

Pir Mehr Ali Shah
Arid Agriculture University, Rawalpindi



Self-Assessment Report (2010-12)

Department of Botany

(PhD Botany)

Programme Self-Assessment Team

- **Prof. Dr. Muhammad Arshad (Coordinator)**
- **Dr. Noshin Ilyas (Member)**
- **Zia-ur-Rehman Mashwani (Member)**

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Introduction

Department of Botany, PMAS Arid Agriculture Rawalpindi, is one of the leading department regarding academic and research activities. Ph.D is the highest degree programme initiated in 2001. At present number of Ph.D scholars is 25. Scholars are actively involved in research activities. The number of passed out doctoral students is 10 so far. The Department is incessantly following HEC's recommendations for impost and updation of its activities.

As per rule of HEC PhD scholars have to complete course work followed by synopsis defense and approval before starting research work in labs. PhD scholars are working on diverse and multidisciplinary aspects of plant sciences including plant genome, taxonomy, ethnobotany, phytochemistry, stress physiology and genetic transformation. PhD students have also availed indigenous scholarship programme of HEC for smooth running of research work. PhD scholars are motivated and encouraged by faculty members to participate in conferences workshops and other scientific gatherings in order to share their achievements as well as to learn new techniques and insights from local and foreign experts. Furthermore PhD scholars have availed IRSIP programme of HEC and visited different countries including USA UK Germany etc. This programme has made it possible to introduce latest techniques and approaches in their research. PhDs also publish one research paper as per requirement of degree.

The department also has dedicated and hardworking faculty comprising of 10 teachers. Out of them 7 are Ph.D, 2 are almost near to completion of their Ph.D and one is M.Phil. All faculty members are highly motivated and actively involved in research activities and academic progress. An extensive scheme of studies has been developed for this degree program in the field of Botany including all major aspects such as ecology, genetics, physiology, taxonomy, anatomy, molecular biology of plants and biochemistry. Opportunities also exist for students to do independent research or assist in faculty research projects on campus. Faculty in the Department of Botany is involved in collaborative research projects from HEC. Students have opportunities to participate in independent research projects in state-of-the-art faculty research laboratories, or research field sites.

SECTION 1

Components of Self-Assessment Process:

This Self-Assessment has been prescribed on the cradle of the eight criteria described in self-Assessment Manual. The Self-Assessment Report (SAR) contains eight sections. The first section outlines the program mission and objectives. Section 2 provides information about the curriculum development. Section 3 enlists the laboratories and other relevant information followed by student support and guidance. The last four sections provide information about student support, process control, faculty characteristics and institutional facilities and support provided by the university.

Criterion-1: Program Mission, Objectives and Outcomes

Introduction

The department of Botany is actively progressing towards wide range of careers by producing quality researchers in the form of Ph.Ds. Backbreaking exploration activities are in progress under plentiful research project funded by projecting donor establishments including University itself.

Standards 1-1: Documented measurable objectives

Mission of the Program:

Our mission is to acquire the PhD scholars a sound background and skills necessary for careers as university teachers and researchers.

We typically engage PhD scholars in dissertation research and seminars participation.

Objectives

1. Build up the Department on modern lines for education and research at Ph.D level.
2. Impart practical knowledge and scientific skills in the concerned subject by employing advanced analytical approaches.
3. Broaden the vision of students.
4. Planning for current and future researchable issues along with attachment to the latest teaching & research methods

Outcomes:

1. Department was strengthened by planning the time needed education and research for Ph. D students.

2. Ph.D. scholars were imparted practical knowledge using advanced analytical techniques.
3. Integration was achieved through interviews, discussion on latest developments in the field and translation in applied research projects/thesis research.
4. Updating of curricula was done to achieve the objective of anticipation of new teaching/researchable areas.

Main elements of strategic plan to achieve mission and objectives:

- Growth of sound training system based on consultation from world reviews, writing, inventive, measures, symposia, workshops, etc for the award of degrees to these students.
- Frequent planning for updating the curricula of core &, elective subjects and specialized areas.
- Improving the research labs. equipping with up to date facilities and equipments.
- Publication of research data in scientific journals of world repute, books and other literature.

Sr. #	Objectives	How Measured	When Measured	Improvement Identified	Improvement Made
1.	Development & Strengthening of Department	On the basis of availability of latest research facilities and practical application of new technology	It is a continuous process as per requirement	Teaching and research methodology is needed to be improved	Teaching and research methods have been revised in order to make them more attractive and understandable
2.	To impart practical / applied knowledge to the Doctorate scholars.	Through the semester, oral, Written and oral comprehensive examinations.	During their Doctorate research and comprehensive examinations	New research facilities are needed to be included	Improvement in research
3.	Integration of related field	By examining the students in integration of the things or different aspects	During semester and comprehensive exams. And research activity	New research areas	Better research and publications
4.	During semester and comprehensive exams. And research activity	With the need of current advancement in the relevant area	Continuous activity	Time need based new courses research problems are needed to be included	Approval of new research areas has been accorded

Programme outcomes and their relationship with objectives

Outcomes	Objectives			
	1	2	3	4
1	+++	+++	+++	+++
2	++	+++	+++	+++
3	+++	++	++	+++
4	+++	+++	+++	++

+ = Moderately satisfactory, ++ = Satisfactory, +++ = Highly satisfactory

Meeting Standards 1-2: Program Outcome Measurement

A number of assessments based on the SAR questionnaires were commenced to assess the Program outcomes/ graduates of the department and teacher's evaluation. Maximum students filled the survey forms.

Program Assessment Results:

The outcomes of Program assessment by the SAR are presented in graphical method. However, the inclusive outcomes show that the students are contented with the Program and method of teaching.

Student Course Evaluation

Maximum of the students favor almost the course contents of each course, their prospect and applications in daily life beside with the presentation by the concerned tutor. The outcomes of this survey are presented graphically, which are affixed.

Ph. D

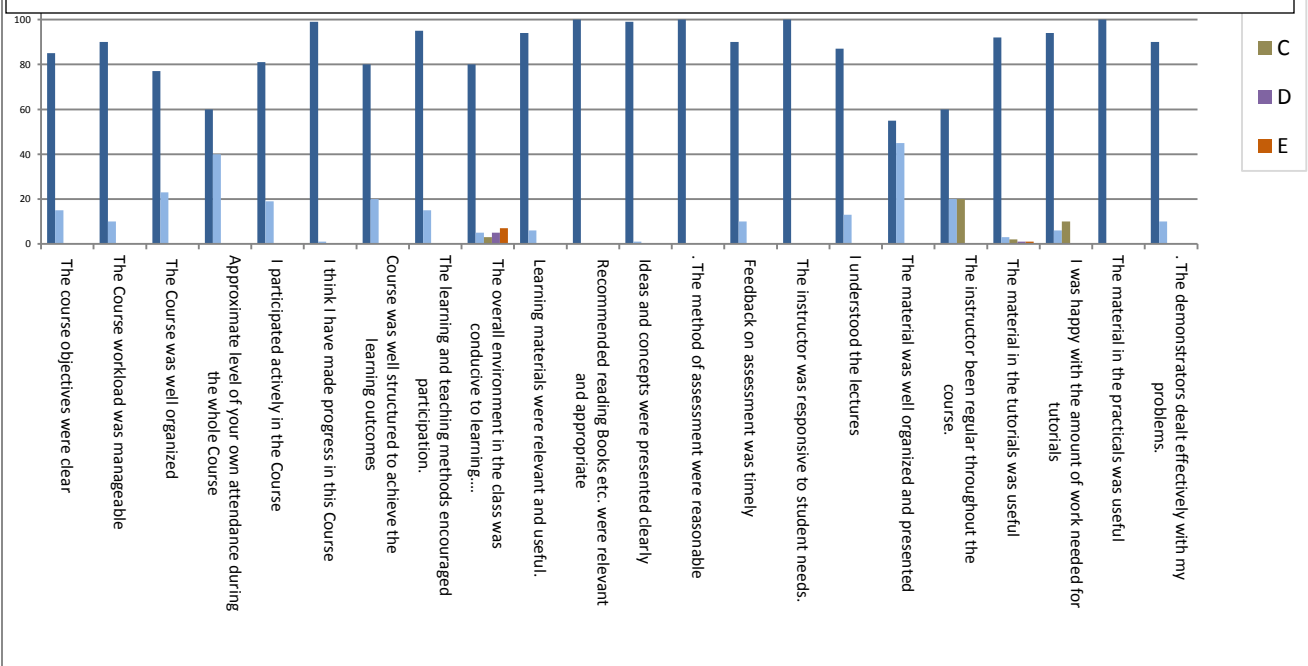
Students Course Evaluation

FALL 2012



Pir Mehr Ali Shah
Arid Agriculture University
Performa 1

Teacher Name: M. Naveed Iqbal
Course Name: Integrated Biological Resource Management
Session Name: FALL-12
Section: A M/E: M Semester# 1
Class: Ph.D (Botany)



General Comments of the Students about this Course

Weaknesses: Student indicated no significant weakness.

Strengths: The tutor showed reasonable attitude and communication skill and delivered the course objective. Workload was manageable.

SPRING 2013

Session Name: SPRING-13

Teacher Name: M. Naveed Iqbal

Course Name: Principles of Genome Analysis and Genomics

Section: A M/E: M Semester# 1

Class: Ph.D (Botany)



**Pir Mehr Ali Shah
Arid Agriculture University**

Performa 1

Print Date: Nov. 12, 2014

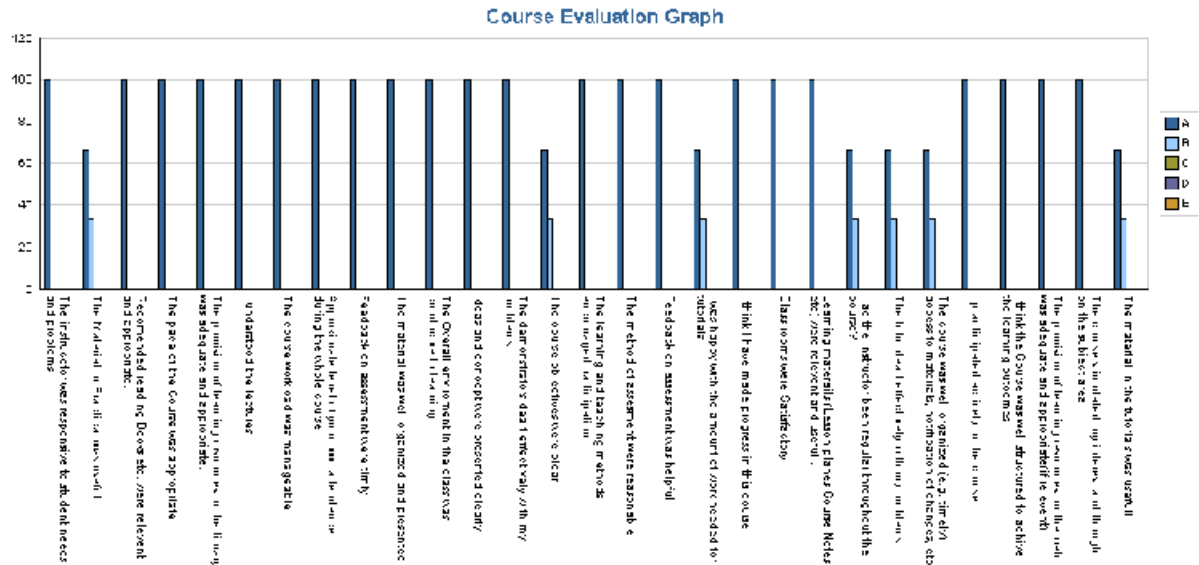
Session Name: SPRING-13

Teacher Name: Rahmatullah Qureshi

Course Name: Applied Ethnobotany

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

Class: Ph.D (Botany)



General Comments of the Students about this Course

Weaknesses: Graph depicts no weakness in course structure and management.

Strengths: The instructor offering active approach and statement skill, believed in student Involvement

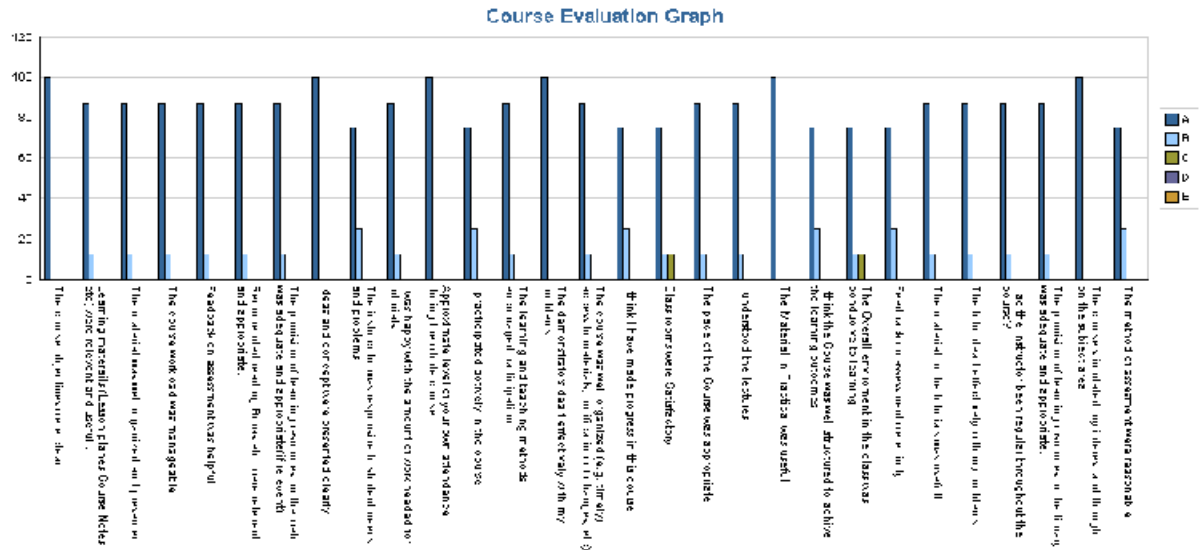
Session Name: SPRING-13

Teacher Name: YAMIN BIBI

Course Name: Seminar-II

Section: A M/E: M Semester# 2

Class: Ph.D (Botany)



General Comments of the Students about this Course

Weaknesses: Figure indicates no weakness.

