheries and Wildlife and Ecology | Viva Voce, semester examination and comprehensive examination                          | While entry into the program, end of semester and course work | Curriculum update and faculty training      | Specific optional courses are offered to increases knowledge of a specific sub-discipline of Zoology. The courses are given to senior faculty. |
| 2    | Learn the research design, methodologies, and execution of the project   | Students are given tasks to make some hypothesis in the area of their interest         | During research planning for Ph.D. degree                     | The ideas must not be copied                | Students are forced to get latest review articles and device the hypothesis  |
| 3    | Ability to compose the reports, and present and defend the results in an open forum.   | Synopsis writing/Synopsis defense/ Thesis defense<br>At least one research publication | Synopsis writing/Synopsis defense/Thesis defense              | The problems are identified at presentation | The problems are solved accordingly  |

**TABLE-2: STANDARD 1-2: OBJECTIVES VS OUTCOMES**

|          | Objectives |     |     |     |
|----------|------------|-----|-----|-----|
|          | Sr. No.    | 1   | 2   | 3   |
| Outcomes | 1          | *** | *** | *   |
|          | 2          | *** | *** | *** |
|          | 3          | *** | **  | **  |

\* Relevant

\*\* Relevant and satisfactory

\*\*\* Highly relevant and satisfactory

## TEACHERS EVALUATION

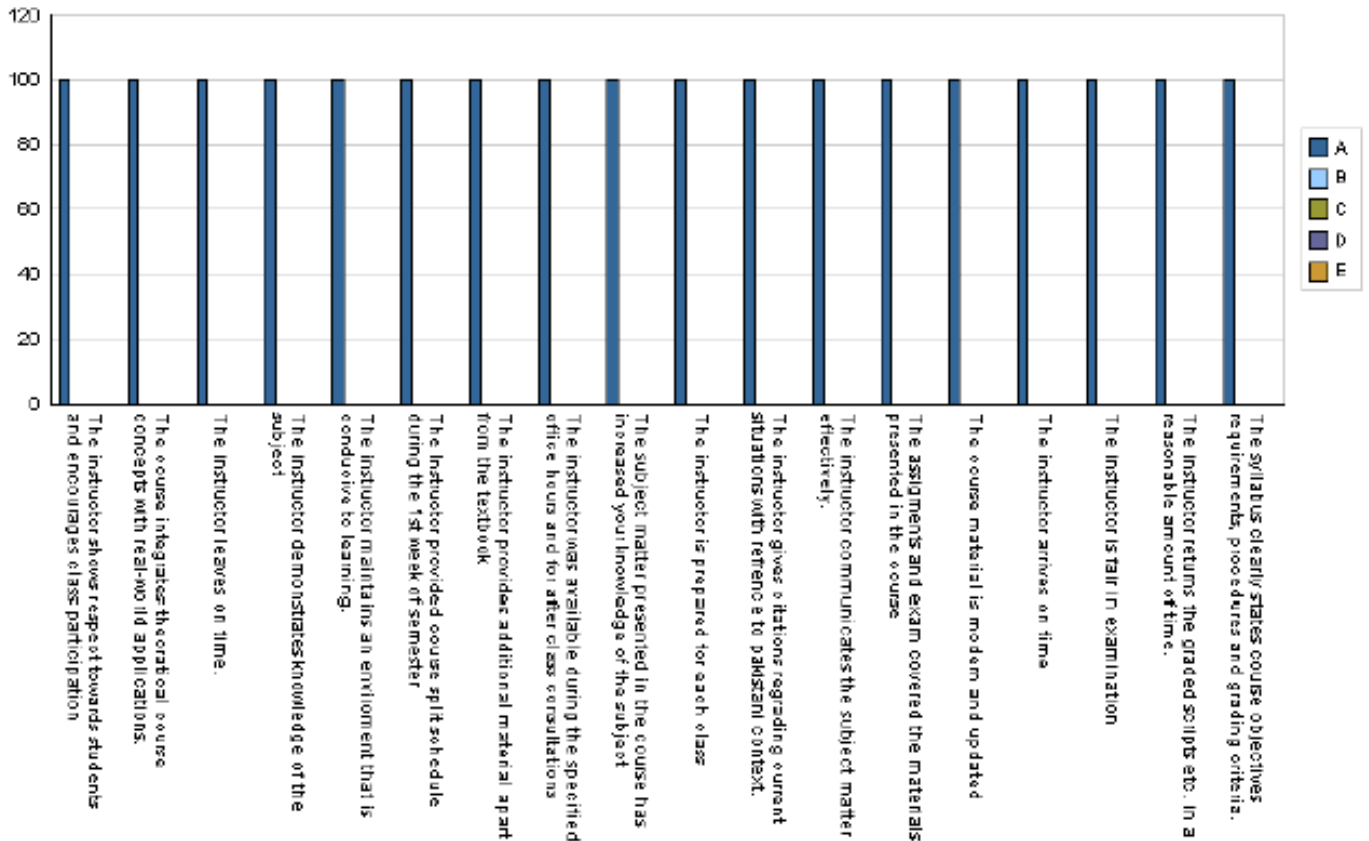
Following teachers were evaluated:

| Course # | Course Instructor       |
|----------|-------------------------|
| ZOOL-723 | Dr. M. Zubair Anjum     |
| ZOOL-727 | Dr. Farhana Riaz        |
| ZOOL-738 | Dr. Amjad Rashid Kiyani |

The teachers were evaluated by the students at the end of course completion through the proforma-10 (Annex-II). Detail of performance of each teacher is given below.

**Teacher Name:** Muhammad Zubair Anjum  
**Course Name:** Aquaculture System Management  
**Section:** A      **M/E:** M      **Semester#:** 2

**Teacher Evaluation Graph**



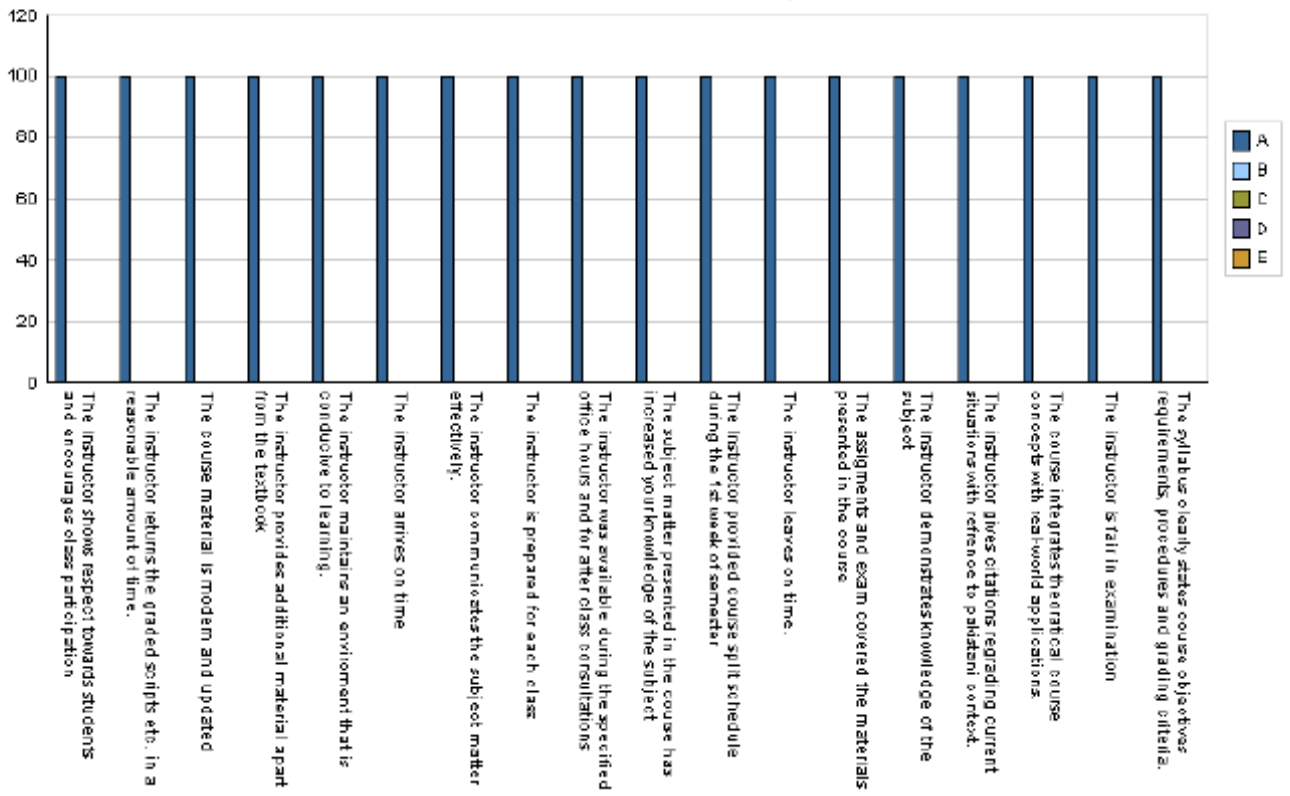


Teacher Name: Farhana Riaz Chaudhry

Course Name: Epidemiology of Animal Parasites

Section: A M/E: M Semester#: 2

Teacher Evaluation Graph

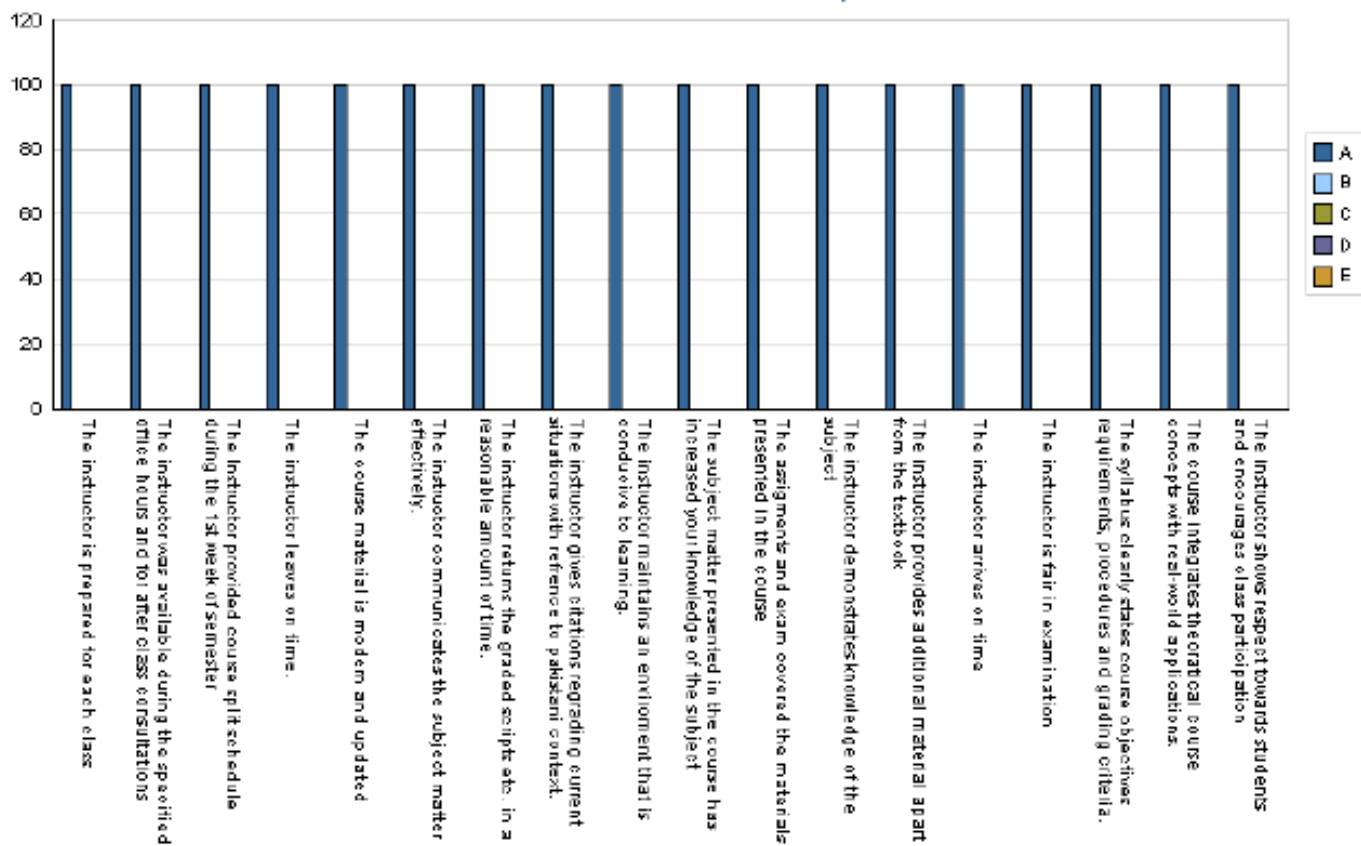


Teacher Name: Amjad Rashid Kayani

Course Name: Wildlife Ecology

Section: A M/E: M Semester#: 1

Teacher Evaluation Graph



## COURSE EVALUATION

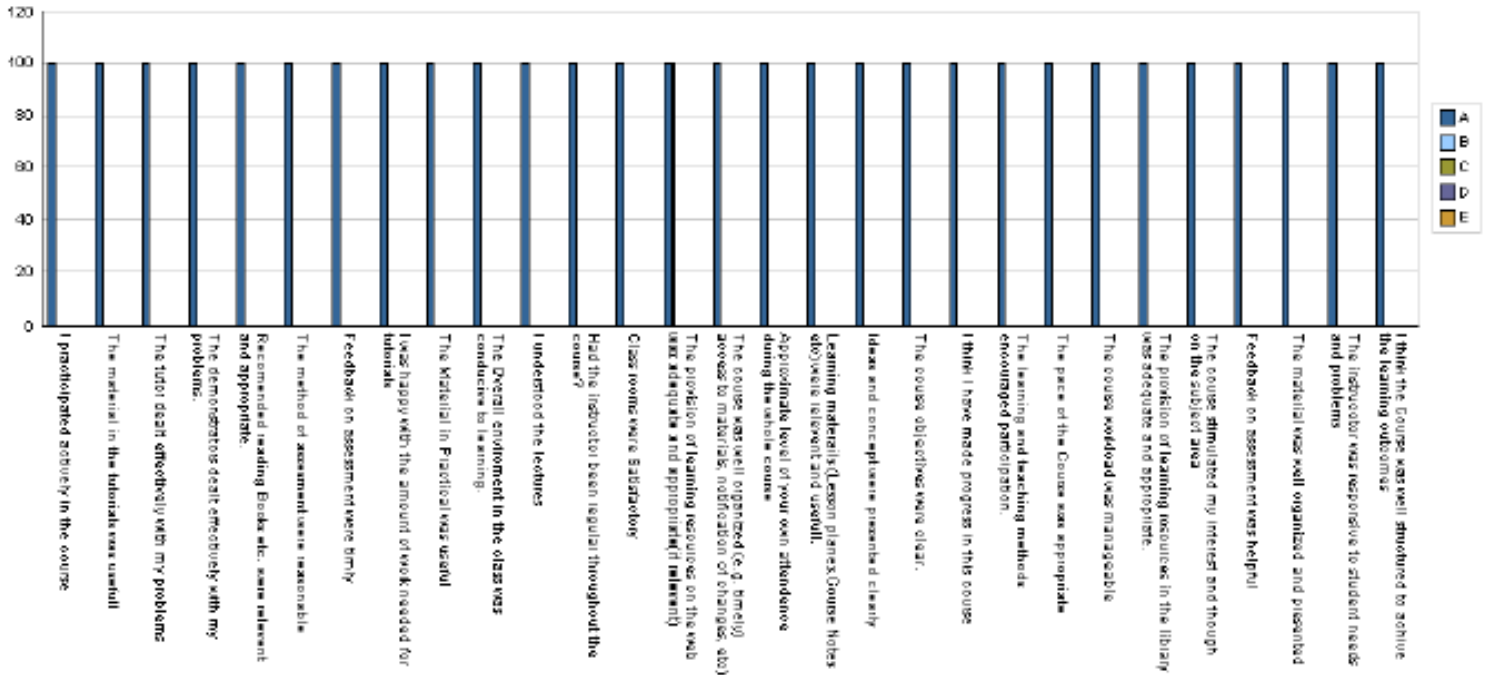
Courses were evaluated by students at the end of course completion through proforma-1 (Annex-I). Detail of evaluation of each course is given below.

**Table 3. Courses evaluated for Ph.D.**

| Course # | Course Instructor       |
|----------|-------------------------|
| ZOOL-723 | Dr. M. Zubair Anjum     |
| ZOOL-727 | Dr. Farhana Riaz        |
| ZOOL-738 | Dr. Amjad Rashid Kiyani |

**Teacher Name:** Farhana Riaz Chaudhry  
**Course Name:** Epidemiology of Animal Parasites  
**Section:** A                      **M/E:** M                      **Semester#** 2  
**Class:** Ph.D (Zoology)

**Course Evaluation Graph**



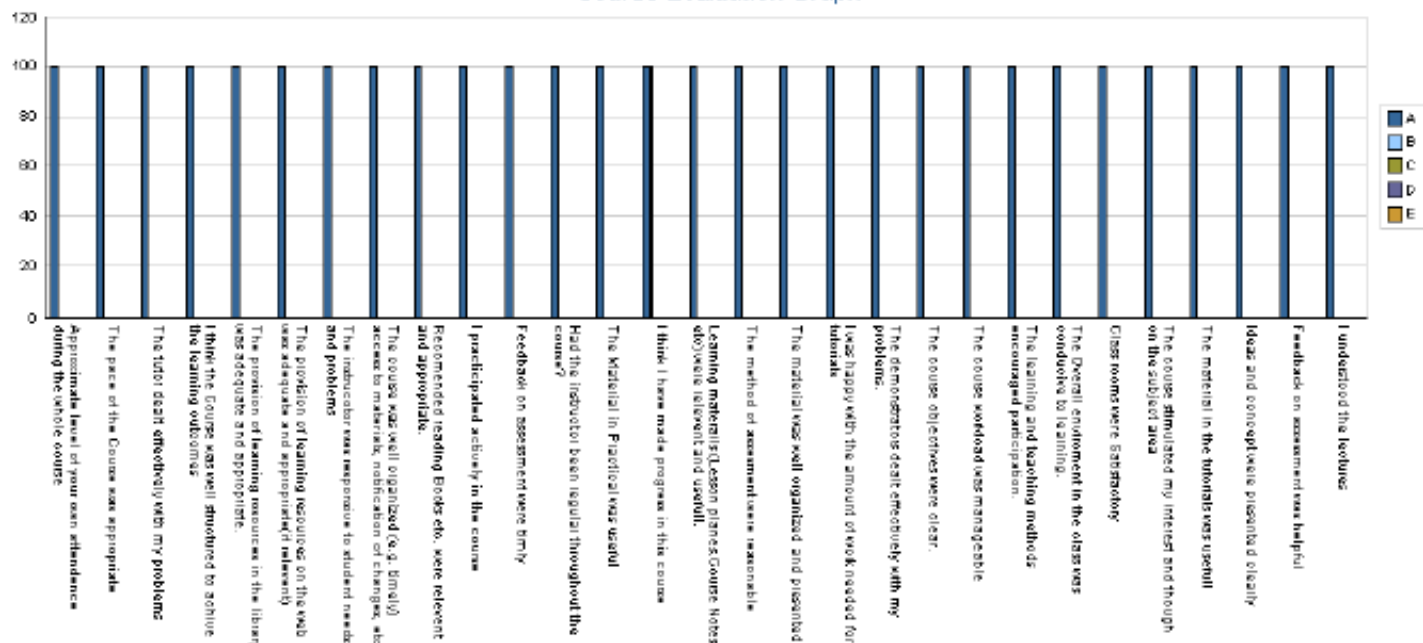
Teacher Name: Muhammad Zubair Anjum

Course Name: Aquaculture System Management

Section: A M/E: M Semester# 2

Class: Ph.D (Zoology)

Course Evaluation Graph



Session Name: FALL-13

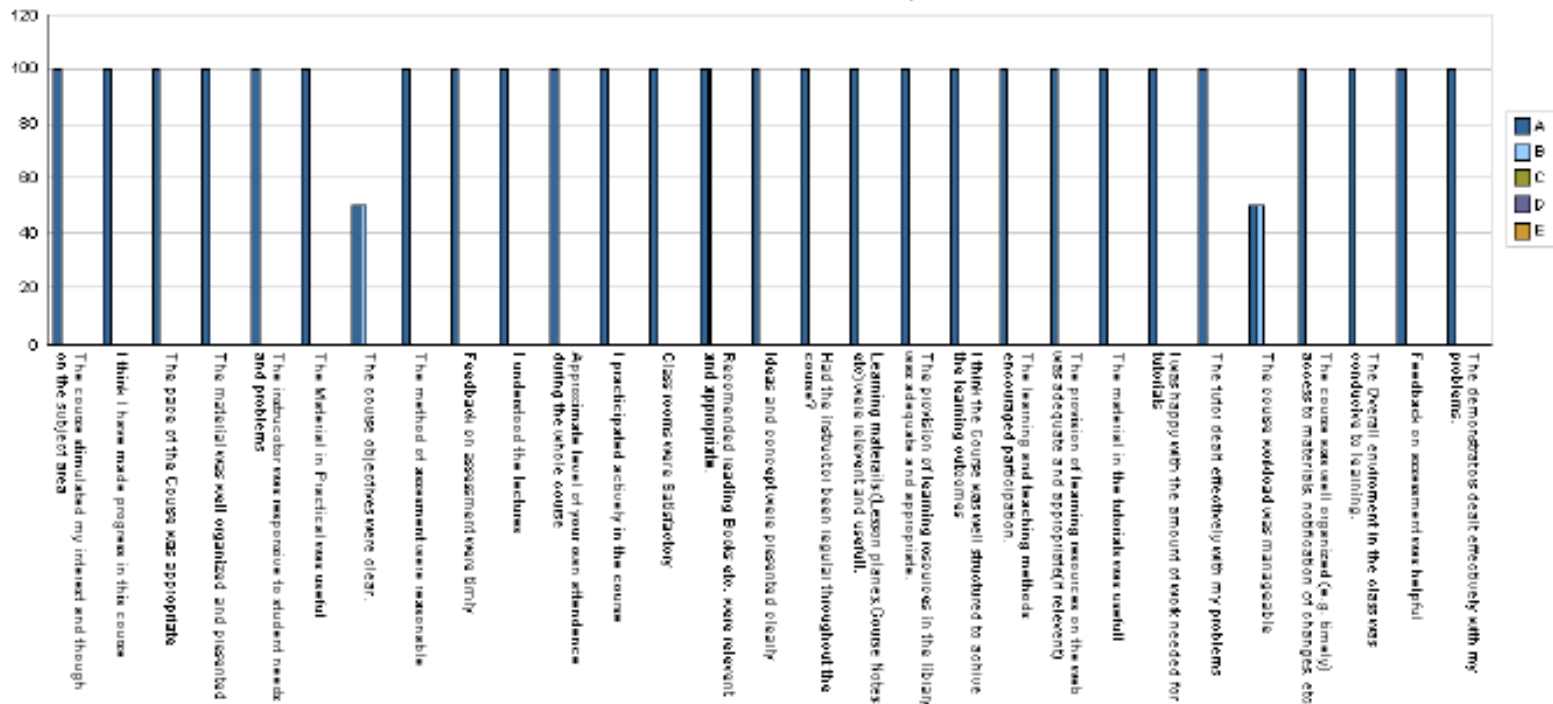
Teacher Name: Amjad Rashid Kayani

Course Name: Wildlife Ecology

Section: A M/E: M Semester# 1

Class: Ph.D (Zoology)

Course Evaluation Graph



## Faculty Course Review Survey

The evaluation revealed that the faculty is satisfied with curriculum. Questionnaire for the evaluation has been filled and analyzed. The internal evaluation was done through with mid and final term examinations for all courses offered by department. Some of the teachers suggested division of certain courses as they were lengthy.