Strengths: The tutor delivered the course objectives in good manner and tried to solve out the difficulties of students.

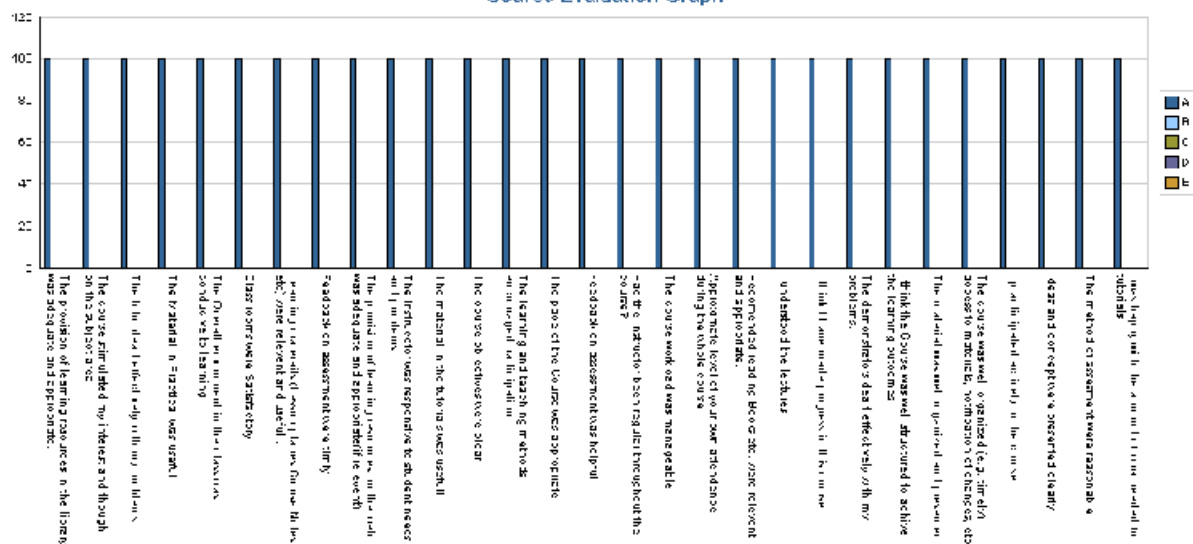


**Pir Mehr Ali Shah
Arid Agriculture University**
Performa 1

Print Date: Nov. 12, 2014

Session Name: SPRING-13
Teacher Name: M. Naveed Iqbal
Course Name: Integrated Biological Resource Management
Section: A **M/E:** M **Semester#** 2
Class: Ph.D (Botany)

Course Evaluation Graph



General Comments of the Students about this Course

Weaknesses: No weakness indicated by students.

Strengths: The tutor showed reasonable attitude and communication skill for learning outcomes, included recent materials in the course subjects, and remained regular.

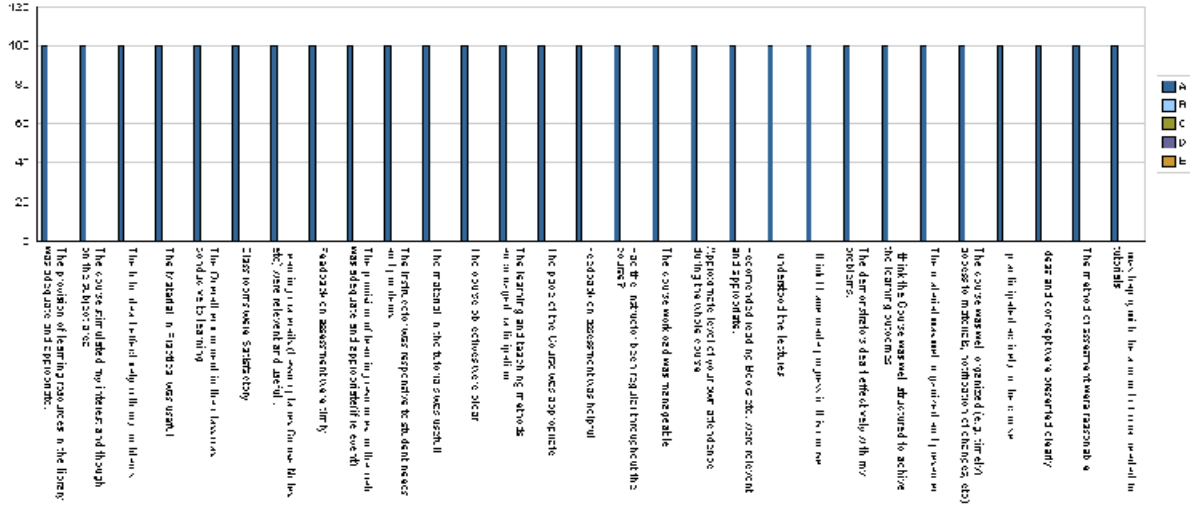


**Pir Mehr Ali Shah
Arid Agriculture University
Performa 1**

Print Date: Nov. 12, 2014

Session Name: SPRING-13
Teacher Name: M. Naveed Iqbal
Course Name: Integrated Biological Resource Management
Section: A **M/E:** M **Semester#** 2
Class: Ph.D (Botany)

Course Evaluation Graph



General Comments of the Students about this Course

Weaknesses: Figure indicates no weakness.

Strengths: The tutor delivered the course objectives in good manner and tried to solve out the difficulties of students.



**Pir Mehr Ali Shah
Arid Agriculture University**

Performa 1

Print Date: Nov. 12, 2014

Session Name: SPRING-13

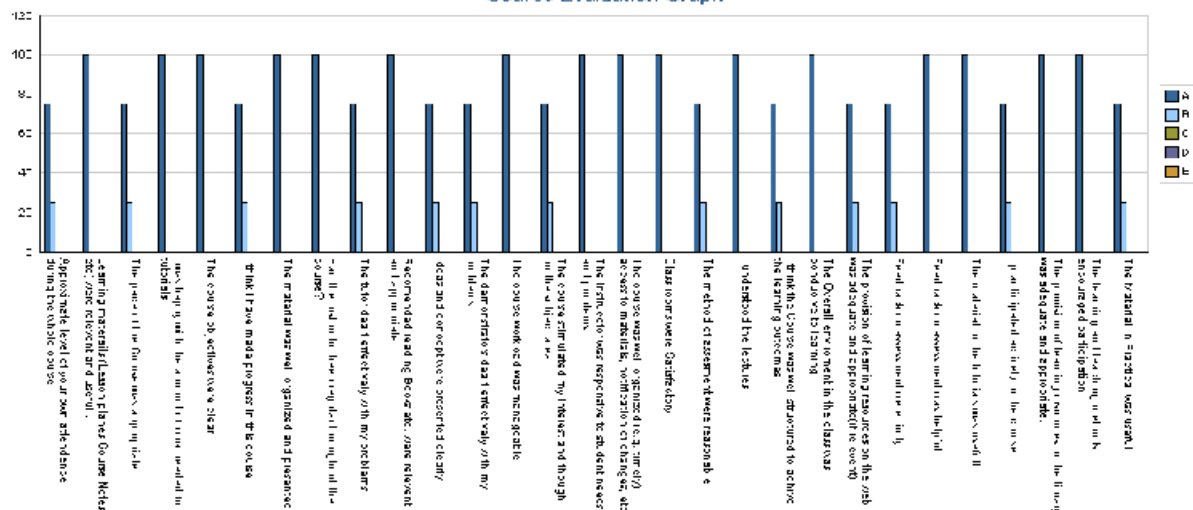
Teacher Name: YAMIN BIBI

Course Name: Conservation and Management of Plant Resources

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

Class: Ph.D (Botany)

Course Evaluation Graph



General Comments of the Students about this Course

Weaknesses: No weakness indicated.

Strengths: The tutor showed reasonable conduct and statement skill, confirmed participation of students in class discussion, included recent materials in the course subject.



Pir Mehr Ali Shah Arid Agriculture University

Performa 1

Print Date: Nov. 12, 2014

Session Name: SPRING-13

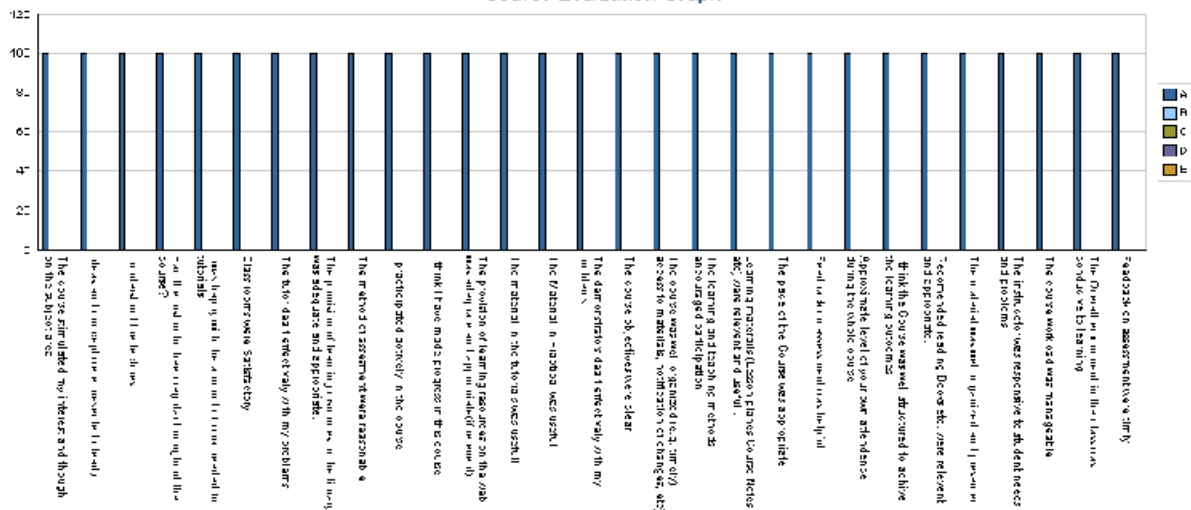
Teacher Name: Rahmatullah Qureshi

Course Name: Applied Ethnobotany

Section: A M/E: M Semester# 4

Class: Ph.D (Botany)

Course Evaluation Graph



General Comments of the Students about this Course

Weaknesses: Student indicated no weakness.

Strengths: The tutor showed reasonable attitude and communication skill and delivered the course objective. Workload was manageable.



**Pir Mehr Ali Shah
Arid Agriculture University**

Performa 1

Print Date: Nov. 12, 2014

Session Name: SPRING-13

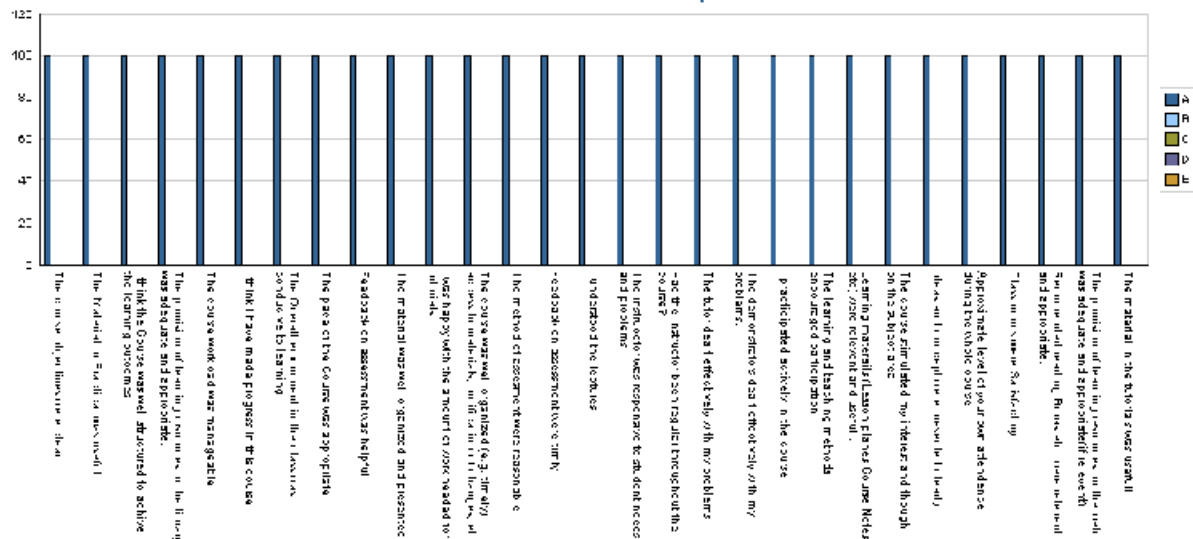
Teacher Name: M. Naveed Iqbal

Course Name: Principles of Genome Analysis and Genomics

Section: A **M/E:** M **Semester#** 4

Class: Ph.D (Botany)

Course Evaluation Graph



General Comments of the Students about this Course

Weaknesses: No significant weakness indicated.

Strengths: Teacher established contribution of students in class discussion, included recent materials in the course subject.