### Faculty Course Review Survey

| Code     | Title                            | Credit value | Assessment method | No. of Students | Comments on curriculum | Any Change for future in course | Semester | Grades |    |   |   |   |     | Teacher                 |
|----------|----------------------------------|--------------|-------------------|-----------------|------------------------|---------------------------------|----------|--------|----|---|---|---|-----|-------------------------|
|          |                                  |              |                   |                 |                        |                                 |          | A      | B  | C | D | E | F   |                         |
| ZOOL-723 | Aquaculture system management    | 3(2-2)       | Mid/Final Exam    | 1               | Appropriate            | Not suggested                   | Spring   | 100    | 0  |   | 0 | 0 | 100 | Dr. M. Zubair Anjum     |
| ZOOL-727 | Epidemiology of animal parasites | 3(2-2)       | Mid/Final Exam    | 1               | Appropriate            | Not suggested                   | Spring   | 100    | 0  | 0 | 0 | 0 | 100 | Dr. Farhana Ch.         |
| ZOOL-738 | Wildlife Ecology                 | 3(2-2)       | Mid/Final Exam    | 2               | Appropriate            | Not suggested                   | Spring   | 50     | 50 | 0 | 0 | 0 | 100 | Dr. Amjad Rashid Kiyani |

## ALUMNI SURVEY RESULTS

Feedback of students graduated was acquired through Proforma-7.

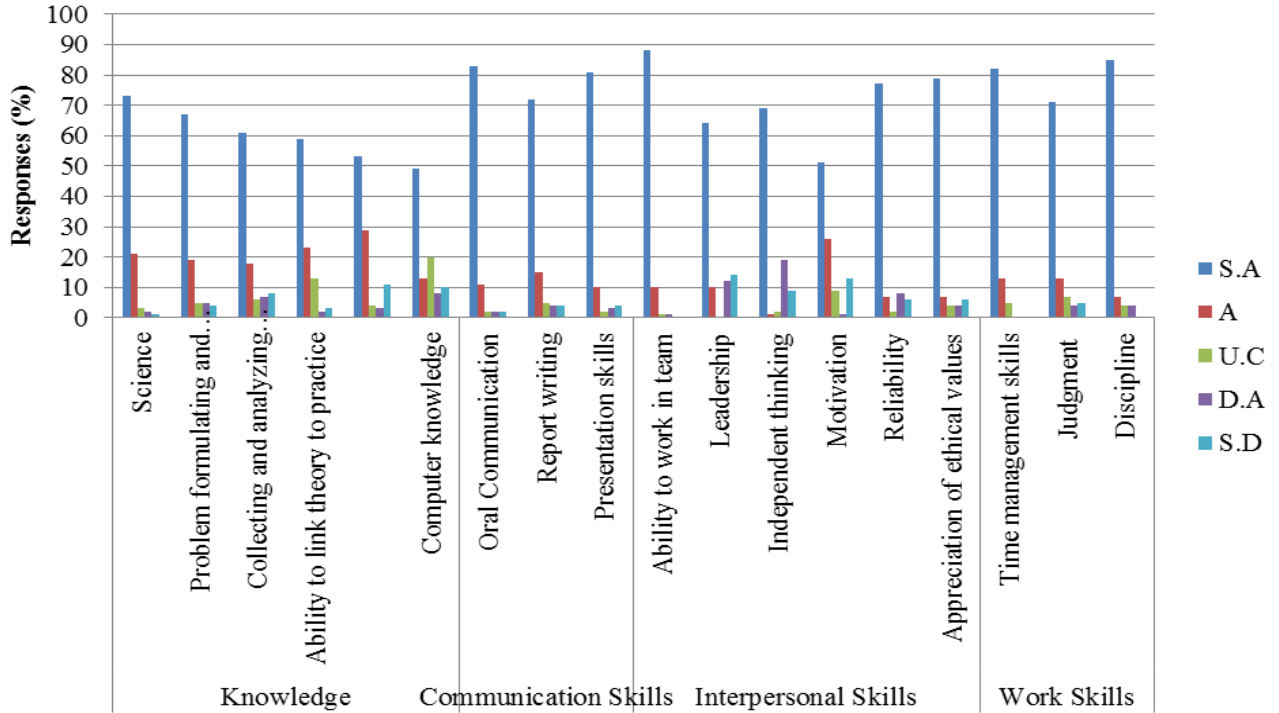


Fig.13. Alumni Survey Results

### Research progress (2012-14)

| Name of Faculty Member    | Journal Publications | Conference publication | Projects | Short courses |
|---------------------------|----------------------|------------------------|----------|---------------|
| Dr. Mazhar Qayyum         | 5                    | -                      | 0        | -             |
| Dr. Shamim Akhtar         | 4                    | -                      | 1        | 1             |
| Dr. Muhammad Sajid Nadeem | 2                    | -                      | 1        | -             |
| Dr. Farhana Riaz          | 1                    | 2                      | 1        | 1             |
| Dr. Amjad Rashid Kiyani   | 1                    | -                      | 1        |               |
| Dr. M. Mushtaq            | 2                    | -                      | 1        |               |
| Dr. M. Zubair Anjum       | 1                    | -                      | 2        |               |
| Mr. Muhammad Irfan        | 1                    | 1                      | 0        | -             |

## SURVEY OF GRADUATING STUDENTS

Survey of graduating students was conducted through Performa 3.

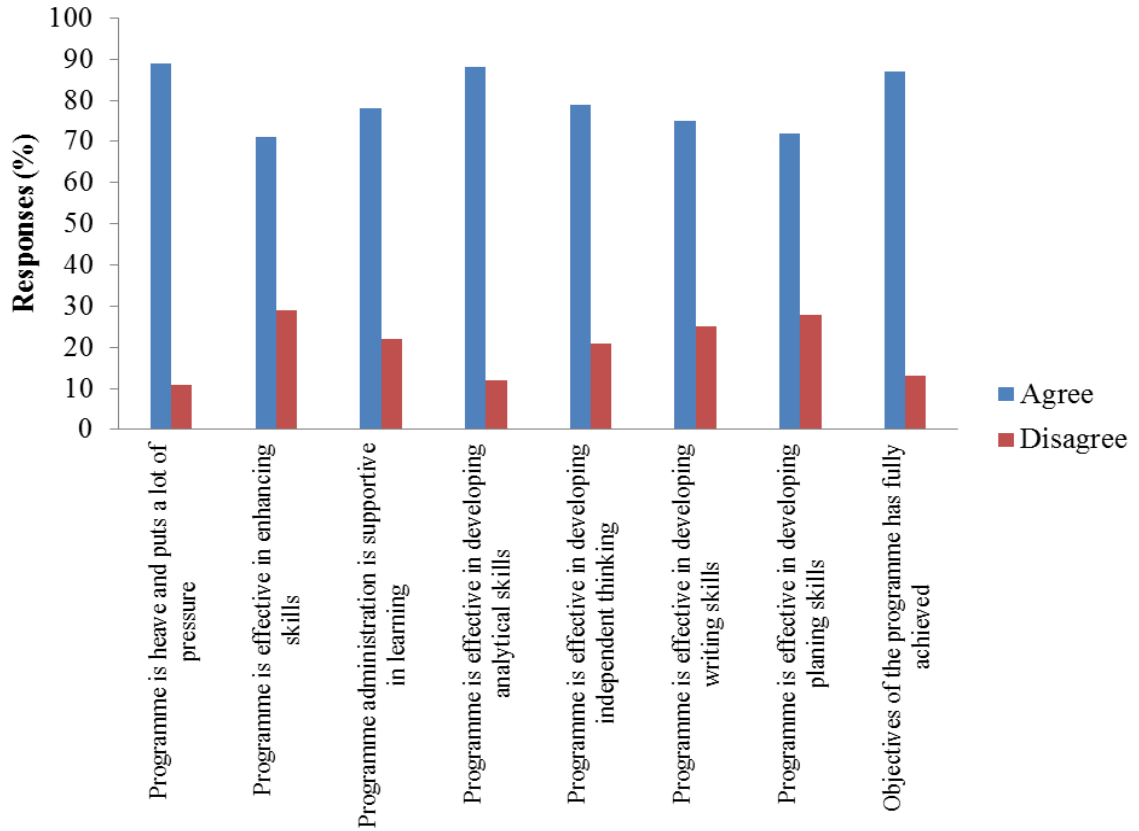


Fig.14. Graduating student's survey

## RESEARCH STUDENTS PROGRESS REVIEW

Survey of M. Phil. research students progress review was conducted through Performa 2.

Results are given below in graphs



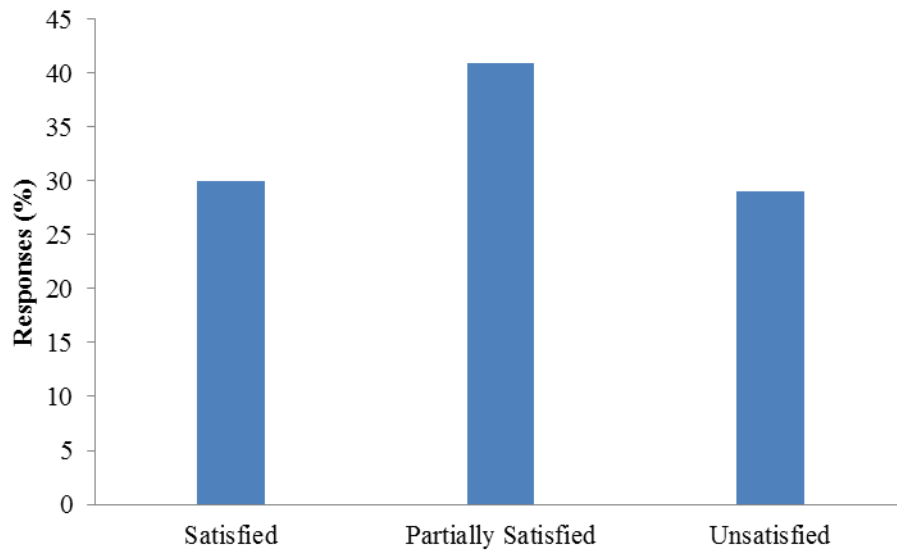


Fig. 15. Level of supervision received

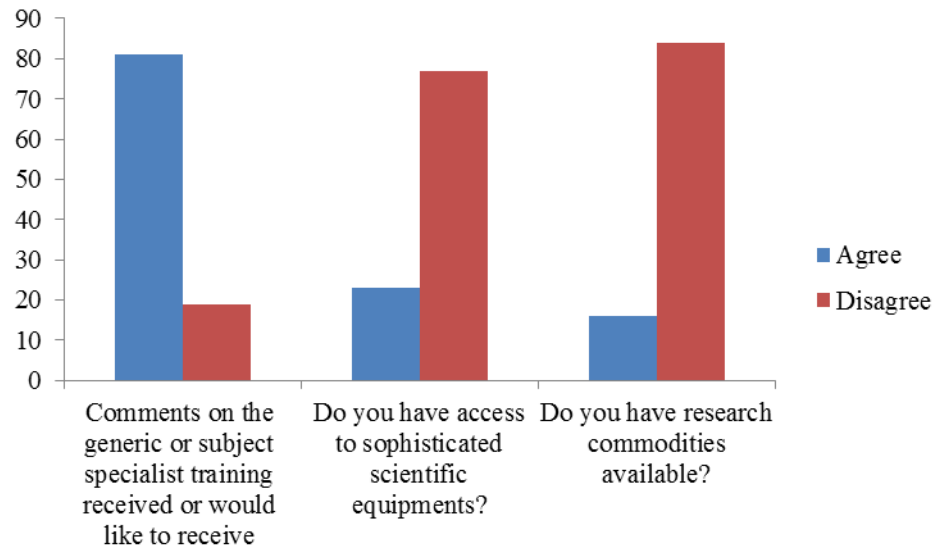


Fig.16. Response of students on Misc. issues

### Results of Faculty Survey

The data generated as a result of faculty survey, most of the faculty themselves reported as very satisfied mentoring and administrative support, job security, support from the department, their progress through ranks. The least time availability to faculty to interact with their family is due to extra load on present teachers as some times of the faculty members proceed on

training, workshops etc so the poor strength of remaining faculty in the campus has to bear out the load of course work and other assignments.