Pir Mehr Ali Shah Arid Agriculture University

Performa 1

Print Date: Nov. 12, 2014

Session Name: SPRING-13

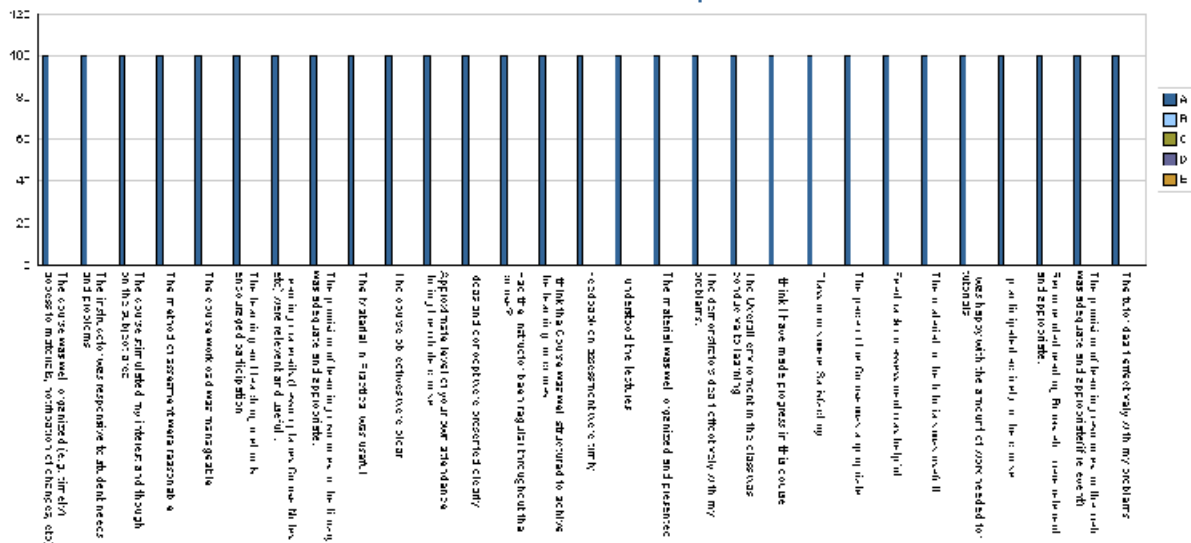
Teacher Name: Noshin Ilyas

Course Name: Stress Physiology

Section: A M/E: M Semester# 2

Class: Ph.D (Botany)

Course Evaluation Graph



General Comments of the Students about this Course

Weaknesses: No weakness indicated by students.

Strengths: The tutor showed reasonable attitude and communication skill for learning outcomes, included recent materials in the course subjects, and remained regular.

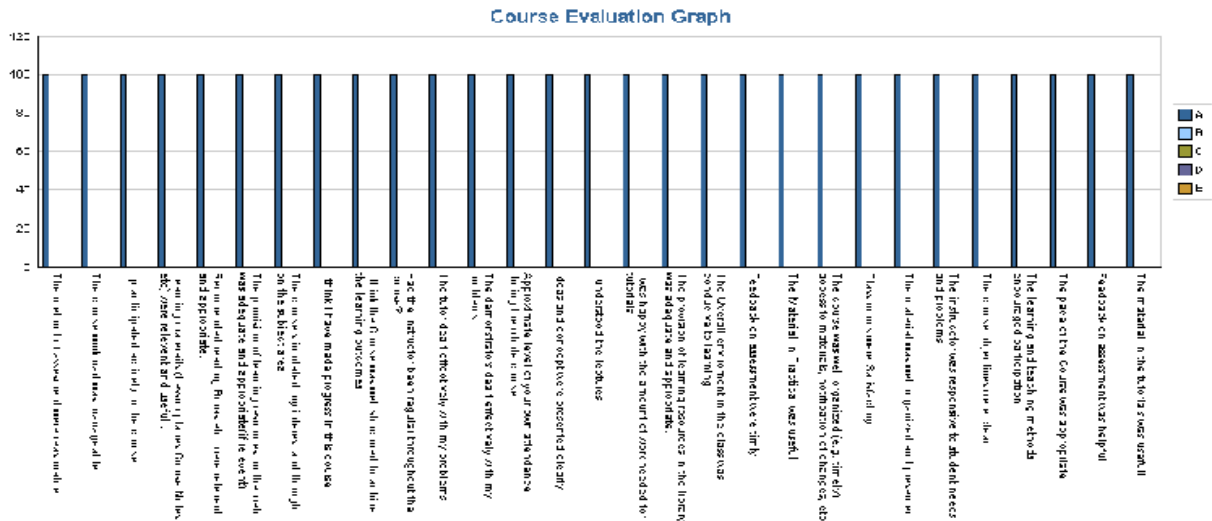
FALL 2013



**Pir Mehr Ali Shah
Arid Agriculture University
Performa 1**

Print Date: Nov. 12, 2014

Session Name: FALL-13
Teacher Name: M. Naveed Iqbal
Course Name: Integrated Biological Resource Management
Section: A **M/E:** M **Semester#** 1
Class: Ph.D (Botany)



General Comments of the Students about this Course

Weaknesses: Students indicated no weakness.

Strengths: The tutor showed sensible attitude and workload was manageable. Course was well organized. Teacher established contribution of students in class discussion and included recent materials in the course subjects.

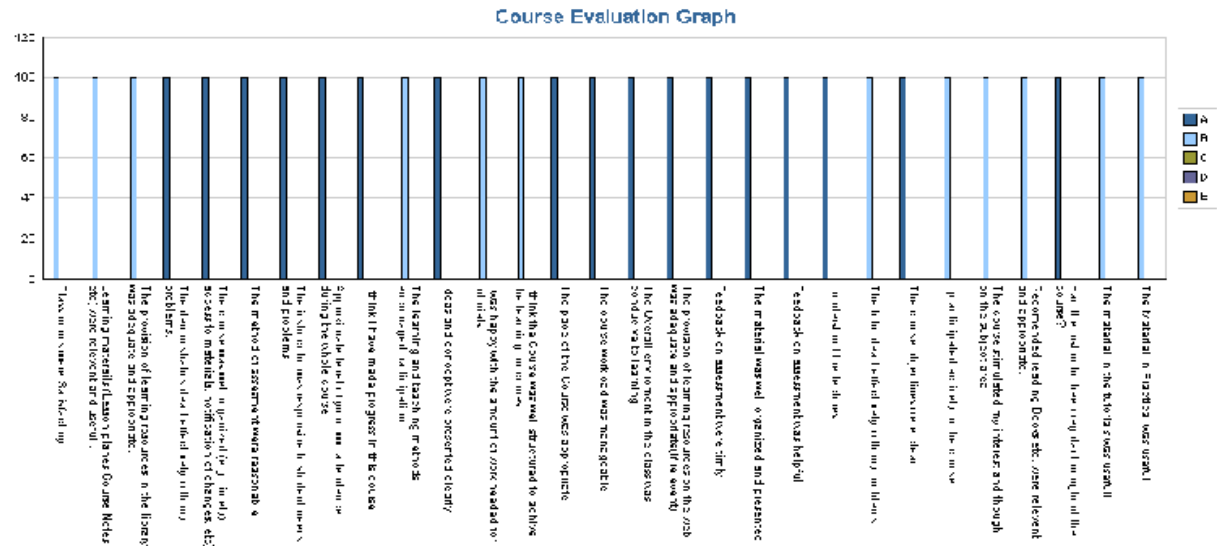
SPRING 2014



**Pir Mehr Ali Shah
Arid Agriculture University**
Performa 1

Print Date: Nov. 13, 2014

Session Name: SPRING-14
Teacher Name: M. Naveed Iqbal
Course Name: Principles of Genome Analysis and Genomics
Section: A **M/R:** M **Semester#** 2
Class: Ph.D (Botany)



General Comments of the Students about this Course

Weaknesses: Graph depicts no weakness.

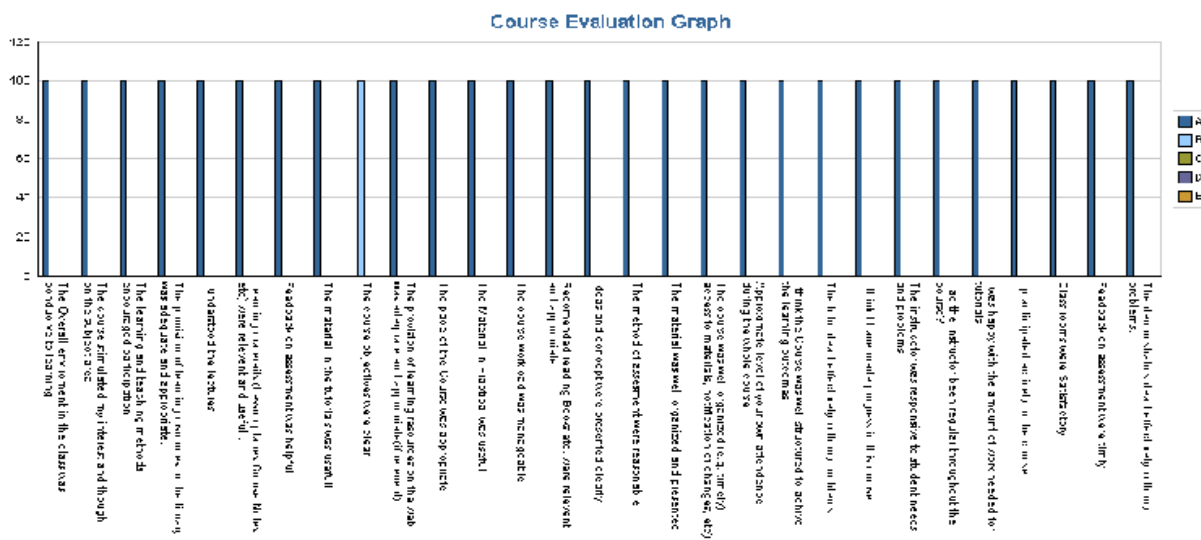
Strengths: Course points, students' participation and their personal concerns prepared this course.



**Pir Mehr Ali Shah
Arid Agriculture University
Performa 1**

Print Date: Nov. 13, 2014

Session Name: SPRING-14
Teacher Name: Rahmatullah Qureshi
Course Name: Applied Ethnobotany
Section: A **M/E:** M **Semester#** 1
Class: Ph.D (Botany)



General Comments of the Students about this Course

Weaknesses: No greater weakness was indicated by the students about this course.

Strengths: The tutor showed reasonable attitude and communication skill, established contribution of students in class discussion, included recent materials in the course subjects.

Ph. D

Teacher Evaluation Questionare

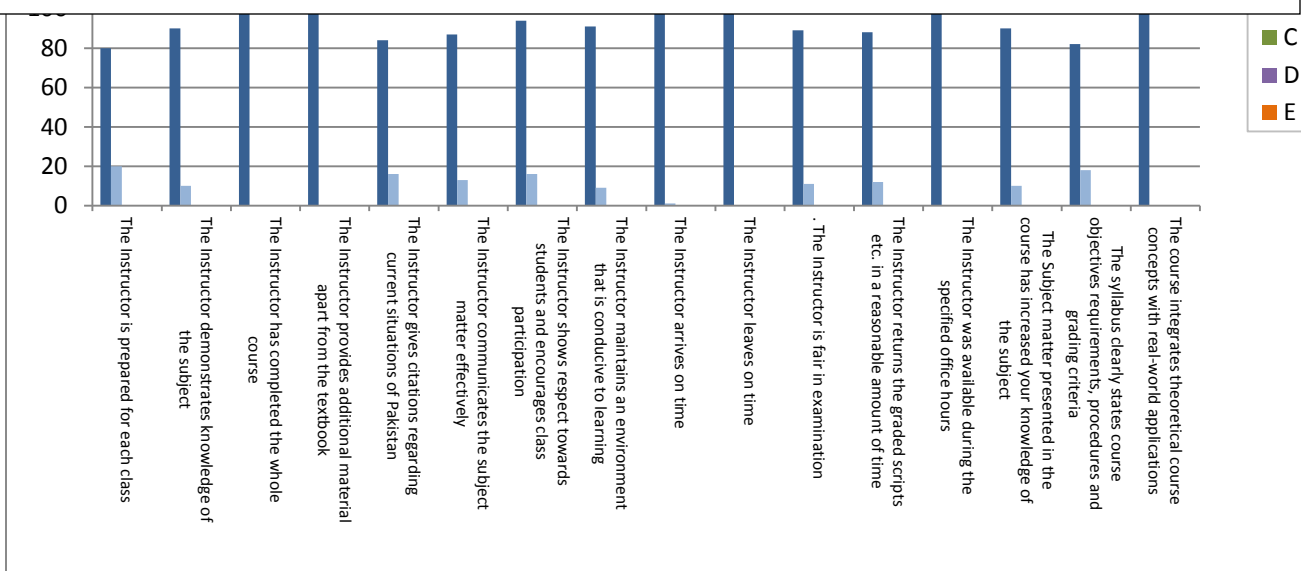
FALL 2012



Pir Mehr Ali Shah Arid Agriculture University

Performa 10

Teacher Name: M. Naveed Iqbal
Course Name: Integrated Biological Resource Management
Session Name: FALL-12
Section: A M/E: M Semester# 1
Class: Ph.D (Botany)



General Comments of the Students about this Teacher

Weaknesses: Graph shows no significant weakness,

Strengths: Instructor presented the subject matter effectively and completed the whole course. Regularity was excellent.

SPRING 2013



**Pir Mehr Ali Shah
Arid Agriculture University
Performa 10**

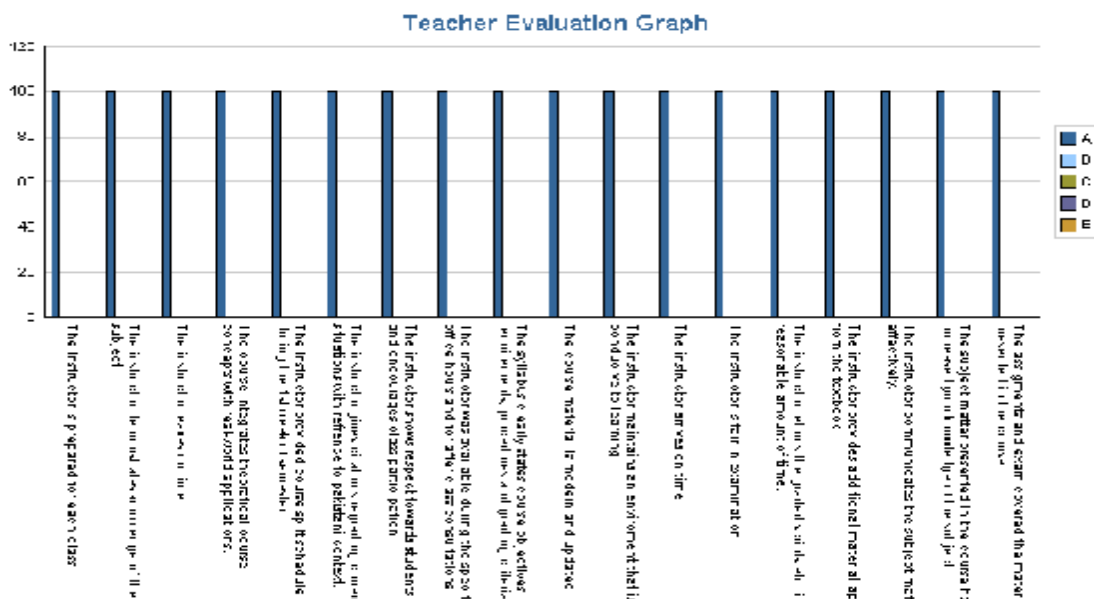
Print Date: Nov. 12, 2014

Session Name: SPRING-13

Teacher Name: YAMIN BIBI

Course Name: Seminar-I

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



General Comments of the Students about this Teacher

Weaknesses: Graph displays no deficiency of the instructor.