### Results of Faculty Survey

|   | <b>Dr. Amjad Rashid Kiyani</b> | <b>Dr. Farhana Ch.</b> | <b>Dr. Zubair Anjum</b> |
|---|--------------------------------|------------------------|-------------------------|
| Your mix of research, teaching and community service  | Very satisfied                 | Satisfied              | Very satisfied          |
| The intellectual stimulation of your work             | Very satisfied                 | Satisfied              | Very satisfied          |
| Type of teaching / research you currently do          | Very satisfied                 | Satisfied              | Satisfied               |
| Your interaction with students.                       | Satisfied                      | Satisfied              | Satisfied               |
| Cooperation you receive from colleagues               | Satisfied                      | Very satisfied         | Satisfied               |
| The mentoring available to you.                       | Satisfied                      | Very satisfied         | Very satisfied          |
| Administrative support from the department            | Very satisfied                 | Satisfied              | Very satisfied          |
| Providing clarity about the faculty promotion process | Uncertain                      | Satisfied              | Satisfied               |
| Your prospects for advancement and progress           | Dissatisfied                   | Satisfied              | Satisfied               |

### Survey of department offering Ph.D. programs

Survey of department offering Ph.D. was conducted through proforma-6 and results are given as under:

|  |                |
|--|----------------|
| <b>1 General Information:</b>  |                |
| 1.1 Name of Department   | <b>Zoology</b> |
| 1.2 Name of Faculty  | <b>Science</b> |
| 1.3 Date of initiation of Ph.D. program  | <b>2001</b>    |
| 1.4 Total number of academic journals subscribed in area relevant to PhD program   | <b>NIL</b>     |
| 1.5 Number of Computers available per Ph.D. student  | <b>1</b>       |
| 1.6 Total Internet Bandwidth available to all the students in the Department   | <b>6</b>       |
| <b>2 Faculty Resources:</b>  |                |
| 2.1 Number of faculty members holding Ph.D. degree in the department   | <b>6</b>       |
| 2.2 Number of HEC approved Ph.D. Advisors in the department.   | <b>6</b>       |
| <b>3 Research Output:</b>  |                |
| 3.1 Total number of articles published last year in International Academic Journals that are authored by faculty members and students in the department. | <b>8</b>       |
| 3.2 Total number of articles published last year in Asian Academic Journals that are authored by faculty members and students in the department          | <b>9</b>       |
| 3.3 Total number of ongoing research projects in the department funded by different organizations  | <b>4</b>       |
| 3.4 Number of post-graduate students in the department holding scholarships/fellowships.   | <b>8</b>       |
| 3.5 Total Research Funds available to the Department   | <b>200,000</b> |

|  |                        |
|--|------------------------|
| 3.6 Number of active international linkages involving exchange of researchers/students/faculty etc.                                | <b>6</b>               |
| <b>4 Student Information:</b>  |                        |
| 4.1 Number of Ph.D. degrees conferred to date to students from the Department during the past three academic years.                | <b>6</b>               |
| 4.2 Number of Ph.D. students currently enrolled in the department.   | <b>30</b>              |
| 4.3 Ratio of number of students accepted to total number of applicants for Ph.D. Program.  | <b>1:3</b>             |
| <b>5 Program Information</b>   |                        |
| 5.1 Entrance requirements into Ph.D. Program (M.Sc. / M.Phil.) Indicate subjects or M.Sc. / M.Phil                                 | <b>M.Phil. Zoology</b> |
| 5.2 Is your Ph.D. program based on research only? (Y/N)  | <b>N</b>               |
| 5.3 Maximum number of years in which a Ph.D. degree has to be completed after the initial date of enrollment in the Ph.D. program. | <b>5 years</b>         |
| 5.4 Total number of post M.Sc. (16 year equivalent) courses required for Ph.D.   | <b>32 credits</b>      |
| 5.5 Total number of M.Phil. level courses taught on average in a Term / Semester   | <b>5/semester</b>      |
| 5.6 Total number of Ph.D. level courses taught on average in a Term / Semester.  | <b>3/semester</b>      |
| 5.7 Do your students have to take/write:   |                        |
| a. Ph.D. Qualifying examination (Y/N)  | <b>yes</b>             |
| b. Comprehensive examination (Y/N)   | <b>yes</b>             |
| c. Research paper in HEC approved Journal  | <b>yes</b>             |
| d. Any other examination (Y/N)   | <b>GAT subject</b>     |
| 5.8 Total number of International examiners to which the Ph.D.dissertation is sent.  | <b>2</b>               |
| 5.9 How is the selection of an examiner from technologically advanced countries carried out?                                       | <b>Getting consent</b> |
| 5.10 Is there a minimum residency requirement (on campus) for award of Ph.D. degree?   | <b>3 years</b>         |

**STANDARD 1-3. The results of program's assessment and the extent to which they are used to improve the program must be documented**

Regular assessment process will be continued and results will be incorporated accordingly. Following are the strengths and weaknesses of program identified.

**Strengths of the Program**

1. The department is having qualified teachers with full acquaintance of their respective subjects and knowledge of research
2. All faculty members are involved in research directly or indirectly as supervisor and committee member of the post-graduate students.
3. All faculty members have got research projects funded from various funding sources.

**Weaknesses of the Program**

1. There is scarcity of space as there is only two class rooms due to which difficulty is faced in adjusting simultaneous classes.
2. Funding and research equipment are not available.

**STANDARD 1-4. The department must assess its overall performance periodically using quantifiable measures.**

The evaluation process indicated high efficiency of system and satisfactory impact of outcomes

**Future Plans**

To establish the laboratories by getting projects funding by teachers.

**Quantitative assessment of the department**

| S. No. | Particulars                      | No. |
|--------|----------------------------------|-----|
| 1      | PhD degree awarded               | ~13 |
| 4      | Students: Faculty (ratio)        | 3:1 |
| 5      | Technical: non technical (ratio) | 4:1 |
| 6      | Average grade point              | 4   |

**EMPLOYER SURVEY**

The employer survey under Performa 8 was conducted:

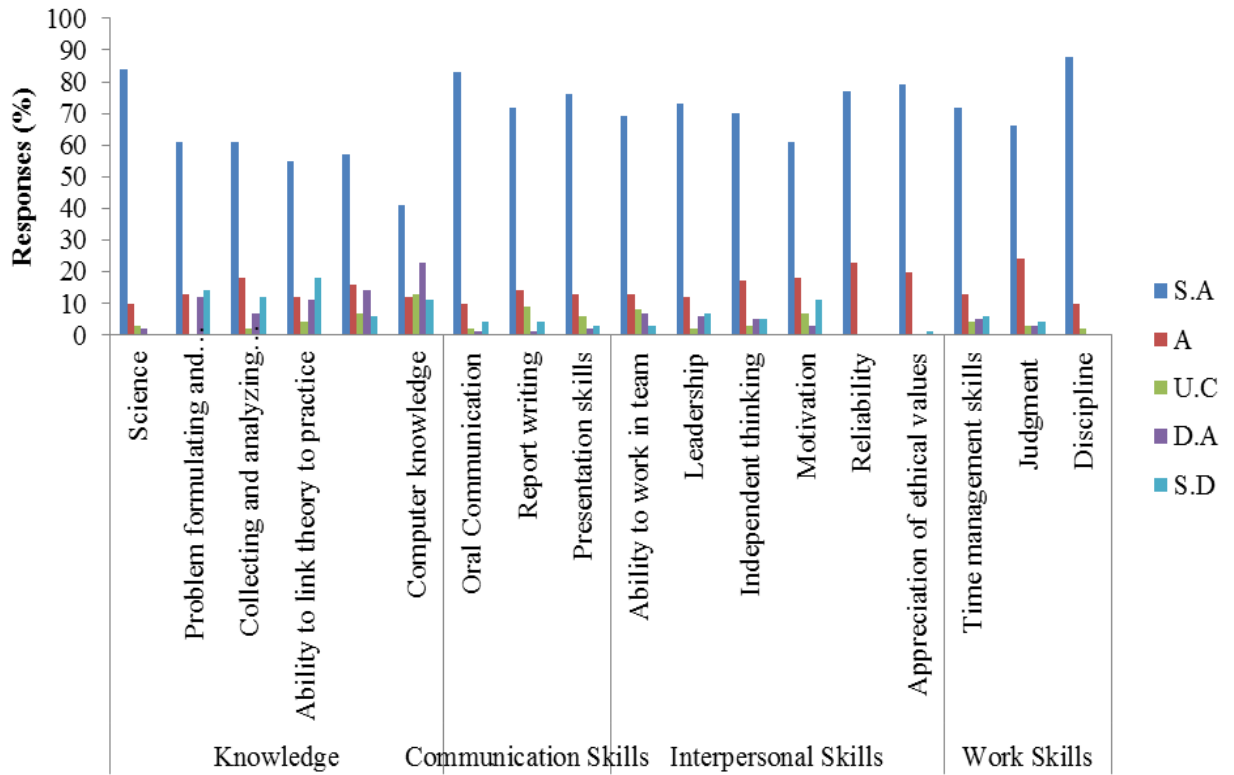


Fig.17. Employer’s survey

# **SECTION 2**

## **CRITERION-2: CURRICULUM DESIGN AND ORGANIZATION**

Curriculum design and update is initiated by the faculty members of the Department after the approval of Board of Studies which is comprised of senior faculty members and subject specialist who is taken from other faculties or from other Universities or research Institutions. It is headed by the Chairman of the Department. The approved curriculum is then sent to Board of Faculty, headed by the Dean Faculty of Sciences. This Board consist senior faculty members from all the Departments of the faculty and subject specialists. Finally the curriculum is presented before the Academic Council which is comprised of the Professor, Associate Professor, Faculty Representatives and very senior subject specialists.

### **Degree Title:**

Ph. D. Zoology

### **Definition of Credit Hour:**

One credit hour is one theory lecture or two hours laboratory (practical / week). One credit hour carries 20 marks. A semester is of 18 weeks.

### **Degree Plan:**

PhD: Consists of 10 semesters/ 5 years. 20 credit hours course work following synopsis/thesis defense and submission of thesis to be approved by international scholars

### **Pre-requisites**

#### **Academic Requirements:**

A person holding M.Phil. in animal sciences or equivalent degree from any recognized institute with at least second division or 3/4CGPA is eligible to get admission.

Merit is determined by entry test and past academic performance as per following formula:

|              |     |
|--------------|-----|
| Intermediate | 10% |
| B.Sc.        | 20% |
| M.Sc.        | 20  |
| M.Phil.      | 40  |
| Interview    | 10% |

### **Degree Requirements:**

Degrees are awarded after completing the required 18 credit hours (courses). Minimum Grade Point Average for obtaining the degree is 3.00/4.00 CGPA. A thesis research is required of 10 credit hours.

### **Examination**

In course work, student's evaluation is done by mid-term examination, assignments/quizzes and final examination. A student, who misses the mid-term examination, is not allowed a make-up examination and is awarded zero marks in that examination. In case a student does not appear in the final examination of a course, he shall be deemed to have failed in that course. In theory, weightage to each component of examination is as prescribed here under: The qualification marks for each examination is 50% . .

|                   |     |
|-------------------|-----|
| Mid Examination   | 30% |
| Assignments       | 10% |
| Final Examination | 60% |

For practical examination (if applicable) 100% is given to practical as scored final examination

A student is eligible to sit for the examination provided that he/she has attended not less than 75% of the classes in theory and practical, separately.

### **Compulsory Courses:**

| <b>Course #</b> | <b>Course Title</b>                            | <b>Credit Hours</b> |
|-----------------|--|---------------------|
| BCH-751         | Advances in Biotechnology                      | 3(3-0)              |
| BOT-751         | Integrated Agrobiological Resources Management | 3(3-0)              |
| ZOOL-720        | Seminar-I                                      | 1(1-0)              |
| ZOOL-751        | Project Planning,, Monitoring and Evaluation   | 3(3-0)              |
| ZOOL-720        | Seminar-II                                     | 1(1-0)              |
| STAT-702        | Experimental Design and Computer Applications  | 3(2-2)              |
| ZOOL-719        | Special Problem                                | 1(1-0)              |

### **Elective Courses**

| <b>Course #</b> | <b>Course Title</b>              | <b>Credit Hours</b> |
|-----------------|----------------------------------|---------------------|
| ZOOL-727        | Epidemiology of animal parasites | 3(2-2)              |
| ZOOL-734        | Mammalogy                        | 3(2-2)              |
| ZOOL-725        | Human Genetics                   | 3(2-2)              |
| ZOOL-714        | Medical Virology                 | 3(2-2)              |
| ZOOL-718        | Applied Reproductive Physiology  | 3(2-2)              |
| ZOOL-733        | Ornithology                      | 3(2-2)              |
| ZOOL-715        | Faunal Biodiversity of Pakistan  | 3(2-2)              |
| ZOOL-712        | Clinical Endocrinology           | 3(2-2)              |
| ZOOL-723        | Aquaculture system management    | 3(2-2)              |

**Table 4.3. Curriculum Course Requirements**

| Semester        | Course # | Credit Hours |       |             |           |
|-----------------|----------|--------------|-------|-------------|-----------|
|                 |          | Applied      | Basic | Major/Minor | Practical |
| 1 <sup>st</sup> | BCH-751  | 3            | -     | Minor       | -         |
|                 | ZOOL-720 | -            | 1     | Major       | -         |
|                 | ZOOL-751 | -            | 3     | Major       | -         |
|                 | ZOOL-723 | 2            |       | Major       | 2         |
| 2 <sup>nd</sup> | STAT-702 | 2            |       | Minor       | 2         |
|                 | BOT-751  | -            | 3     | Minor       | -         |
|                 | ZOOL-720 | -            | 1     | Major       | -         |
|                 | ZOOL-727 | -            | 2     | Major       | 2         |
|                 | ZOOL-719 | 1            | -     | Major       | -         |

**STANDARD 2-1: The curriculum must be consistent and supports the program's documented objectives**

| Courses  | Objectives |     |     |     |     |     |
|----------|------------|-----|-----|-----|-----|-----|
|          | 1          | 2   | 3   | 4   | 5   | 6   |
| BCH-751  | *          | *   | *   | *   | *   | *** |
| ZOOL-720 | ***        | *** | *** | *** | **  | *** |
| ZOOL-751 | *          | *   | *   | *   | *   | *** |
| ZOOL-723 | ***        | **  | *   | *   | *   | *** |
| ZOOL-727 | ***        | **  | *   | *   | *   | *** |
| STAT-702 | ***        | *** | *** | *** | *   | *   |
| BOT-751  | *          | *   | *   | *   | *   | *** |
| ZOOL-720 | ***        | *** | *** | *** | **  | *** |
| ZOOL-719 | ***        | *** | *** | *** | *** | *** |

Highly Satisfactory      \*\*\*

Satisfactory                \*\*

Not satisfactory            \*

**STANDARD 2-2: ELEMENTS VS COURSES**

| Elements                      | Ph.D. Zoology Courses                  |
|-------------------------------|--|
| <b>Theoretical background</b> | BOT-751, ZOOL-751, ZOOL-723, ZOOL-727, |
| <b>Problem analysis</b>       | ZOOL-719, ZOOL-720,                    |
| <b>Solution Design</b>        | STAT-702 , BCH-751,                    |

**STANDARD 2-3:**

The curriculum is designed and offered according to the requirements of HEC. There are compulsory basic and advance courses along with an applied course of statistics. Students have to opt a minimum 6 credit hours optional courses related to their field of research

**STANDARD 2-4:**

Higher Education Commission (HEC) course work of 18 credit hours preferably in the first year is required to be completed and followed by a comprehensive examination for granting candidacy as PhD researcher. The requirement of HEC is being fulfilled with offering 21 credit hours to Ph.D. students.



| Program | Credit hours/semester | Total Credit hours | Theory | Practical | Other                                     |
|---------|-----------------------|--------------------|--------|-----------|---|
| Ph.D.   | 9                     | 18                 | 15     | 3         | 10 credit hours for research work/thesis. |

**STANDARD 2-5:**

Courses being offered are highly informative and fulfilling the requirements but most of the courses are of basic nature and only one or two are applied. There is need to approve advance and applied courses for Ph.D. program.

**STANDARD 2-6:**

There is deficiency of information technology related courses but some activities and courses in program are useful to give basic training of computer use.

| S. No. | Course No.                               | How applied and integrated through out the program  |
|--------|--|---|
| 1      | STAT-702                                 | Use of statistical software pushes the students to learn basic use of computer  |
| 2      | ZOOL-720, ZOOL-719                       | Seminar preparation requires the basic knowledge of computer sciences. It urges the students to learn basic use of computer. Same is the case with thesis writing |
| 3      | Synopsis and Thesis defense and write up |   |

**STANDARD 2-7:**

Two seminars of one credit hour each are compulsory at the Ph.D. level. Moreover, students have to defend their synopsis and thesis in open forum. Assignments are given to Ph. D students on specific titles (part of the course) which are presented orally and given as written report (assignments) by the students which have increased their oral and written communication skills. Thesis and synopsis write up are helpful to increase their oral and writing skills.

| S. No. | Course No.                        | How applied and integrated through out the program  |
|--------|-----------------------------------|---|
| 1      | ZOOL-720                          | Two seminars of one credit hour each are compulsory at the Ph.D. level during course work |
| 2      | Courses presentations/assignments | During course work a presentation/assignment is obligatory for each course                |
| 3      | Synopsis defense                  | Before commencing research in open forum  |
| 4      | Thesis defense                    | After thesis writing in open forum  |

# **SECTION-3**

### **CRITERION-3: LABORATORIES AND COMPUTING FACILITIES**

#### **Laboratory Title:**

1. Microbiology and Parasitology laboratory
2. Reproductive Physiology/Endocrinology
3. Wildlife & Biodiversity laboratory
4. Animal Physiology laboratory
5. Fisheries laboratory

#### **Location and Area:**

Faculty of Sciences, D-Block, 2<sup>nd</sup> Floor, New Academic Block and area of each laboratory is 450 square feet

#### **Objectives:**

Laboratories are used for:

1. Practical exercise and demonstrations to graduate students in their introductory and major courses
2. Research work for the Post-graduate students
3. Used for implementing the funded projects by the University, HEC, PSF, PARC and other agencies.
4. Laboratories are well specious and adequate.

#### **Major apparatus viz equipments:**

Microscopes, autoclave, incubator, deep freezer, refrigerators, laminar flow cabinet, pH meter, elective balance, slide and overhead projectors, shaker, hitter, pipettes are present but some are out dated and out of order. Centrifuge (slow and ultra), PAG-Electrophoresis apparatus, PCR Spectrophotometer. Moreover, department requires an animal house and a museum

### **Safely Regulations:**

Safety measures are not available against fire (Extinguishers), minor hazards and accidents, injuries (First Aid Kit). However, the University maintains a Medical Dispensary for such incidents.

### **STANDARD-3.1: LABORATORY MANUALS:**

- Laboratory manuals of each subject (Microbiology and Parasitology, Reproductive Physiology, Wildlife & Biodiversity, Animal Physiology) are not available. The department has no library at all. However, individual teachers have their books.

### **STANDARD-3.2: SUPPORT/LABORATORY PERSONAL FOR MAINTENANCE OF LABORATORY**

Laboratories are maintained by only one laboratory assistant (equipment, glassware, chemicals, material etc). A laboratory attendant assists the students in practicals, cleaning and washing.

### **STANDARD-3.3: COMPUTING INFRASTRUCTURE AND FACILITIES**

- *Computer facilities:* available to all faculty members and the post graduate students
- *Safety arrangements:* The labs have no exhaust fan. No first aid kits/facilities provided in the laboratories/department.

# **SECTION-4**

#### **CRITERION 4: STUDENT SUPPORT AND ADVISING**

The university organizes support programs and provide information regarding admission, scholarship schemes etc. Department in its own capacity arrange orientation and guided tours of department.

##### **STANDARD-4.1: FREQUENCY OF COURSES**

- Courses are taught as per criteria laid down by HEC.
- Courses are offered according to the scheme of study approved by Academic Council and courses are offered as per the availability and expertise of the teachers.
- Elective courses are offered according to the policy of the university.
- For postgraduate programs, a variety of courses are offered according to demand of the profession.

##### **STANDARD-4.2: STRUCTURE OF THE COURSES**

Theoretical as well as practical aspects are focused in designing the courses. Theoretical problems are explained and assignments are also given to the students. Practical are carried out in the labs as well as in the field. Field visits to related research organizations are also organized for the awareness of the students about the latest developments in the area and to stimulate them for discussion and teacher/student interaction.

- Board of Studies approved the course contents
- Faculty members interact frequently to the students to solve their problems. Students are always welcome to ask questions in class rooms and teachers are also available even after the classes.

##### **STANDARD-4.3: GUIDANCE TO THE STUDENTS**

Following steps have been taken for the guidance of the students:

1. Information about the program requirements are provided to the students through the office of the head of the department.
2. Through the personal communication of the teachers with the students
3. Students can also contact with relevant teachers whenever they face any professional problem.
4. Students can interact with the teachers/scientists in the universities or research organization according to their requirement and there is open option for the students to get the membership in the professional societies like Pakistan Zoological Society and other relevant professional societies.

# **SECTION-5**



### **CRITERION-5: PROCESS CONTROL**

It includes student admission, student's registration, faculty requirement activities which are dealt by various statutory bodies and the university administration.

#### **STANDARD-5.1: PROGRAM ADMISSION CRITERIA**

- The admission advertisement is given in the National Papers by the Registrar office. The criteria and rules of the admission are followed set by the University.
- PhD admission is based on the recommendations of supervisory committee
- Admission criteria is revised every year before the announcement of admissions

#### **STANDARD-5.2: PROCESS OF REGISTRATION**

- The student's name, after completion of the admission process, is forwarded to the Registrar Office for proper registration in the specific program and the registration numbers are issued to the students.
- Students are evaluated through Mid, Final and Practical exams and through assignments
- Registration is done for one time for each degree but evaluation is done through the result of each semester. If the students fulfill the criteria of the university they are promoted to the next semester.
- In general, the students are registered on competition bases keeping in view the academic and research standards.

#### **STANDARD-5.3: RECRUITING PROCESS FOR FACULTY**

Recruitment policy developed by the university is according to HEC rules.

Induction of all posts is done as per rule:

- Vacant and newly created positions are advertised in the National newspapers, applications are received by the Registrar office, call letters are issued to the

short –listed candidates on the basis of experience, qualification, publications and other qualities/activities as per rules of the university

- The candidates are interviewed by the University Selection Board, principal and alternate candidates are selected.
- Selection of candidates is further approved by the Syndicate and then candidates are invited to join the university within a specified period.
- Induction of new candidates depends upon the number of approved vacancies.
- At present, no procedure exists for retaining highly qualified faculty members. However, the revised pay scales of structure is quite attractive
- HEC also supports appointments of highly qualified members as foreign faculty Professors, National Professors and deputes them in various departments of the university.