Strengths: Instructor linked the subject matter successfully. Instructor was available for after class consultation & graded scripts were returned in time. Course concepts were clear.



**Pir Mehr Ali Shah
Arid Agriculture University
Performa 10**

Print Date: Nov. 12, 2014

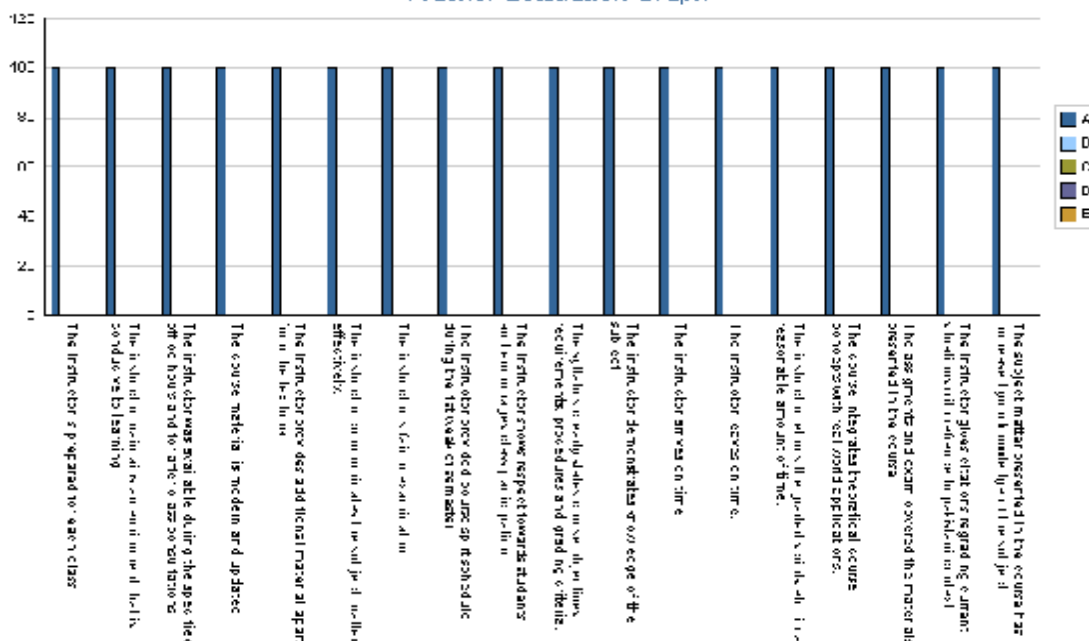
Session Name: SPRING-13

Teacher Name: M. Naveed Iqbal

Course Name: Principles of Genome Analysis and Genomics

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

Teacher Evaluation Graph



General Comments of the Students about this Teacher

Weaknesses: No weakness was indicated regarding instructor's method of instruction

Strengths: Instructor has demonstration of the knowledge in this course. Additional materials were provided. Course concepts reached the real world application.

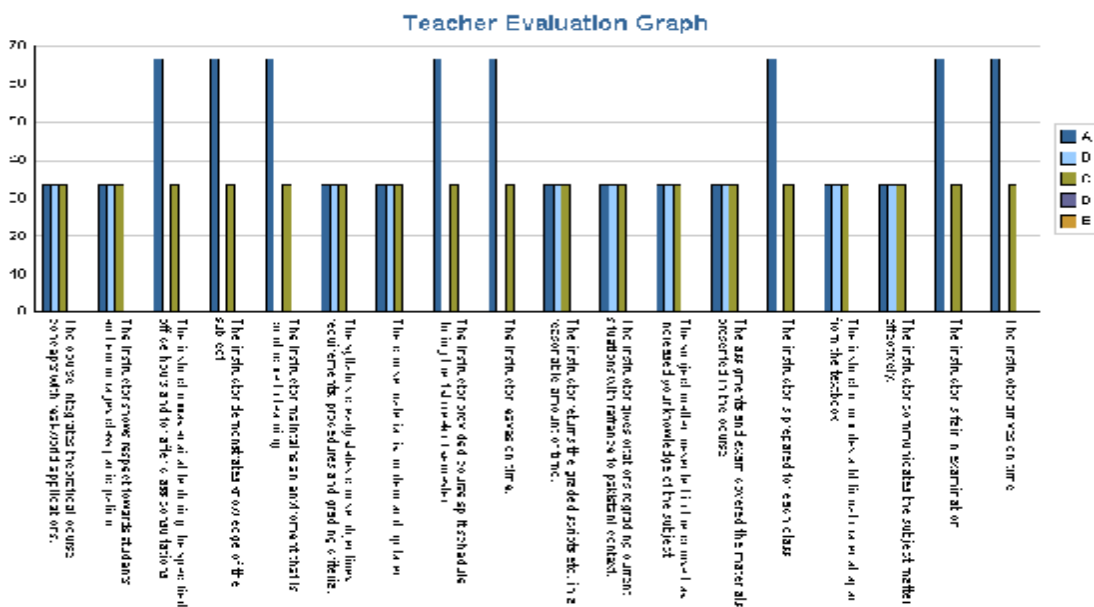


Session Name: SPRING-13

Teacher Name: Rahmatullah Qureshi

Course Name: Applied Ethnobotany

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



General Comments of the Students about this Teacher

Weaknesses: No weakness was indicated regarding instructor's method of instruction. Most of the students are neutral about the teaching methods.

Strengths: Instructor prepared each class for the delivery of knowledge and linked the subject matter successfully. Instructor was available for after class consultation.



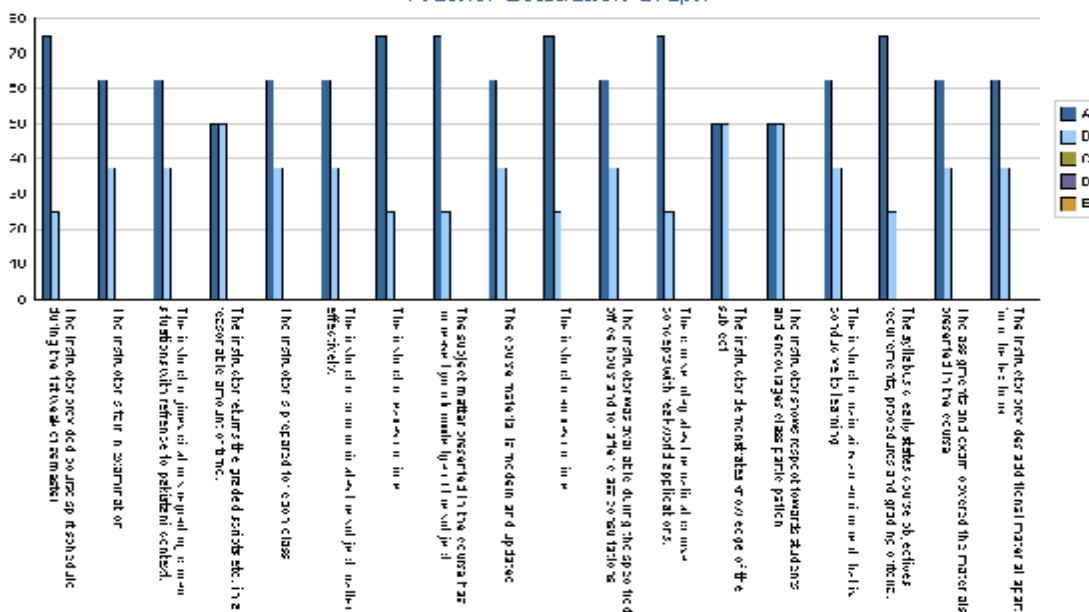
Session Name: SPRING-13

Teacher Name: YAMIN BIBI

Course Name: Seminar-II

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

Teacher Evaluation Graph



General Comments of the Students about this Teacher

Weaknesses: No weakness was indicated regarding instructor's method of instruction

Strengths Instructor delivered good knowledge and encouraged the students' participation in the class discussion. Instructor was available for after class consultation. Students have increased their knowledge in this course.



**Pir Mehr Ali Shah
Arid Agriculture University
Performa 10**

Print Date: Nov. 12, 2014

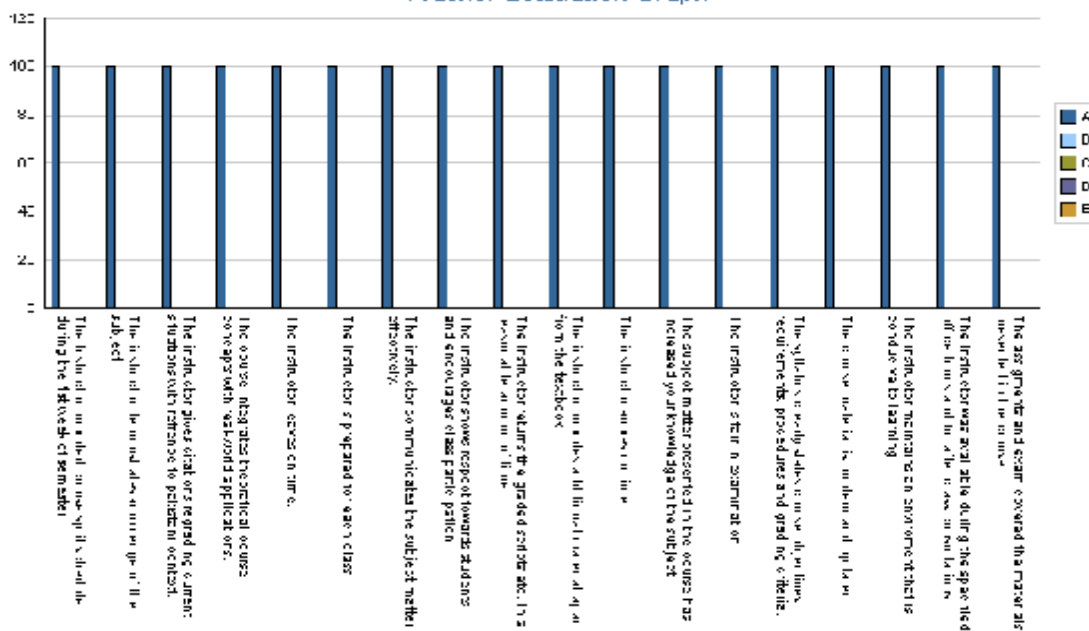
Session Name: SPRING-13

Teacher Name: M. Naveed Iqbal

Course Name: Integrated Biological Resource Management

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

Teacher Evaluation Graph



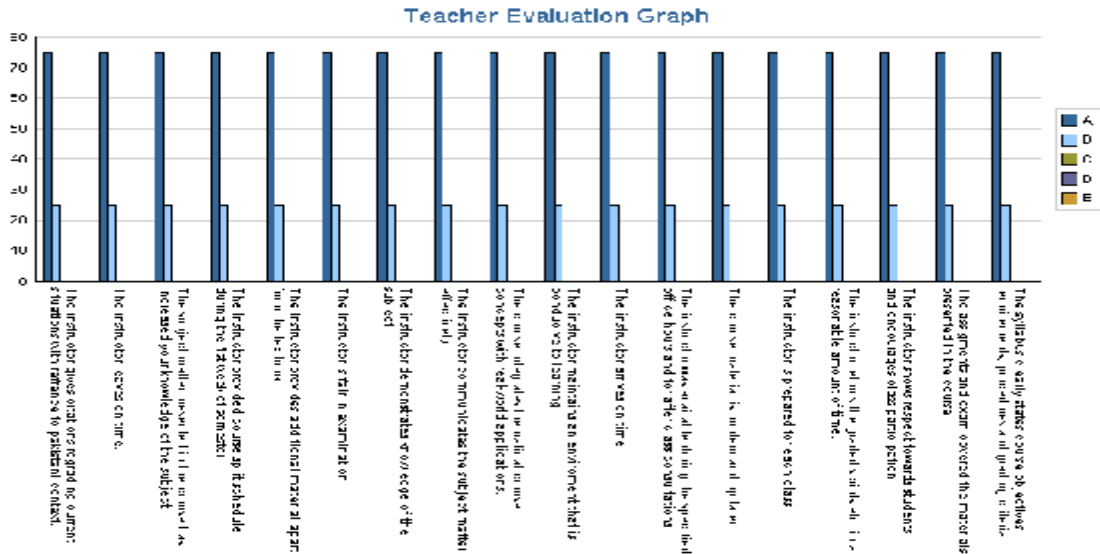
General Comments of the Students about this Teacher

Weaknesses: No weakness was indicated regarding instructor's method of instruction

Strengths: Instructor has demonstration of the knowledge in this course. Additional materials were provided. Course concepts reached the real world application.



Session Name: SPRING-13
Teacher Name: YAMIN BIBI
Course Name: Conservation and Management of Plant Resources
Section: A **M/E:** M **Semester#:** 2



General Comments of the Students about this Teacher

Weaknesses: Graph displays no deficiency of the instructor.

Strengths: Instructor has provided additional materials. Environment was conducive in class and students have increased their knowledge.