#### **STANDARD-5.4: TEACHING AND DELIVERY OF COURSE MATERIAL**

- The department revises the curriculum time to time depending upon the requirements, innovations and new technology to enhance the high quality teaching.
- With the emergence of new fields, new courses are designed and included in the scheme of study
- Students usually purchase low price editions books. Very few related books are also available in the university library, where documentation, copying and internet facilities are available.
- Some teachers also provides notes to the students
- Most of the lectures are supplemented by overhead, slides and pictures
- All efforts are made that courses and knowledge imparted meet the objectives and outcome. The progress is regularly reviewed in the staff meetings.

### **STANDARD-5.5: COMPLETION OF PROGRAM REQUIREMENTS**

The controller of examinations announces the date of commencement of examination. After ~20-30 days of the examinations, the controller office notifies the results of the students. The evaluation procedure consists of mid and final examinations, practical formulas, assignments and reports, oral and technical presentations. Candidates who secure 80% or more marks are awarded grade A. Gold medals are awarded to the students who secure highest marks. Degrees are awarded to the students on the annual convocation that is held every year.

# **SECTION-6**

**CRITERION-6: FACULTY: Standard 6.1: Full Time Faculty**  
Table: 4.6

| Name                      | Designation         | Qualification  | Country Awarding Degree | Date of Birth | E-mail Address   |
|---------------------------|---------------------|----------------|-------------------------|---------------|--|
| Dr. Mazhar Qayyum         | Associate Professor | Ph.D.          | Pakistan                | 7.6.1963      | Mazhar_dr@yahoo.com  |
| Dr. Shamim Akhtar         | Assistant Professor | Ph. D          | Pakistan                | 13.06.1964    | <a href="mailto:sashraf1993@yahoo.com">sashraf1993@yahoo.com</a>       |
| Dr. Muhammad Sajid Nadeem | Assistant Professor | Ph. D          | Pakistan                | 04.04.1970    | <a href="mailto:sajidnm@hotmail.com">sajidnm@hotmail.com</a>           |
| Dr. Farhana Riaz          | Assistant Professor | Ph. D          | Pakistan                | 25.07.1972    | <a href="mailto:Farhana_ahmer@yahoo.com">Farhana_ahmer@yahoo.com</a>   |
| Dr. Amjad Rashid Kiyani   | Assistant Professor | Ph. D          | UK                      | 28-3-1966     | <a href="mailto:ark120106@yahoo.co.uk">ark120106@yahoo.co.uk</a>       |
| Dr. Muhammad Mushtaq      | Assistant Professor | Ph. D          | Pakistan                | 10.12.1970    | <a href="mailto:mushtaq@uuar.edu.pk">mushtaq@uuar.edu.pk</a>           |
| Dr. M. Zubair Anjum       | Assistant Professor | Ph. D          | Austria                 | 9-3-1978      | <a href="mailto:zubair.anjum@uuar.edu.pk">zubair.anjum@uuar.edu.pk</a> |
| Mr. Muhammad Irfan        | Lecturer            | Ph. D. student | Pakistan                | 16.02.1984    | muhammadirfan11@gmail.com  |

**Table.4.7 Faculty Distribution by Program Areas**

| Program area of specialization | Courses in the area and average number sections per year | Number of faculty members in each area | Number of faculty with Ph. D degree |
|--------------------------------|--|--|-------------------------------------|
| Microbiology/Parasitology      | 7  | 2                                      | 2                                   |
| Wildlife                       | 6  | 2                                      | 2                                   |
| Biodiversity                   | 2  | 1                                      | -                                   |
| Reproductive physiology        | 2  | 1                                      | 1                                   |
| Endocrinology                  | 2  | 1                                      | -                                   |

**STANDARD 6.2: EFFECTIVE PROGRAMS FOR FACULTY DEVELOPMENT**

1. Professional training and availability of adequate research and academic facilities are not provided according to the faculty members
2. Library facility is insufficient as no latest subject books are available.

**STANDARD-6.3: FACULTY MEMBER MOTIVATION**

- Time to time provision of enthusiasm to the young faculty by the senior faculty members.

# **SECTION-7**

## **CRITERION-7: INSTITUTIONAL FACILITIES**

### **INSTITUTIONAL FACILITIES**

The institution is working toward acquisition of infrastructure to support new trends in learning such as e-learning

- Electronic library books and journals are available for learning purpose.
- Facilities regarding the infrastructure to support new trends in learning are being provided

However, the library must possess an up-to-date technical collection relevant to the program and must be adequately staffed with professional personal.

- Insufficient library's technical collection of books
- Recommended books, relevant journals of the programs are not available to the students.

Classrooms and offices must be equipped with multimedia and air conditioners and working places of faculty must be adequate to enable them to carry out their responsibilities.

### **STANDARD-7.1: INFRASTRUCTURE**

The faculty is provided with laptops under the Chief Minister Punjab scheme which is very helpful to assess e-resources for the high quality education and producing research of international standard. However, telephone sets/connections are not present.

### **STANDARD-7.2: LIBRARY FACILITIES**

The Central Library being a small library has sufficient space, but less number of books, journals and periodicals with no catalogue frameworks. The department itself does not have a library.

### **STANDARD-7.3: CLASS ROOM AND FACULTY OFFICES**

At present only two class rooms are available for all the degree programs being offered. Rooms are equipped with white boards and lacking multimedia. The learning environment is not conducive being very cold in winter and very hot in summer. No heater and air conditioner is installed in class rooms, labs and offices. Two to three teachers are sharing an office.



# **SECTION-8**

### **CRITERION-8: INSTITUTIONAL SUPPORT**

The university authorities are responsive and trying their best to facilitate academic and research activities of the department. The administration is keen for promoting and establishing research culture by appointing highly qualified faculty.

#### **INSTITUTIONAL SUPPORT:**

The working places for faculty are inadequate as two to four teachers share a small office. Moreover, being on second floor, offices are not comfortable usually in hot or cold weather.

### **STANDARD-8-1: SUPPORT AND FINANCIAL RESOURCES**

The department does not have enough funds to support a single PhD research student. However, the individual research grants for faculty are mainly supporting the departmental research activities. It is needed to increase financial resources of the department to support research and academic activities.

### **STANDARD-8-2: HIGH QUALITY RESEARCH SCHOLARS**

| <b>Research Assistants</b> | <b>Ph.D. Students</b> |
|----------------------------|-----------------------|
| 4                          | 30                    |

Faculty to Ph.D. students ratio is 1:3.7

### **STANDARD-8-3: FINANCIAL RESOURCES**

The total budget of the department of Zoology for the financial year 2013-14 is Rs. 501,000 which is insufficient for the purchase of equipment, chemicals etc.

## SUMMARY

After the establishment in 1997, Department of Zoology started the PhD degree program in Zoology in 2001. The PhD degree comprises a minimum of three years of full-time study, a year of course work and two years research with an individual supervisor. The evaluation of PhD students involves midterm exam, final exam, comprehensive exam and open research defenses. The academic staff of the Department of Zoology is highly qualified and trained in the field. There are 8 faculty members out of them seven having doctoral degrees and HEC approved supervisors. The courses have been prepared keeping in view the latest developments in Zoology. Students are encouraged to work on conventional as well as applied aspects that are at the cutting edge of new research and policy initiatives. The programme objectives are well defined, and outcomes are satisfactory and relevant. The department is capable only to support basic research activities from individual faculty project funding. A total of four research projects was running at the time. Admissions, examinations and all other academic activities are carried out according to the rules and regulation set by Higher Education Commission (HEC), Pakistan. According to teaching and course evaluation, the department is imparting knowledge of biological sciences excellently. The students are guided properly about programme requirements, presentations, scientific societies, and conferences. Survey of alumni, graduating students and employer were satisfactory with few concerns over computer knowledge, motivation and leadership abilities. Faculty and students are satisfied with working environment and published 17 research articles in journals of repute. During 2012-14, faculty won 7 research projects of that 3 external and four were internal. However, research students had complaints of lacking sophisticated laboratory equipment.

**List of courses offered**  
**Ph. D Zoology**

| <b>Course #</b> | <b>Course Title</b>                            | <b>Credit Hours</b> |
|-----------------|--|---------------------|
| BCH-751         | Advances in Biotechnology                      | 3(3-0)              |
| BOT-751         | Integrated Agrobiological Resources Management | 3(3-0)              |
| ZOOL-720        | Seminar-I                                      | 1(1-0)              |
| ZOOL-751        | Project Planning,, Monitoring and Evaluation   | 3(3-0)              |
| ZOOL-720        | Seminar-II                                     | 1(1-0)              |
| STAT-702        | Experimental Design and Computer Applications  | 3(2-2)              |

## FACULTY RESUMES

### 1. CURRICULUM VITAE

#### 1. Personal Data

Name: Dr. Muhammad Sajid Nadeem

Present Address: Associate Professor,  
Department of Zoology, Pir Mehr Ali Shah Arid Agriculture  
University, Murree road, Rawalpindi, Pakistan.

Telephone 0300-8539455

E-mail sajidnm@uair.edu.pk

#### 2. Academic Qualification

- Ph. D. in Zoology from University of the Punjab, specializing in wildlife. (Year 2005)  
*Thesis:* Ecology of Houbara Bustard (*Chlamydotis undulata macqueenii*) in Punjab  
Nag Valley (Balochistan) and Uzbekistan.
- Master of Science in Zoology from University of The Punjab, specializing in wildlife  
research and fieldwork (year 1994).  
*Thesis:* Behavioural patterns of Blue Peafowl (*Pavo cristatus*) in Changa Manga  
Wildlife Sanctuary.
- Bachelor of Science with Botany, Geography and Zoology from Islamia University  
Bahawalpur. (Year 1990)

#### 3. Area of Specialization: Wildlife / ecology / conservation

#### 4. HEC approved supervisor

#### 5. Professional Experience (Research and Teaching): 15 years

#### 6. Fellowship/Membership of Professional Associations/Societies: 05

#### 7. Research Projects; Completed=02; ongoing=01

#### 8. Participation in Conferences/Workshops: 23

#### 9. Supervision of Post-Graduate Theses: a) Ph.D.:3; b)M.Phil.: 17.

#### 10. Publications

- |  |    |
|--|----|
| a. Papers Published in Peer Reviewed Journals: | 56 |
| b. Books / proceedings:                        | 02 |
| c. Research/Technical Reports (Unpublished):   | 13 |