**Pir Mehr Ali Shah
Arid Agriculture University
Performa 10**

Print Date: Nov. 12, 2014

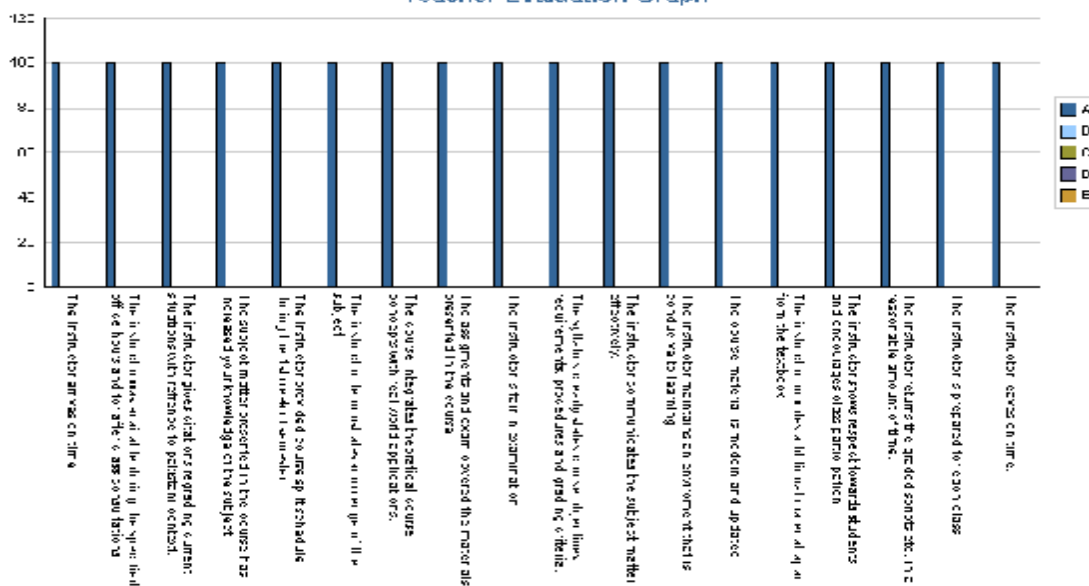
Session Name: SPRING-13

Teacher Name: Rahmatullah Qureshi

Course Name: Applied Ethnobotany

Section: A **M/E:** M **Semester#:** 4

Teacher Evaluation Graph



General Comments of the Students about this Teacher

Weaknesses: No weakness was indicated.

Strengths: Instructor provided the additional materials and has communicated the subject matter. Showed respect to the students and was available for after class consultation. Most of the students are agreed with teacher

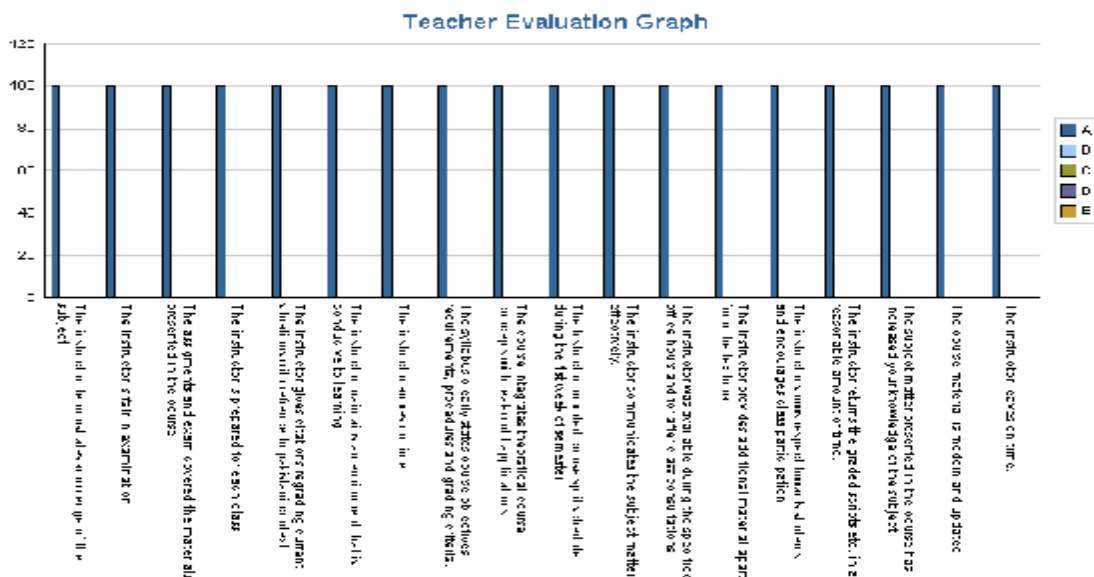


Session Name: SPRING-13

Teacher Name: M. Naveed Iqbal

Course Name: Principles of Genome Analysis and Genomics

Section: A **M/E:** M **Semester#:** 4



General Comments of the Students about this Teacher

Weaknesses: No weakness was indicated.

Strengths: Instructor provided the additional materials and has communicated the subject matter. Showed respect to the students and was available for after class consultation. Most of the students are satisfied with instructor.

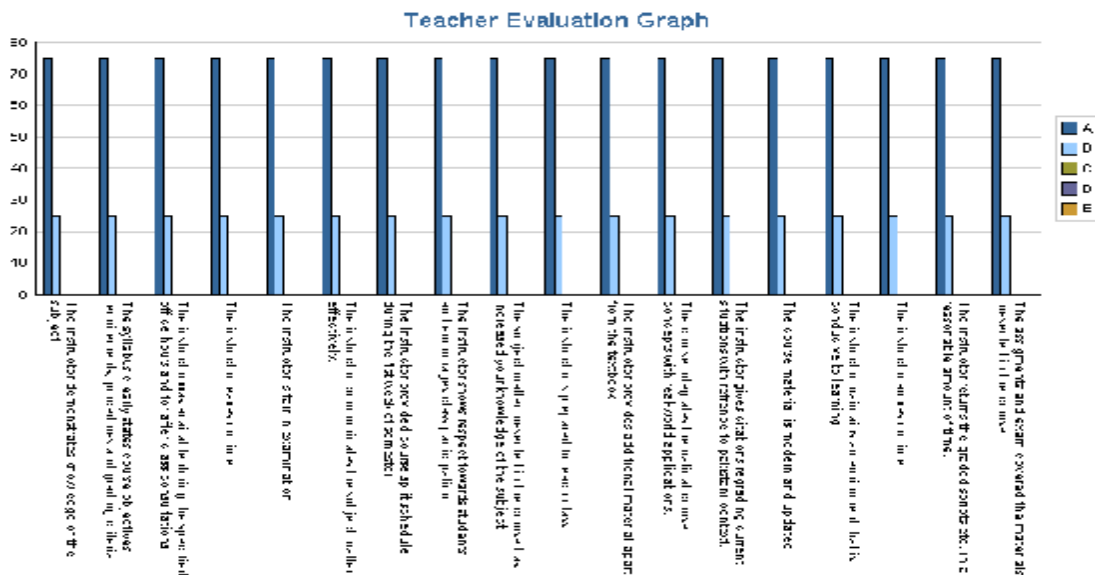


Session Name: SPRING-13

Teacher Name: Noshin Ilyas

Course Name: Stress Physiology

Section: A **M/R:** M **Semester#:** 2



General Comments of the Students about this Teacher

Weaknesses: Graph displays no deficiency of the instructor.

Strengths: Most of the students were satisfied with teacher and they have confirmed the instructor on all standings.

FALL 2013

SPRING 2014

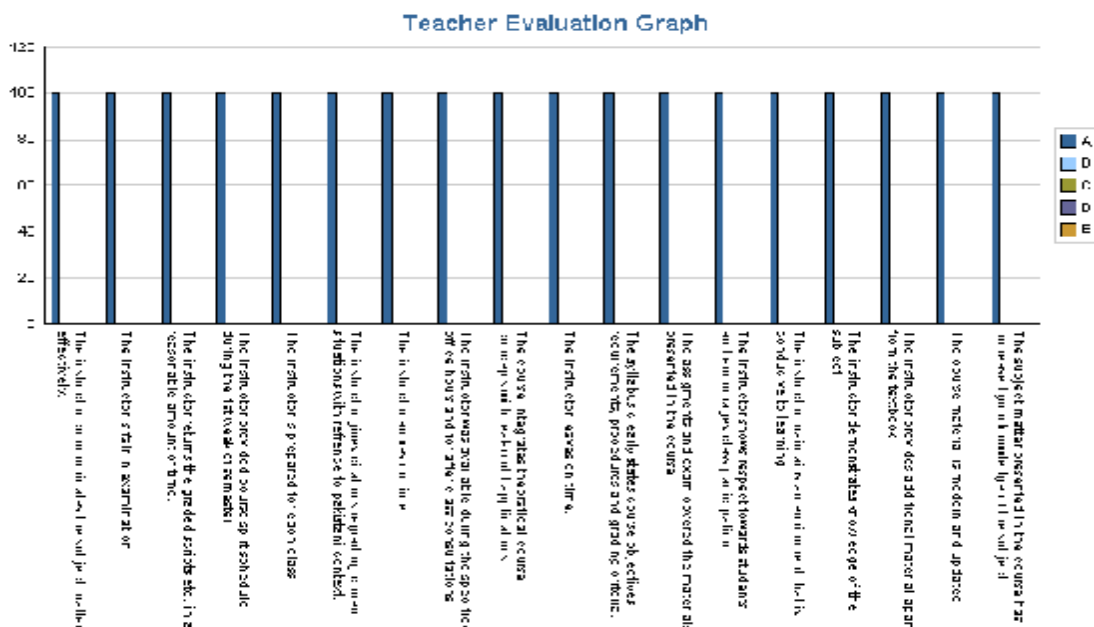


Session Name: SPRING-14

Teacher Name: M. Naveed Iqbal

Course Name: Principles of Genome Analysis and Genomics

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



General Comments of the Students about this Teacher

Weaknesses: Graph depicts no deficiency in tutor's teaching methods

Strengths: Course objectives were clear and learning material was available in time



**Pir Mehr Ali Shah
Arid Agriculture University
Performa 10**

Print Date: Nov. 13, 2014

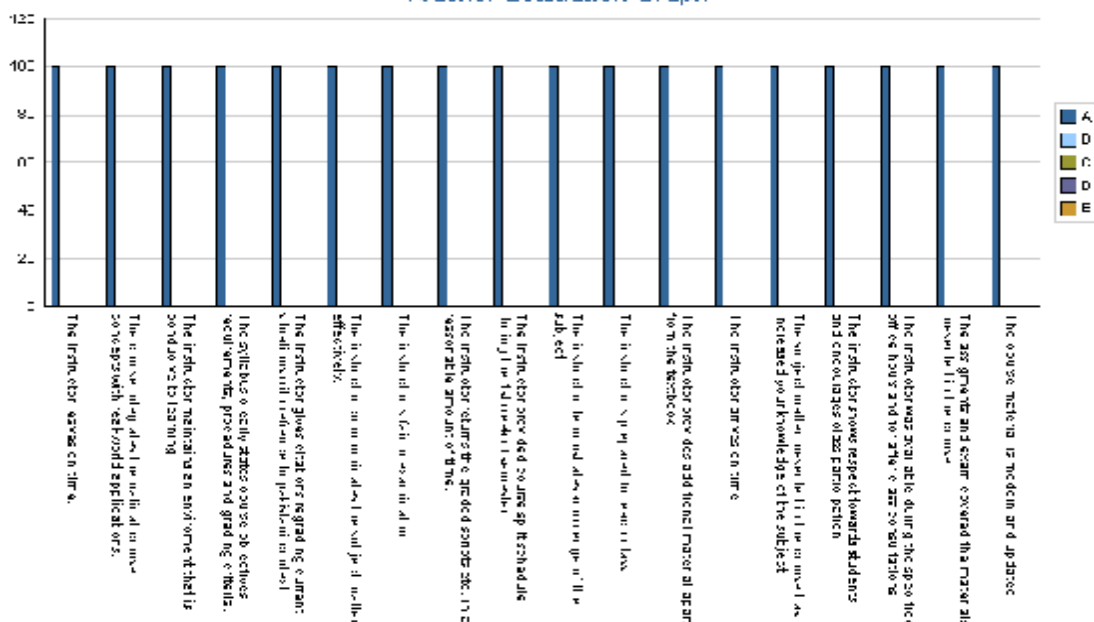
Session Name: SPRING-14

Teacher Name: M. Naveed Iqbal

Course Name: Seminar-I

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

Teacher Evaluation Graph



General Comments of the Students about this Teacher

Weaknesses: Students indicated no weakness in teaching

Strengths: Instructor completed the whole course. Regularity was excellent. Course material was modern and updated



**Pir Mehr Ali Shah
Arid Agriculture University
Performa 10**

Print Date: Nov. 13, 2014

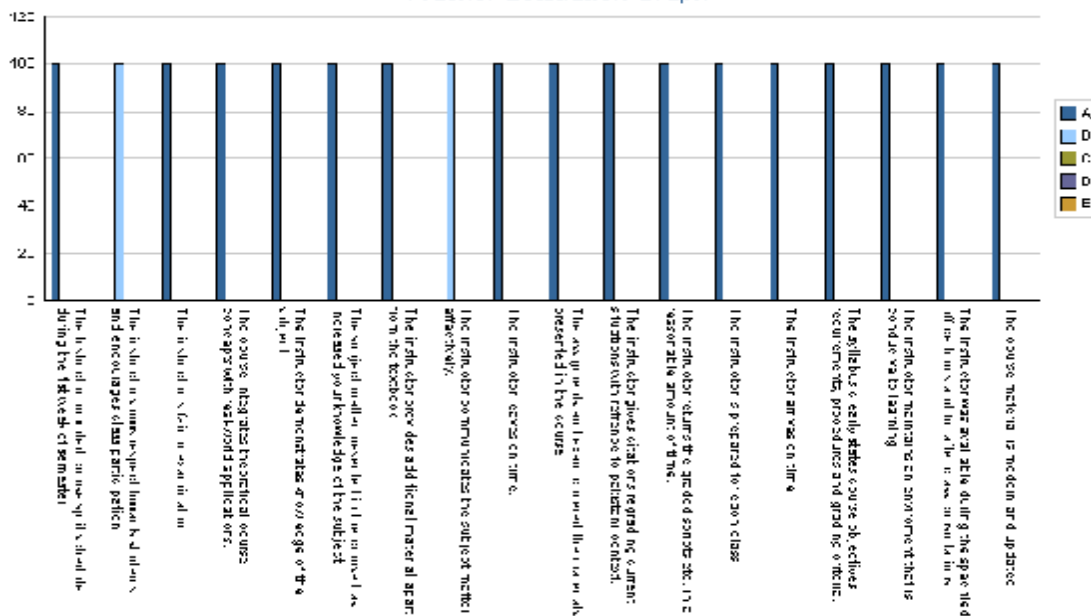
Session Name: SPRING-14

Teacher Name: M. Naveed Iqbal

Course Name: Principles of Genome Analysis and Genomics

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

Teacher Evaluation Graph



General Comments of the Students about this Teacher

Weaknesses: No significant weakness indicated by students

Strengths: Examination was fair and students have increased their knowledge. All students are agreed with teacher