#### Publications during reported period (2013-2014)

- 1) Nighat, S; Iqbal, S; **Nadeem, M. S**; Mahmood, T. and Shah, S. I. 2013. Estimation of heavy metal residues from the feathers of Falconidae, Accipitridae, and Strigidae in Punjab, Pakistan. *Turk. J. Zool.* 37(4):488-500.
- 2) Mahmood, T; Usman-Ul-Hassan, S.M; **Nadeem, M.S**; and Kayani, A.R. 2013. Population and diet of migratory Common Starling *Sturnus vulgaris* wintering in agricultural areas of Sialkot District, Pakistan. *Forktail*, 29:102-103.
- 3) **Nadeem, M. S**; Mahmood, T; and Mahmood-ul-Hassan, M. 2014. Breeding success of Stone Curlew *Burhinus oedicephalus* in Nag Valley (1999-2001), Kharan, Pakistan. *Turk. J. Zool.* 38(4): 510-514.
- 4) Noreen, S; **Nadeem, M. S**; Beg, M. A; and Anwar, M. 2014. Seasonal variation in the reproductive tract of the Indian flying fox, *Pteropus giganteus* (Brünnich, 1782). *Animal Biology*, 64(4):343-364.
- 5) **Nadeem, M. S**; Zafar, S; Kayani, A. R; Mushtaq, M; Beg, M. A; and Nasir, M. F. 2013. Distribution and Roosting Habitats of Some Microchiropteran Bats in Rawalpindi District, Pakistan. *Pak. J. Zool.* 45(2):565-569.
- 6) Naqvi, S. R; Mushtaq, M; Beg, M. A; **Nadeem, M. S**; and Kayani, A. R. 2013. Dietary Habits of the House Rat (*Rattus rattus*) in Urban Rawalpindi, Pakistan. *Pak. J. Zool.* 45(2):531-536.
- 7) Mahmood, T; Niazi, F; and **Nadeem, M. S**. 2013. Diet composition of Asiatic Jackal (*Canis aureus*) in Margallah Hills National Park, Islamabad, Pakistan. *J. Anim. Plant Sci.* 23 (2):446-456.
- 8) Mirza, Z.S; **Nadeem, M. S**; Mirza, M. A; and Malik, I. 2013. Spatial and Temporal Fluctuations in the Physico-Chemical Limnology of Mangla Dam (Pakistan). *Pak. J. Zool.* 45(3):679-686.
- 9) Ali, S; Rakha, B.A; Hussain, I; **Nadeem, M. S**; and Rafique, M. 2013. Ecology of Feral Pigeon (*Columba livia*) in Urban Areas of Rawalpindi/Islamabad, Pakistan. *Pak. J. Zool.* 45(5):1229-1234.
- 10) Mushtaq, M; Kayani, A.R; **Nadeem, M. S**; and Beg, M.A. 2014. Distribution Pattern of Commensal Rodents in shops of Urban Rawalpindi. *Pak. J. Zool.* 46(6):1585-1589.
- 11) Mirza, Z.S; Mirza, M.R; **Nadeem, M. S**; and Sulehria, A.Q.K 2013. Revised Checklist of fishes of Mangla Reservoir, Pakistan. *Biologia (Pak)*. 59(1):1-6.

## 2) CURRICULUM VITAE

### 1. Personal Data

Name: **Dr. Farhana Riaz Chaudhry**

Present Address: Assistant Professor,  
Department of Zoology, Pir Mehr Ali Shah Arid Agriculture  
University, Murree road, Rawalpindi, Pakistan.

Telephone 03235069304

E-mail farhana\_ahmer@yahoo.com

### 2. Academic Qualification

| Year | Degree/Diploma      | Institute   |
|------|---------------------|---|
| 2007 | Ph.D (Zoology)      | University of Arid Agriculture, Rawalpindi-Pakistan |
| 1996 | M.Sc.(Zoology)      | Punjab University, Lahore-Pakistan                  |
| 1994 | B.Sc. (Pre-medical) | Punjab University, Lahore-Pakistan                  |

**3. Area of Specialization:** Human and veterinary Parasitology

**4. HEC approved supervisor**

**5. Professional Experience**(Research and Teaching): 06 years

**6. Fellowship/Membership** of Professional Associations/Societies: 04

**7. Research Projects;** Completed=02; On-going =01

**8. Participation in Conferences/Workshops:** 10

**9. Supervision of Post-Graduate** Theses: M.Phil.: 18. Ph.D: 04

### 10. Publications

Papers Published in Peer Reviewed Journals: 11

#### Publications during reported period (2013-2014)

1. Zainab Wahab, Amna Azad, Farhana Riaz Chaudhary (2014). Nematicidal Potential and Cuticular Alterations in Plant Treated *Haemonchus Contortus* Int J Indigenous Medicinal Plants

2. Rubaba Hamid Shafique, Pavel B. Klimov, Muhammad Inam, Farhana Riaz Chaudhary, Barry M. OConnor Group 1 Allergen Genes in Two Species of House Dust Mites, *Dermatophagoides farinae* and *D. pteronyssinus* (Acari:Pyroglyphidae): Direct Sequencing, Characterization and Polymorphism (2014).PLOS ONE
3. Amna Azad, Zainab Wahab, Farhana Riaz Chaudhary (2014). Invitro evaluation of flukicidal property of medicinal plants and his histomorphological alterations. Global Science and Technology Forum.
4. Lubna Saleem, Rukhshanda Munir, Manzoor Hussain, Giancarlo Ferrari, Muhammad Afzal, F. R. Chaudhry. (2014).Efficacy and cross-protectivity of live intranasal aerosol Hemorrhagic Septicemia vaccine in buffalo calves. Int.J.Curr.Microbiol.App.Sci.
5. Shumaila Naz, Dilwar Abbas Rizvi, Amara Javaid, Muhammad Ismail, F. R. Chaudhry (2013).Validation of PCR Assay for Identification of *Sarcoptes scabiei* var. *hominis*. Iranian J Parasitol



### 3. CURRICULUM VITAE

#### 1. Personal Data

Name: Dr. Amjad Rashid Kayani

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University, Murree road, Rawalpindi, Pakistan.

Telephone 0332- 5268134

E-mail a.r.kayani@uaar.edu.pk

#### 2. Academic Qualification

- **Ph.D.** (Zoology) 2006 The University of Reading, UK
- **M.Sc.** (Zoology) 1988 University of Agriculture, Faisalabad  
(Marks obtained 751 out of 920; 83%; **Ist Div.**; **CGPA 3.93**)
- **B.Sc.** (Zoology, Botany & Geography) 1985 Govt. Postgraduate  
College Jhelum, The University of Punjab, Lahore  
(Marks obtained 496 out of 800; 62%; **Ist Div.**)

**3. Area of Specialization:** Animal ecology, behavior and reproductive biology

**4. HEC approved supervisor:** Yes

**5. Professional Experience** (Research and Teaching): 25 years

**6. Fellowship/Membership** of Professional Associations/Societies: 01

**7. Research Projects;** Completed=01; ongoing=01

**8. Participation in Conferences/Workshops:** 06

**9. Supervision of Post-Graduate** Theses: a) Ph.D.:2 (in progress); b) M .Phil.: 08.

#### **Distinctions:**

- **University Distinction:** Stood first in the order of merit among all students who qualified for M.Sc. Zoology during calendar year 1988, The University of Agriculture, Faisalabad

- **University Merit Scholarship**, The University of Agriculture Faisalabad, 1986-87 and 1987-88
- **TROSS Scholarship** from Ministry of Science & Technology, Government of Pakistan (2001) for PhD study in UK

## 10. Publications

Papers Published in Peer Reviewed Journals:

10

### Publications during reported period (2013-2014)

- Mahmood, T., Jabeen, K., Hussain, I. and **Kayani, A. R.** 2013. Plant species association, burrow characteristics and the diet of the Indian pangolin, *Manis crassicaudata*, in the Potohar Plateau, Pakistan. *Pakistan Journal of Zoology*, 45(6): 1533 - 1539
- Mahmood, T., Usman-ul-Hassan, S.M., Nadeem, M. S and **Kayani, A. R.** 2013. Population and Diet of migratory Common Starling *Sturnus vulgaris* wintering in agricultural areas of Sialkot district, Pakistan. *The Forktail*, 29: 143-144
- Nadeem, M.S., Zafar, S., **Kayani, A. R.**, Mushtaq, M., Beg, M.A. and Nasir, M.F. 2013. Distribution and roosting habitats of some microchiropteran bats in Rawalpindi District, Pakistan. *Pakistan Journal of Zoology*, 45(2): 565-569
- Naqvi, S.R., Mushtaq, M., Beg, M.A., Nadeem, M.S. and **Kayani, A. R.** 2013. Dietary habits of the house rat (*Rattus rattus*) in Urban Rawalpindi, Pakistan. *Pakistan Journal of Zoology*, 45(2): 531-536
- Mushtaq, M; **Kayani, A.R**; Nadeem, M.S. and Beg, M.A. 2014. Distribution Pattern of Commensal Rodents in Shops of Urban Rawalpindi, Pakistan. *Pakistan Journal of Zoology*, 46(6): 1585- 1589.

## 4. CURRICULUM VITAE

### 1. Personal Data

Name: Dr. Mazhar Qayyum

Present Address: Professor,  
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### 2. Academic Qualification

| DEGREE         | YEAR | SUBJECTS                  | INSTITUTIONS   |
|----------------|------|---------------------------|--|
| Post Doctorate | 2003 | Parasitology              | Louisiana State University, USA                                |
| Ph.D           | 1997 | Parasitology              | Quaid-I-Azam University, Islamabad, Pakistan                   |
| M.Phil         | 1991 | Parasitology              | Quaid-I-Azam University, Islamabad, Pakistan                   |
| M.Sc           | 1989 | Biology (Animal Sciences) | Quaid-I-Azam University (Animal Sciences), Islamabad, Pakistan |

### 3. Area of Specialization: Parasitology

### 4. HEC approved supervisor

5. Professional Experience (Research and Teaching): 19 years

6. Fellowship/Membership of Professional Associations/Societies: 03

7. Research Projects; Completed=04

8. Participation in Conferences/Workshops: 20

9. Supervision of Post-Graduate Theses: a) Ph.D.:10; b)M.Phil.: 23.; M. Sc. 13

### 10. Publications

Papers Published in Peer Reviewed Journals: 47

#### Publications during reported period (2010-2012)

1. MUHAMMAD BILAL ANWAR, RODNEY JACKSON, MUHAMMAD SAJID NADEEM, JAN E. JANECKA, SHAFQAT HUSSAIN, MIRZA AZHAR BEG, GHULAM MUHAMMAD, MAZHAR QAYYUM, 2011. Food habits of the snow leopard *Panthera uncial* (Schreber, 1775) in Baltistan, Northern Pakistan. **Eur J**

- Wildl Res**, DOI 10.1007/s10344-011-0521-2
2. ATIF KAMAL, **MAZHAR QAYYUM**, IQBAL U CHEEMA AND AUDIL RASHID, 2011. Biological Monitoring of Blood Naphthalene Levels as a Marker of Occupational Exposure to PAHs among Auto-Mechanics and Spray Painters in Rawalpindi. Kamal et al. **BMC Public Health** 2011, 11:467
  3. IRFAN, M., RAJA, G. K., MURTAZA, S., MANSOOR, R., **QAYYUM, M.** AND RIZVI, S.S.R. Physical stress may result in growth suppression and pubertal delay in working boys. **J. Med. Hypotheses Ideas**. 5(25): 2011.
  4. HAROON AHMED, BUSHRA MIRZA, QASIM KHAN, WASEEM SAFDAR AND **MAZHAR QAYYUM**. Seroprevalence of hypodermosis (*Hypoderma lineatum*) in the cattle of potohar region, Pakistan. **International Journal of Cell and Molecular Biology** 2(2):497-510, 2011.
  5. HAROON AHMED, RIAZ KHAN, ROSARIO PANADERO-FONTAN, CEFERINO LOPEZ SANDES, MUHAMMAD FAROOQ IQBAL, SYED MUHAMMAD SQLAN NAQVI, **MAZHAR QAYYUM**, 2012. Geographical Distribution of Hypodermosis (*Hypoderma* sp.) in Northern Punjab, Pakistan. **Kafkas Univ. Vet. Fak. Derg** 18(suppl-A) A215-A219, 2012.
  6. NAUSHEEN IRSHAD, **M.QAYYUM**, M.HUSSAIN AND M.QASIM KHAN, 2010. Prevalence of Tick Infestation and Theileriosis in Sheep and Goats. **Pak Vet J**, 30(3): 178-180.
  7. SAIRA MUFTI, M. MAQBOOL AHMAD, YUSUF ZAFAR AND **MAZHAR QAYYUM, 2011**. Phenotypic Analysis of Adult *Fasciola* spp. From Potohar Region of Northern Punjab, Pakistan. **Pakistan J. Zool.**, vol. 43(6), pp. 1069-1077, 2011
  8. MUHAMMAD BILAL ANWAR, MUHAMMAD SAJID NADEEM, AMJAD RASHID KAYANI AND **MAZHAR QAYYUM, 2011**. Is Mammalian Hair Fiber Analysis by Optical Fiber Diameter Analyzer Helpful to Identify Prey from Scats of Carnivores? **Pakistan J. Zool.**, vol. 43(6), pp. 1218-1220, 2011.
  9. Z. S. MIRZA, M. S. NADEEM, M. A. BEG AND **MAZHAR QAYYUM, 2012**. Population Status and Biological Characteristics of Common Carp, *Cyprinus Carpio*, in Mangla Reservoir (Pakistan). **The Journal of Animal & Plant Sciences**, 22(4):2012, Page: 933-938.