**Pir Mehr Ali Shah
Arid Agriculture University
Performa 10**

Print Date: Nov. 13, 2014

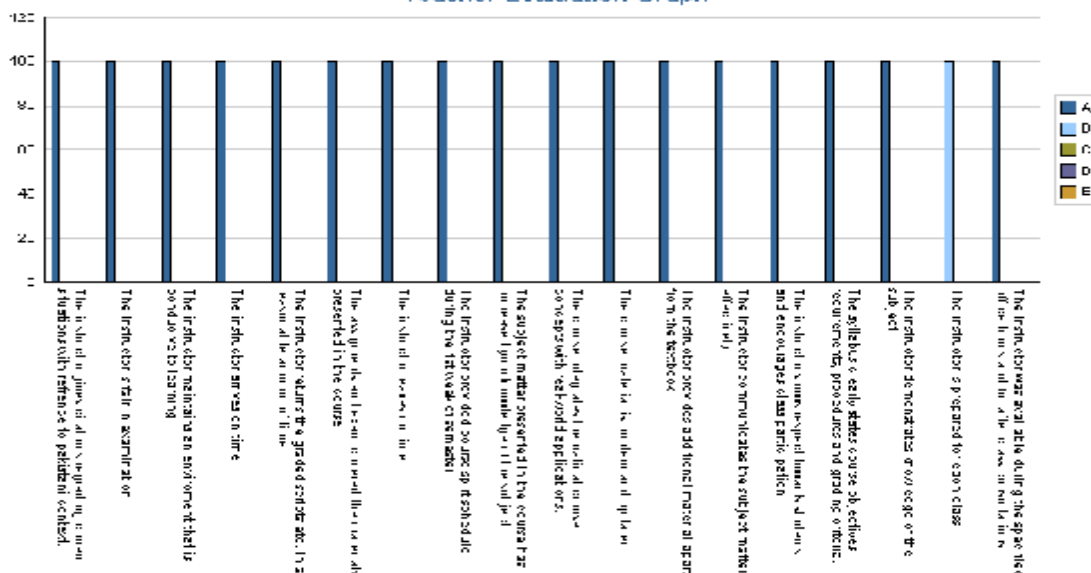
Session Name: SPRING-14

Teacher Name: Rahmatullah Qureshi

Course Name: Applied Ethnobotany

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

Teacher Evaluation Graph



General Comments of the Students about this Teacher

Weaknesses: Graph displays no significant weakness.

Strengths: The tutor showed reasonable attitude and communication skill, established contribution of students in class discussion, included recent materials in the course subjects.

Performa 2: FACULTY COURSE REVIEW REPORT

Fall-2012													
BOT 751	Integrated Biological Resource Management	3(3-0)	Examination /Quiz	10	satisfactory	No	Fall 2012	9	1	0	0	0	Dr Naveed
BOT-720	Seminar-I	1(1-0)	Examination /Quiz	7	Satisfactory	Not yet	Fall 2012	7	0	0	0	0	Dr. Abida
Spring-2013													
Bot-731	Conservation and management of Plant Resources	3(1-4)	Class Quiz assignment and Exam	11	satisfactory	No	Spring-13	27.2	54.5	18.18	0	0	Dr. Yamin Bibi
Bot-720	Seminar-1	1(1-0)	Presentation and Speaking skill	02	satisfactory	No	Spring-13	50	50	0	0	0	Dr. Yamin Bibi
Bot-720	Seminar-2	1(1-0)	Presentation and Speaking skill	08	satisfactory	No	Spring-13	37.5	62.5	0	0	0	Dr. Yamin Bibi
BOT 737	Applied Ethnobotany	3(2-2)	Written exam/Presentation	7	Satisfactory	no	Spring	2	1	1	1	2	Dr Rahmat
Fall-2013													
BOT-720	Seminar-I	1(1-0)	Presentation	2	Satisfactory	Not yet	Fall	2	0	0	0	0	Dr. Abida
BOT 751	Integrated Biological Resource Management	3(3-0)	Examination /Quiz	19	satisfactory	No	Fall	17	2	0	0	0	Dr Naveed
Spring 14													
BOT 715	Phytogeography	3(2-2)	Written exam/presentation	11	satisfactory	no	Spring	3	8	-	-	-	Dr. Rahmatullah Qureshi
BOT 731	Conservation and management of plant resources	3(1-4)	Written exam/Presentation	2 PhD	satisfactory	no	Spring	1	1	-	-	-	Dr. Rahmatullah Qureshi
BOT 737	Applied Ethnobotany	3(2-2)	Written exam/representation	14 PhD	satisfactory	no	Spring	6	6	-	-	-	Dr. Rahmatullah Qureshi

Proforma 3: GRADUATING STUDENTS SURVEY.

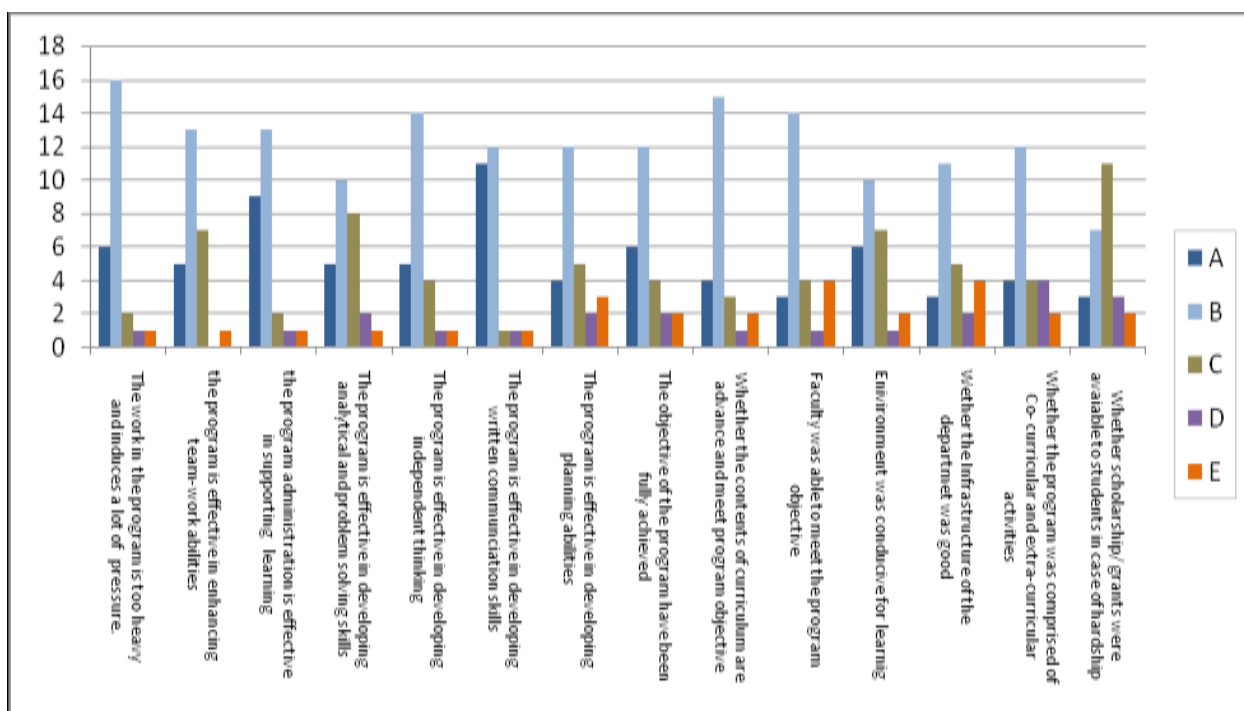
Results of survey of graduating students based on Performa 3 are represented in the given graph. The graduating students in the last semester were surveyed after thesis evaluation. Majority of students showed their satisfaction regarding all the parameters on average.

Best Aspects of the Program

- Highly qualified faculty
- Helping attitude of the faculty for all students in research and extra-curricular activities
- Study programs in collaboration

Weaknesses:

- There is need for the faculty to get foreign training
- Laboratory equipment needs up gradation
- Computational facilities needs extension



Proforma 4: RESEARCH STUDENTS PROGRESS REVIEW

	Question	Comments by Students
1	Please outline details of your progress in your research since your last review	Ph.D students published single research paper
2	Do you have any comments on the level of supervision received?	Satisfied (100%)
3	What do you plan to achieve over the next six months?	Ph.Ds are busy in designing experiments
4	Do you have any comment on generic or subject specialist training you may have received or would to like to receive internally or externally?	Ph.Ds haveplanned to get by HEC-IRSIP for 06 months abroad
5	Do you have easy access to sophisticated scientific equipments?	Yes (100%)
6	Do you have sufficient research material/commodities available?	Yes (100%)

The results of this proforma showed that most of the research students are satisfied with their research activities. All of the students had access to sophisticated issues and have sufficient research material and commodities available. Research students have the motivation to increase their research activities by applying through HEC-IRSIP

Proforma 5: FACULTY SURVEY RESULTS

The results of faculty survey showed that most of the faculty members were pleased with their level of academic and research work. All the faculty members have a decent and respectable communication among themselves and with the students. However, some of the faculty members have reservation for the mentoring available to them and also to the time they have for themselves and their family.

S. No.	Parameter	Dr. M Arshad	Dr. Rahmat	Dr. Abida	Dr. Noshin	Dr. Naveed	Dr. Yamin	Dr. Mubashrah	Dr Zia	Ms Saira
1.	Your mix of research, teaching and community service	B	B	B	B	B	B	A	A	B
2.	The intellectual stimulation of your work	B	B	B	B	A	B	B	A	B
3.	Type of teaching/research you currently do.	B	B	B	B	A	B	A	A	B
4.	Your interaction with students	A	A	A	A	A	A	A	A	A
5.	Cooperation you received from colleagues	A	B	A	A	A	A	C	A	A
6.	The mentoring available to you	B	B	B	A	A	A	B	A	A
7.	Administrative support from the department	A	B	A	A	B	B	B	A	B
8.	Providing clarity about the faculty promotion process	A	B	A	A	B	A	B	B	A
9.	Your prospects for advancement and progress through ranks	B	B	B	B	A	B	A	B	B
10.	Salary and compensation Packages	B	B	B	B	B	C	C	B	B
11.	Job security and stability at the department	A	A	B	B	A	A	B	A	A
12.	Amount of time you have for yourself and family	C	C	C	C	B	C	D	B	C
13.	The overall climate at the Department	B	B	A	A	A	A	B	A	B

14.	Whether the department is utilizing your experience and knowledge	B	A	A	A	B	A	B	A	B
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Proforma 06: SURVEY OF DEPARTMENT OFFERING PH.D. PROGRAMS

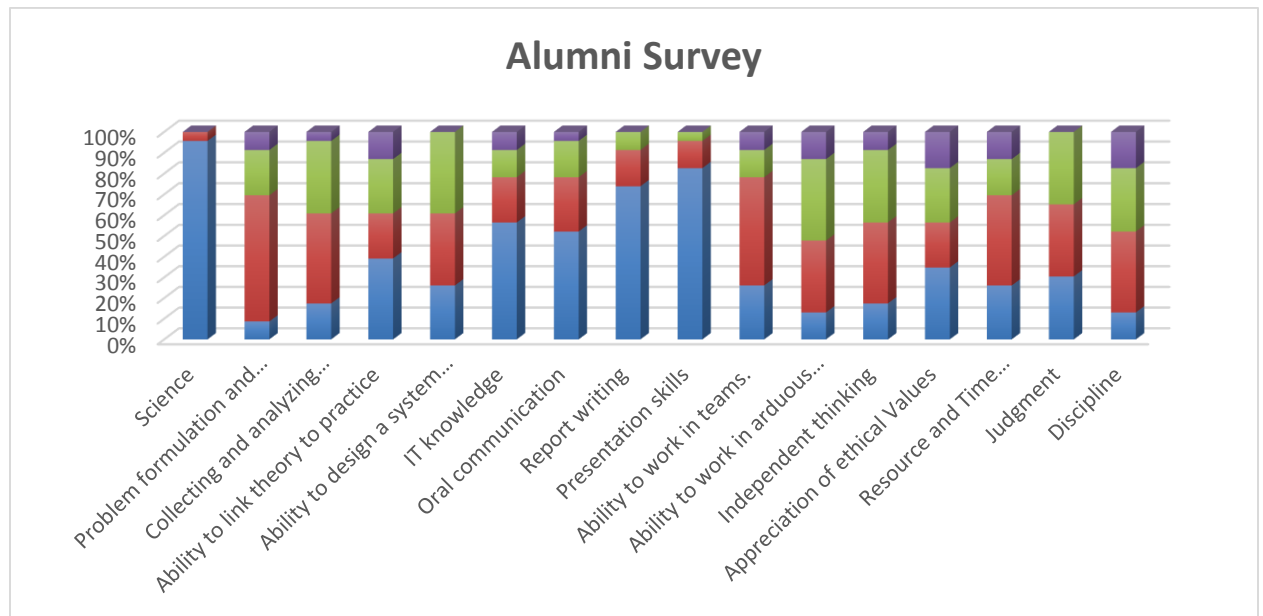
S.No	Requirements	Comments
1	General Information:	
1.1	Name of Dept.	Botany
1.2	Name of Faculty	Sciences
1.3	Date of initiation of Ph.D. program	2002
1.4	Total number of academic journals subscribed in area relevant to Ph.D. program.	07
1.5	Number of Computers available per Ph.D. student	01/student
1.6	Total Internet Bandwidth available to all the students in the Department.	As per university policy
2	Faculty Resources:	
2.1	Number of faculty members holding Ph.D. degree in the department.	07
2.2	Number of HEC approved Ph.D. Advisors in the department.	07
3	Research Output:	
3.1	Total number of articles published last year in International Academic Journals that are authored by faculty members and students in the department.	43
3.2	Total number of articles published last year in Asian Academic Journals that are authored by faculty members and students in the department.	21
3.3	Total number of ongoing research projects in the department funded by different organizations	06
3.4	Number of post-graduate students in the department holding scholarships / fellowships.	15
3.5	Total Research Funds available to the Department from all sources.	0.05 million
3.6	Number of active international linkages involving exchange of researchers/students/faculty etc. (Attach Details).	Through HEC

4	Student Information:	
4.1	Number of Ph.D. degrees conferred to date to students from the Department during the past three academic years.	01
4.2	Number of Ph.D. students currently enrolled in the department.	25
4.3	Ratio of number of students accepted to total number of applicants for Ph.D. Program.	1:5
5	Program Information	
5.1	Entrance requirements into Ph.D. Program	M.Phil.
5.2	Is your Ph.D. program based on research only? (Y/N)	Yes
5.3	Maximum number of years in which a Ph.D. degree has to be completed after initial date of enrollment in Ph.D. program.	As per University Policy
5.4	Total number of post M.Sc. (16 year equivalent) courses required for Ph.D.	As per University Policy
5.6	Total number of Ph.D. level courses taught on average in a Term / Semester.	As per University Policy
5.7	Do your students have to take/write:	
	a. Ph.D. Qualifying examination (Y/N)	Yes
	b. Comprehensive examination (Y/N)	Yes
	c. Research paper in HEC approved Journal	Yes
	d. Any other examination (Y/N)	Yes (GAT subject)
5.8	Total number of International examiners to which the Ph.D. dissertation is sent.	As per HEC policy
5.9	How is the selection of an examiner from technologically advanced countries carried out?	As per University policy
5.10	Is there a minimum residency requirement (on campus) for award of Ph.D. degree?	As per university policy
6	Additional Information	
6.1	Any other information that you would like to provide.	Nil

Proforma 7:ALUMNI SURVEY RESULTS:

Majority of the Alumni have rated the knowledge imparted by the department, problem formulation and solving skills of the department in excellent category.

Interpersonal skills have been graded A by majority of the Alumini. Alumini was satisfied with ability to work in team, management and leadership skills, faculty and department infrastructure.



Proforma 08: EMPLOYER SURVEY

Performa 8 was sent to students working in several other organizations and their feedback was recorded. Students are working under different academic and research organizations. They are satisfied with the problem solving skills of the department. They are satisfied with all parameters regarding time management skills, ability to work in team as well as appreciation of ethical values etc. Some of the students highlighted that department should provide more research facilities.



PROGRAM OUTCOMES:

Skills and capabilities Reflected In performance as Botanists:

Degree of skills and capabilities that will reflect on their performance as botanist:

- Students will become proficient in skills and attitudes.
- PhD scholars will acquire conceptual and operational understanding of subject.
- Students shall learn to use basic and applied knowledge in field of practicals.
- Students shall learn to employ advanced analytical techniques.
- This skill development will lead them to apply given knowledge of plants.
- Students shall have an ability to use conventional as well as modern tools, techniques and skills necessary to conduct botanical research.
- Students shall learn to develop an insight for research design and projects.
- Students will learn to conduct research in economically thematic areas.
- Students will get awareness of career opportunities.
- Students shall have an understanding of professional and ethical responsibilities of a botanist.
- Students shall have an ability to work effectively in teams including multidisciplinary teams to solve problems relevant to their field.
- Students will be able to work as professionals.
- It will also build confidence to communicate and shall also develop the skill of effective writing.

Strength of the Department

1. Faculty members are
 - fully qualified
 - Have good command of their subject.
 - And have specialization in their respective fields.
2. Labs are reasonably equipped.
3. Different project are going on in the department which are helping in strengthening of department.

Weaknesses Identified in the Program

1. There is a need of short foreign training to faculty members
2. There is a lack of lectures halls.
3. Latest literature and review are hardly available
4. Lack of Gas supply in Laboratories
5. As an integral part of the department, it must have
 - Herbarium & botanic garden
 - Green house,
 - Computer Lab,
 - Departmental library
6. Lack of essential equipment like
 - Scanning electronic microscope,
 - Homogenizer,
 - PCR equipment and ultra-centrifuge.
7. There is lack of supporting staff.

Major Feature of Improvement Plans

- To establish herbarium and Botanic garden in order to aid the students by physically observing plants in preserved and live state.
- To establish computer Lab for students
- To develop departmental library.

Table 3: Quantitative Assessment of the Department (Year 2011-2012)

Sr. No.	Particular	No	Remarks
1	Ph.D.	04	In employment
2	Students: Faculty rates	1:20	Fulfil HEC criteria
3	Technical : No technical ratio	2: 4	Fulfil HEC criteria
4	Average grade point	?	Fulfil HEC criteria

The evaluation process indicated high efficiency of system and satisfactory impact of outcomes. Almost all the graduates and post graduates got jobs in various organizations (provincial department, universities, research organizations, banks and private firms).

Table 4: Present performance Measures for Research Activities

S. No	Faculty	Journal Publication (National & International)	Conference Publication (proceedings abstract)	Projects
1.	Dr. M. Arshad	40	Nil.	02
2.	Dr. Abida Akram	13	03	01
3.	Dr. Rahmatullah Qureshi	46	Proceeding 01	01
4.	Dr. Noshin Ilyas	9		01
5.	Dr. Naveed Iqbal Raja	6		01
6.	Dr. Yamin Bibi	14	05	01
7.	Ms. Mubashra Munir	7	0	01
8.	Mr. Zia Ur Rehman Mashwani	4	2	01
9.	Ms. Saira Asif	2	Nil	Nil

The department is well staffed; distinguishing feature is the availability of all expertise (Genomics, Ecology, Taxonomy, Physiology, and Mycology).

Faculty Satisfaction Regarding the Administrative Services

- There are some reservations of faculty about some administrative offices of the university about disposal of documents which usually delayed.

Table 5: Degree requirements

Degree	Pre-requisites
Ph. D.	M.Sc. (Hons)/MS/M. Phil. Examination in first division or with aggregate CGPA of not less than 3.00 out of 4.00 from a recognized institution, entry test and interview. Application of the candidate must be accompanied with comprehensive research proposal to be undertaken by the candidate. The candidate must have to clear international GRE test before submission of thesis.

SECTION 2

Criterion 2: Curriculum Design and Organization

A. Title of Degree Program: PhD in Botany

Intent: All the courses for degree program were developed by board of studies, faculty and then academic council. Guidelines given by HEC curriculum committee are also considered.

B. Definition of Credit Hour

A student must complete a definite number of credit hours. One credit hour is one theory lecture or two hours laboratory (practical work/weeks). One credit hour carries 20 marks.

C. Degree Plan

Presently three degree programs including PhD are organized by the department.

- **Ph. D.**

The program contents meet the program objectives as highlighted and provide by the Higher Education Commission, Government of Pakistan.

Table 6: Core Courses

S. No.	Course	Title	Credit
1	BOT-701	Diversity in Non- Vascular Plants	3(2-2)
2	BOT-702	Plant and Cell Physiology-I	3(2-2)
3	BOT-703	Plant and Cell Physiology-II	3(2-2)
4	BOT-704	Phytosociology	3(2-2)
5	BOT-705	Plant Taxonomy and Embryology	3(2-2)
6	BOT-706	Diversity in Vascular Plants	3(2-2)
7	BOT-707	Plant Anatomy	3(2-2)
8	BOT-708	Mycology and Plant Pathology	3(2-2)
9	BOT-709	Plant Ecology	3(2-2)
10	BOT-710	Ethnobotany	3(2-2)
11	BOT-711	Environmental Pollution	3(2-2)
12	BOT-712	Research Planning and Report Writing	3(1-4)
13	BOT-720	Seminar	1(1-0)

S. No.	Course	Title	Credit
Optional Courses			
14	BOT-713	Medicinal Plants of Pakistan	3(2-2)
15	BOT-714	Molecular Plant Development	3(3-0)
16	BOT-715	Phytogeography	3(2-2)
17	BOT-716	Research Techniques and Instrumentation	3(2-2)
18	BOT-717	Phytohormones	3(2-2)
19	BOT-718	Arid Zone Ecology	3(2-2)
20	BOT-719	Special Problem	1(1-0)
21	BOT-720	Seminar-I	1(1-0)
22	BOT-720	Seminar-II	1(1-0)
23	BOT-721	Stress Physiology	3(2-2)
24	BOT-722	Plant Nutrition	3(2-2)
25	BOT-723	Advance in Plant Physiology	3(3-0)
26	BOT-724	Molecular Basis of Morphogenesis	3(3-0)
27	BOT-725	Molecular Advances in Phytosystematics	3(3-0)
28	BOT-726	Environmental Toxicology and Bioremediation	3(2-2)
29	BOT-727	Environmental Biotechnology	3(3-0)
30	BOT-728	Principles of Genome Analysis and Genomics	3(3-0)
31	BOT-729	Biology of Halophytes	3(2-2)
32	BOT-730	Environmental Plant Physiology	3(2-2)
33	BOT-731	Conservation and Management of PlantResources	3(1-4)
34	BOT-732	Plant Proteomics	3(2-2)
35	BOT-733	Physiological Genetics of Plants	3(3-0)
36	BOT-734	Forensic Botany	3(3-0)
37	BOT-735	Plant-microbe Interactions	3(2-2)
38	BOT-736	Plant systematic	3(2-2)
39	BOT-737	Applied Ethnobotany	3(2-2)
40	BOT-751	Integrated Biological Resource Management	3(3-0)
All courses offered for M. Sc. Programmes can be offered to the Ph. D. students, depending upon their requirements			

Curriculum course requirement for M. Sc./M. Phil./Ph. D degree is summarized in the following table, whereas , their detailed description is also provided at end of report.

Standard 2.1: Assessment of the Curriculum of Botany Department

The assessment of curriculum is done in the following table and the courses are cross tabulated according to the program outcomes.

Meeting Standard 2.1: Courses versus Program Outcomes

Table 7: Course vs. Program Outcome

COURSE	Outcomes		
	1	2	3
BOT-707	**	**	***
BOT-710	***	**	**
BOT-703	**	**	**
BOT-708	**	**	***
BOT-737	***	**	**
Biol-302	***	**	**
BOT-706	**	**	***
BOT-705	**	***	**
BOT-702	***	**	***
BOT-708	**	**	**
BOT-712	**	**	***
Biol-301	**	***	**
BOT-701	***	**	**

- * = Relevant
 ** = Relevant and satisfactory
 *** = Very relevant and satisfactory
 **** = highly relevant and satisfactory

- The curriculum fits well and satisfies the core requirements for the program, as specified the respective accreditation body.
- The curriculum satisfied the general arts and professional and other discipline required for the program according to demands and requirements set by the higher education Commission.

Standard 2-2: Elements Vs Courses

Meeting standard 2-2: Percentage of Elements in Courses

Elements	Courses
Theoretical backgrounds	BOT-701, BOT-702, BOT-703, BOT-704, BOT-705, BOT-706, BOT-707, BOT-708, BOT-709, BOT-710, BOT-711, BOT-713,

	BOT-714, BOT-715, BOT-717, BOT-718, BOT-721, BOT-722, BOT-723, BOT-724, BOT-725, BOT-726, BOT-727, BOT-728, BOT-729, BOT-730, BOT-732, BOT-733, BOT-735, BOT-738
Problem analysis	BOT-712, BOT-736, BOT-737, BOT-751
Solution designs	BOT-716, BOT-719, BOT-720, BOT-731, BOT- 734, BOT-799

Standard 2-3

The curriculum for the core courses is designed as per requirements as approved by HEC.

Standard 2-4

The curriculum meets major requirements as approved by HEC.

Standard 2-7

Enhancing Oral and written Communication Skills of the students

- Skill is developed through seminars, assignment and presentation by the faculty in their respective courses.

SECTION 3

Criterion 3: LABORATORIES AND COMPUTING FACILITIES

There are four Laboratories in the department. The facilities and shortcomings of these laboratories are listed as under.

LAB-1

Laboratory title	<i>Plant Ecology Lab.</i> (for the graduate and post graduate students)
Location and Area	Faculty of Sciences, Department of Botany, 1 st floor, New Academic Block.
Objectives	Laboratory is used for ➤ Practical exercise and demonstration to master students in their introductory and major courses. ➤ Research work for the graduate and post graduate students. ➤ Used for implementing the funded projects by the university, HEC, PSF, PARC and other agencies. ➤ Laboratory is spacious and adequate for research and teaching.
Major apparatus vizequipments	Microscopes, oven, vacuum pump, thermograph, pH meter, electric balance, sieve shaker, refrigerator, pH and EC meter, etc.
Safely Regulations	Safely measures are unavailable against fire (extinguisher), minor hazards and accidents, injuries (First Aid Kit). However, the university maintains a Medical Dispensary for such incidents.

LAB-2

Laboratory title	<i>Plant Physiology Lab</i> (for the graduate and post graduate students)
Location and Area	Faculty of Sciences, Department of Botany, 1 st floor, New Academic Block. .
Objectives	Laboratory is used for

	➤ Practical exercise and demonstration to master students in their introductory and major courses. ➤ Research work for the graduate and postgraduate research fellows. ➤ Laboratory is spacious and adequate for teaching as well as research purpose. ➤ Used for implementing the funded projects by the university, HEC, PSF, PARC and other agencies.
Major apparatus vizequipments	Refrigerators, pH meter, EC meter, UV visible spectrophotometer, Osmometer, water potential apparatus, Leaf area meter, oven, Microscopes, elective balance, etc
Safely Regulations	Safely measures are unavailable against fire (extinguisher), minor hazards and accidents, injuries (First Aid Kit). However, the university maintains a Medical Dispensary for such incidents.