## 5. CURRICULUM VITAE

### 1. Personal Data

Name: Dr. Shamim Akhtar

Present Address: Associate Professor,

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E-mail: [sashraf1993@gmail.com](mailto:sashraf1993@gmail.com)

### 2. Academic Qualification

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|    |                                   |  |             |
|----|-----------------------------------|--|-------------|
| 1. | <b>Ph.D. (Zoology)</b>            | University of Arid Agriculture, Rawalpindi | <b>2006</b> |
| 2  | <b>M.Phil. (Zoology)</b>          | University of Agriculture, Faisalabad.     | <b>1991</b> |
| 3  | <b>M.Sc. (Zoology)</b>            | University of Agriculture, Faisalabad.     | <b>1987</b> |
| 4  | <b>B.Sc (Zool, Bot,<br/>Chem)</b> | University of the Punjab, Lahore           | <b>1985</b> |

**Post Doctoral Fellowship** : Commonwealth Post Doctoral Fellowship at  
“The Royal Veterinary College, University  
of London, UK. 2009

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### 3. Area of Specialization: Reproductive Physiology

### 4. HEC approved supervisor

5. Professional Experience (Research and Teaching): 15 years

6. Fellowship/Membership of Professional Associations/Societies: 02

7. Research Projects; Completed=06; ongoing=01

8. Participation in Conferences/Workshops: 20

9. Supervision of Post-Graduate Theses: a) Ph.D.:1; b) M.Phil.: 23; M.Sc. 20.

10: International collaborations = Three institutes/universities

### 11. Publications

Papers Published in Peer Reviewed Journals: 50

### Publications during reported period (2010-2012)

- 1.** Ansari, M. S., B. A. Rakha, S. M.H. Andrabi, N.Ullah, R. Iqbal, W. V. Holt, **Shamim Akhter**. 2012. Glutathione-supplemented tris-citric acid extender improves the post-thaw quality and in vivo fertility of buffalo (*Bubalus bubalis*) bull spermatozoa. *Reproductive Biology*, 12: 271-276. (*Impact factor: 1.222*)
- 2.** **Shamim Akhter**, M. S. Ansari, B. A. Rakha, N. Ullah, S. M. H. Andrabi and M. Khalid. 2012. *In vitro* evaluation of liquid-stored buffalo semen at 5°C diluted in soya lecithin based extender (Bioxcell®), tris-citric egg yolk, skim milk and egg yolk-citrate extenders. *Reproduction in Domestic Animals*, 46(1): 45-49. (*Impact factor: 1.392*)
- 3.** **Shamim Akhter**, M. S. Ansari, S. M. H. Andrabi, B. A. Rakha, N. Ullah, M. Khalid. 2011. Soya-lecithin in extender improves the freezability and fertility of buffalo (*Bubalus bubalis*) bull spermatozoa. *Reproduction in Domestic Animals*, 47: 815-819. (*Impact factor: 1.392*)
- 4.** **Shamim Akhter**, M. S. Ansari, B. A. Rakha, S. M. H. Andrabi, N. Ullah and M. Khalid. 2011. Effect of low density lipoproteins in extender on freezability and fertility of buffalo (*Bubalus bubalis*) bull semen. *Theriogenology*, 76(4): 759-764. (*Impact Factor: 2.082*)
- 5.** Ansari, M. S., B. A. Rakha, S. M. H. Andrabi and **Shamim Akhter**. 2011. Effect of straw size and thawing time on quality of cryopreserved buffalo (*Bubalus bubalis*) semen. *Reproductive Biology*, 11(1): 49-54. (*Impact factor: 1.222*)
- 6.** **Shamim Akhter**, M. S. Ansari, B. A. Rakha, S. M. H. Andrabi and N. Ullah. 2010. Cryopreservation of buffalo (*Bubalus bubalis*) semen in Bioxcell® extender. *Theriogenology*, 74: 951-955. (*Impact Factor: 2.082*)
- 7.** Ansari, M. S., B. A. Rakha, N. Ullah, S. M. H. Andrabi, S. Iqbal, M. Khalid and **Shamim Akhter**. 2010. Effect of exogenous glutathione in extender on the freezability of Nili-Ravi buffalo (*Bubalus bubalis*) bull spermatozoa. *Animal Science Papers and Reports*, 28: 235-244. (*Impact factor: 0.918*)
- 8.** Ansari, M. S., B. A. Rakha and **Shamim Akhter**. 2011. Effect of L-cysteine in extender on post-thaw quality of Sahiwal bull semen. *Animal Science Papers and Reports*, 29: 197-203. (*Impact factor: 0.918*)

- 9.** Ansari, M. S., B. A. Rakha, S. M. H. Andrabi and **Shamim Akhter**. 2010. Usefulness of powdered and fresh egg yolk for cryopreservation of Zebu bull spermatozoa. *Reproductive Biology*, 10(3): 235-240. (*Impact factor: 1.222*)
- 10.** **Shamim Akhter**, B. A. Rakha, M. S. Ansari. 2010. Comparison of egg yolks from three avian species in extender for cryopreservation of Sahiwal bull epididymal spermatozoa. *Animal Science Papers and Reports*, 29: 131-138 (*Impact factor: 0.918*)
- 11.** Batool, K. Mehboob, S. Qadeer, M. S. Ansari, B. A. Rakha, N. Ullah, S. M. H. Andrabi, **Shamim Akhter**. 2012. Effect of  $\alpha$ -tocopherol acetate and ascorbic acid in extender on quality of Zebu bull spermatozoa. *Pakistan Journal of Zoology*, 44 (6): 1487-1491. (*Impact Factor: 0.309*)
- 12.** N. A. Qureshi, M. S. Ansari, **Shamim Akhter**, A. A. Khan, I. Hussain and B. A. Rakha. 2012. Feeding Habits of Common Quail (*Coturnix coturnix*) migrating through Rawalpindi, Pakistan. *Pakistan Journal of Zoology*, 44 (6): 1760-1762. (*Impact Factor: 0.309*)
- 13.** Mehmood, A., M. S. Ansari, **Shamim Akhter**, A. A. Khan, I. Hussain, Shams-ul-Hassan, T. Z. Qureshi and B. A. Rakha. 2012. Occurrence of Pathogenic bacteria in small mammals-inhabiting poultry farms of Rawalpindi/Islamabad, Pakistan. *Pakistan Journal of Zoology*, 44(4): 1185-1187. (*Impact Factor: 0.309*)
- 14.** Mehmood, A., M. S. Ansari, T. Hussain, **Shamim Akhter**, S. A. Khan, S. Hassan, A. A. Khan and B. A. Rakha. 2012. Common shrew (*Suncus murinus*): A potential reservoir of pathogenic bacteria at poultry farms, Rawalpindi, Pakistan. *Pakistan Journal of Zoology*, 44(3): 879-880. (*Impact Factor: 0.309*)
- 15.** Atiq, N., N. Ullah, S. M. H. Andrabi and **Shamim Akhter**. 2011. Comparison of Photometer with Improved Neubauer Hemocytometer and Makler Counting Chamber for Sperm Concentration Measurement in Cattle. *Pak Vet J*, 31(1): 83-84. (*Impact Factor: 1.365*)
- 16.** Ansari M. S., B. A. Rakha, **Shamim Akhter**. 2011. Effect of butylated hydroxytoluene in extender on motility, plasmalemma and viability of Sahiwal Bull Spermatozoa. *Pakistan Journal of Zoology*, 43: 311-314. (*Impact Factor: 0.309*)

- 17.** Ansari, M. S., B. A. Rakha, N. Ullah, S. M. H. Andrabi and **Shamim Akhter**. 2011. Glutathione addition in *tris*-egg yolk extender improves the quality of cooled buffalo (*Bubalus bubalis*) bull semen. Pakistan Journal of Zoology, 43: 46-55. (*Impact Factor: 0.309*)
- 18.** Ansari, M. S., B. A. Rakha, N. Ullah, S. M. H. Andrabi, M. Khalid and **Shamim Akhter**. 2011. Effect of L-cysteine in *tris*-citric egg yolk extender on post thaw quality of Nili-Ravi buffalo (*Bubals bubalis*) bull spermatozoa. Pakistan Journal of Zoology, 43: 41-47. (*Impact Factor: 0.309*)
- 19.** **Shamim Akhter**, B. A. Rakha, M. S. Ansari, S. M. H. Andrabi and N. Ullah. 2011. Effect of glucose supplementation in skim milk diluter on motility, plasma membrane and acrosomal integrity of Nili-Ravi buffalo bull spermatozoa stored at 5°C. Pakistan Journal of Zoology, 43(1): 291-294. (*Impact Factor: 0.309*)
- 20.** **Shamim Akhter**, B. A. Rakha, M. S. Ansari, S. M. H. Andrabi and N. Ullah. 2011. Storage of Nili-Ravi Buffalo (*Bubalus bubalis*) Semen in Skim Milk Extender Supplemented with Ascorbic Acid and  $\alpha$ -Tocopherol. Pakistan Journal of Zoology, 43(1): 273-277. (*Impact Factor: 0.309*)
- 21.** Mehmood, A., M. S. Ansari, T. Hussain, **Shamim Akhter**, S. A. Khan, S. Hassan, A. A. Khan and B. A. Rakha. 2011. Bandicoot rat (*Bandicota bengalensis*): A novel reservoir of pathogenic bacteria at poultry farms, Rawalpindi/Islamabad, Pakistan. Pakistan Journal of Zoology, 43(1): 201-202. (*Impact Factor: 0.309*)
- 22.** **Shamim Akhter**, M. S. Ansari, B. A. Rakha, S. M. H. Andrabi M. Anwar and N. Ullah. 2010. Effect of fructose addition in skim milk extender on the quality of liquid Nili-Ravi buffalo (*Bubalus bubalis*) semen. Pakistan Journal of Zoology, 42: 227-231. (*Impact Factor: 0.309*)
- 23.** Begum I, A Azim, S Akhter, MI Anjum and M Afzal, 2010. Mineral dynamics of blood and milk in dairy buffaloes fed on calcium and phosphorus supplementation. Pakistan Veterinary Journal, 30(2): 105-109. (*Impact Factor: 1.365*)
- 24.** Ansari, M. S., B. A. Rakha, S. M. H. Andrabi, N. Ullah and **Shamim Akhter**. 2010. Cryopreservation of Sahiwal bull epididymal spermatozoa. Pakistan Journal of Zoology, 42: 241-243. (*Impact Factor: 0.309*)



## 6. CURRICULUM VITAE

### 1. Personal Data

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### 2. Academic Qualification

Ph.D. \_ Ecology (2009)  
Institute of Zoology, Department of Integrative Biology and Biodiversity Research.  
Universität für Bodenkultur Wien, Austria.  
M.Sc. \_ Zoology (2004)  
University of Agriculture, Faisalabad, Pakistan.  
B.Sc. \_ Zoology, Botany & Geography (2002)  
University of Punjab, Lahore, Pakistan.

**3. Area of Specialization:** Fisheries / Ecology

**4. HEC approved supervisor**

**5. Professional Experience** (Research and Teaching): 07 years

**6. Fellowship/Membership** of Professional Associations/Societies: 02

**7. Research Projects;** Completed=03; ongoing=01

**8. Participation in Conferences/Workshops:** 14

**9. Supervision of Post-Graduate Theses:** a) M.Phil: 14.

**10. Publications = 04                      Abstract = 05**