LAB-3

Laboratory title	<i>Molecular Mycology Lab.</i> (For the master and post graduate research scholars.)
Location and Area	Faculty of Sciences, Department of Botany, 1 st floor, New Academic Block. .
Objectives	Laboratory is used for ➤ Practical exercise and demonstration to master students in their introductory and major courses. ➤ Research work for the graduate and post graduate research scholars. ➤ Used for implementing the funded projects by the university, HEC, PSF, PARC and other agencies. ➤ Laboratory is spacious and adequate.
Major apparatus vizequipments	Research microscopes, autoclave, Laminar Flow, deep freezer, refrigerators, Test tube mixer, elective balance, HPLC, Phase contrast Microscope, Electrophoresis, etc.

Safely Regulations	Safely measures are unavailable against fire (extinguisher), minor hazards and accidents, injuries (First Aid Kit). However, the university maintains a Medical Dispensary for such incidents.

LAB-4

Laboratory title	<i>Plant Taxonomy & Ethnobotany Lab.</i> (For the master and post graduate research scholars.)
Location and Area	Faculty of Sciences, Department of Botany, 1 st floor, New Academic Block. .
Objectives	Laboratory is used for ➤ Practical exercise and demonstration to master students in their introductory and major courses. ➤ Research work for the graduate and post graduate research scholars. ➤ Used for implementing the funded projects by the university, HEC, PSF, PARC and other agencies. ➤ Laboratory is spacious and adequate for undertaking research and teaching in the relevant field.
Major apparatus vize equipments	Hotplate, Microscopes, stereomicroscope, dissecting microscope, deep freezer, electric balance, sieve shaker, refrigerator, pH and EC meter, plant pressers, etc.
Safely Regulations	Safely measures are unavailable against fire (extinguisher), minor hazards and accidents, injuries (First Aid Kit). However, the university maintains a Medical Dispensary for such incidents.

Standard 3-1: Laboratory Manuals:

- Individual teachers have prepared some manuals but in general there lacking of labortary manual of each subject on account of absence of department Library.
- The equipments are fairly sufficient however; instruments regarding molecular approaches are lacking e.g. refrigerated centrifuge, PCR Spectrophotometer.

Standard 3-2: Support/Laboratory Personal for Maintenance of Laboratory

Laboratories are maintained by only one laboratory assistant (equipment, glassware, chemicals, material etc). Three laboratories attendants assist students in practical, cleaning and washing.

Standard 3-3: Computing Infrastructure and Facilities

Computer facilities are insufficient and not available to all faculty members and the postgraduate students.

However the department has the following shortcomings/ problems:

- Majority of the faculty members do not have access to the PCs as department have only one Computer provided by the university.
- IT issues, virus problems, telephone sets / connections?
- Not availability of internet facility

SECTION 4:
Criterion 4: Student Support and Advising

Departmental Orientation

All newly admitted students are given orientation session at departmental level. It covers orientation about semester system, introduction of faculty and staff and use departmental facilities and services.

Student Advisor

One of the faculty members is deputed as student advisor. The services provided by the student advisor are:

- Organization of function at departmental level
- Solving students problems (personal and academic)
- Providing general assistance

Standard 4-1: Frequency of courses

- Courses are taught as per approved scheme of study.

Standard 4-2: Structure of the Courses

The majority of the courses are divided into two major aspects: Theoretical and Practical.

Theoretical portion covered in teaching, assignments and presentations.

Practicals aspects are covered by performing experiments in Labs and fields. In order to update students about the latest developments in study area visits to various research organization areas is also organized.

Standard 4.3: Guidance to the Students

There is a strong and regular communication between student advisors and students to discuss about program requirements. Regular interaction between student and teacher supports advising and counseling system.

SECTION 5: PROCESS CONTROLL

Standard 5.1: Admission Criteria for Each Programme

- The process of admission well established and followed as per rules and criteria set by university. For this purpose an advertisement is given in the national papers by the Registrar office.
- Admission criteria:
 - **Ph. D.** (M. Phil with CGPA 3/4 or 1st division under annual examination system with International GRE must be cleared before submission of theses.
- It is based on the recommendations of supervisory committee
- Admission criteria are revised every year before the announcement of admissions.

Standard 5.2: Process of Registration and Monitoring of Students.

- The complete list of finally admitted candidate after fulfilling the admission criteria is to be forwarded to the registrar office for proper registration in the specific program. Registration numbers are issued to the students
- Students are registered once in a degree programme.
- Mid, Final, Practical exams and assignments are used to monitor student progress.

Standard 5.3: Recruiting Process for Faculty

Recruitment policy for faculty followed by the University is as per HEC standard recommendation. New inductions are as follows:

- Vacant and newly created positions are advertised in the leading daily newspapers. Applications are received by the registrar office; call letters are issued to the short listed candidates on the basis of their experiences, qualification, publications and other qualities/ activities as fixed as per university rules.
- The candidates are interviewed by the university selection Board. Principal and alternate candidates are selected
- Selection of candidates is approved by the syndicate for issuing orders to join within a specified time period.
- Induction of new candidates depends upon the number of approved vacancies.
- Standard set by HEC are considered.

Retention of Excellent Faculty Members

- At present, no procedure exists for retaining highly qualified faculty members.
- HEC also supports appointment of highly qualified members as foreign faculty professor, National Professors and deputes them in various departments of the university.

Standard 5.4: Process and Procedure to Ensure Teaching and Delivery of Course Material

- Periodical revision of the curriculum helps high quality teaching. This revision is based upon requirements, innovations and new technology
- With the emergence of new fields, new courses are set and included in the curriculum
- Relevant and supporting material is available in university library
- Lecture aids are prepared by the teachers and given to the students.
- Most of the lectures are also supplemented by overheads, slides and pictures

- All efforts are made that the courses and knowledge imparted meet the objectives and outcomes. The progress is regularly reviewed in the staff meetings.

5.5. Completion of Program Requirements

- Announcement of the date of commencements examination by the controller of examinations announces.
- Notification of results after 30 days of the examinations finish, the controller office notifies the results of the students.
- The evaluation procedure consists of quizzes, mid and final examinations, practical formulas, assignments and reports, oral and technical presentation.

SECTION 6

Criterion 6: FACULTY

Standard 6-1: Full Time Faculty

Table 8: Faculty Distribution by Program Areas in Botany

Program area of specialization	Courses in the area and average number of sections per year	Number of faculty members in each area	Number of faculty with Ph. D degree
Taxonomy & Ethnobotany	6	2	1
Ecology	6	1	1
Physiology	8	1	1
Mycology and Plant Pathology	2	1	1
Tissue Culture	3	2	2
Total	25	7	6

Table 9: Faculty Specialization

S. No	Name	Position	Qualification	Specialization
1.	Dr. Muhammad Arshad	Professor	PhD	Plant Ecology
2.	Dr. Abida Akram	Assoc. Professor	Ph.D	Mycologist
3.	Dr. Rahmatullah Qureshi	Assoc. Professor	PhD	Plant Taxonomy & Ethnobotany
4.	Dr. Noshin Ilyas	Assist Professor	PhD	Plant Microbiologist
5.	Dr. Naveed Iqbal Raja	Assist Professor	PhD	Tissue culture
6.	Dr. Yamin Bibi	Assist Professor	PhD	Phytochemistry
7.	Ms. Mubashra Munir	Lecturer	M. Phil.	Fresh water biologist
8.	Ms. Saira Asif	Lecturer	M.Phil	Tissue Culture
9.	Mr. Zia Ur Rehman Mashwani	Lecturer	M.Phil	Ethnopharmacology

Standard 6.2: Effective Programs for Faculty Development

- Proficient implementation and accessibility of pleasing research and academic facilities are provided conferring to the faculty members.
- Incentives in the practice of allowances to thesis supervisors have been implemented lately to promote high standard research.

Standard 6.3: Faculty member motivation

- There is a calamitous necessity of motivation

SECTION 7

Criterion 7: Institutional Facilities

Standard 7-1 infrastructure

The institutional facilities are insufficient though the department has provided new space. These shortfalls are under:

- There is only one lecture hall for all classes on departmental disposal and the remaining shared with other department.
- The department has lack of departmental library.
- The Department lacks the computer and internet laboratory.
- New Labs are also required.
- Lab of the dept. lack the gas supply
- Upturn the department budget for research and experimentation.

Standard 7-2 Library facilities

The university central library has very limited number of books, journals and periodical, it's a small library in term of space and facilities no catalogue systems; it does not meet the standards of a university library. Department itself does not have a library.

Standard 7.3 Class Room and Faculty Offices

- Shortage of lecture halls
- Faculty offices are inadequate.

SECTION 8

Criterion 8: Institutional Support

- There should be more encouragement for the faculty members to carry out quality research.
- There is inadequate supporting technical and official staff and some equipment.
- There is one classroom available therefore; classes are taken in the labs.

Standard 8-1 Support and Financial Resources

At present department is having a very insufficient financial resource to maintain the present needs of the department. Individual research grants for students and faculty are mainly supporting the departmental research activities. There is dire need of increasing the financial resources allocated to the department to establish a library, laboratories and computer facilities. Suggestions and factors that can contribute to the motivation to the faculty are given as follows:

- Research grants to the young faculty members.
- Discrimination should be discouraged at all levels.
- Sabbatical leaves for researches in the country and abroad.

Standard 8-2 High Quality Graduate Students and Research scholars

Graduate students are enrolled once in a year. However, PhD scholars are enrolled semester wise. A strict merit policy adopted and GRE/NTS examination is implemented. Lately, details of the students and research scholars are given following tables.

Table 12: Showing the Number of students obtaining degree in different programs from 2003-09.

STUDENTS	NOS									
	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Postgraduate	39	42	43	41	32	60	56	57	67	57
Ph. D.	5	0	02	0	5	2	3	-	--	01
M.Phil	--	--	--	--	--	13	09	13	14	14
Research Associate				01	02					

Students: Faculty ratio	1:20	Fulfills HEC criteria
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Standard 8-3 Financial Resources:

Total budget of the department for the financial year 2011-12 is Rs. 1, 00000/- (One Lac rupees only) which hardly fulfills the departmental needs particularly for the purchase of necessary chemicals, etc.

Name	Prof. Dr. MUHAMMAD ARSHAD
Personal	PMAS ARID AGRICULTURE UNIVERSITY, MURREE ROAD, RAWALPINDI PAKISTAN. E. Mail: arshad2uaar @ yahoo.com H. No. 12, UNIVERSITY COLONY NO. 2, PMAS ARID AGRICULTURE UNIVERSITY, MURREE ROAD, RAWALPINDI PAKISTAN. Off: 051-9062207
Experience	Professor Feb 2007 to date Department of Botany, PMAS Arid Agriculture University, Rawalpindi, Pakistan. Associate Professor Dec 2004 to Feb. 2007 Department of Botany, University of Arid Agriculture, Rawalpindi, Pakistan. Assistant Professor Jan., 1998 to Dec 2004 Department of Botany, University of Arid Agriculture, Rawalpindi, Pakistan. Chairman, Jan., 1998 to Feb, 1998 Department of Biological Sciences University of Arid Agriculture, Rawalpindi, Pakistan Lecturer May 1986 to Jan., 1998 Department of Botany, University of Arid Agriculture, Rawalpindi, Pakistan.
Honor and Awards	• Medalist scored first position in M. Phil., Quaid-i-Azam University, Islamabad, Pakistan. • Award Merit Scholarship during H.S.C. • Member Syndicate. University of Arid Agriculture, Rawalpindi for the period of two years (2005-2007). • Member of University Finance and Planning Committee as a representative of Syndicate for the period of two years (2005-2007). • Member of Advanced Studies and Research Board, Kohat University of Science and Technology, Kohat.
Memberships	• Member Pakistan Phytopathological Society. • Member of advisory group of WWF project” Capacity building in ethnobotany applied to conservation and sustainable use of plants

	resources from 2001-2004.		
Graduate students	Year	Degree	Number of
Postdocs	students		
Undergraduate students	1996 – 2005	M.Sc.	15
Honour students	2006 to date	M.Phil	40
	2003 to date	Ph.D.	07
Service Activity	• Worked as Secretary, Department of Plant Protection, Barani Agricultural College, Rawalpindi, Pakistan. • Worked as Hostel Superintendent form 1986 - 1989, Barani Agricultural college, Rawalpindi, Pakistan. • Member of Examination Committee, Barani Agricultural College, Rawalpindi, Pakistan. • President, Student Tutorial Group “Heaven” University of Arid Agriculture, Rawalpindi, Pakistan. • Member of Board of Faculty, Faculty of Sciences, university of Arid Agriculture, Rawalpindi, Pakistan. • Member of Environmental Friendly Club, University of Arid Agriculture, Rawalpindi, Pakistan. • Incharge Sports (Badminton), University of Arid Agriculture, Rawalpindi, Pakistan. • Academic supervisor of M.Sc. Botany students, University of Arid Agriculture, Rawalpindi, Pakistan. • Member of Comprehensive Examination Committee of M.Sc. Botany students, University of Arid Agriculture, Rawalpindi, Pakistan. • Incharge Administration, Department of Biological Sciences, University of Arid Agriculture, Rawalpindi.		
Research Interest	Plant Ecology; Phytosociology; Plant Biosystematics; Plant Taxonomy; Medicinal Plants; Ethnobotany.		
Publications	Impact Factor Publication 1. Rahim, G., R.Qureishi, M. Gulfraz, M. Arshad and S. Rahim 2012 Preliminary phytochemical screening and ethnomedicinal uses of <i>Teucrium stocksianum</i> from Malakand Division. <i>J. Med. Pl. Res.</i>, 6(5): 704-707(Impact factor = 0.879). 2. Muneer, M., A. Hussain, I. Haq, R. Qureishi, M. Munazar, M. Arshad and M. K. Lagari 2012 Callogenesis Potential of cotyledonary explants of <i>Althaea rosea</i> L. from Pakistan <i>Pak. J. Bot.</i>, 43(1): 121-133 (Impact factor = 1.207). 3. Mashwani Z. A., M.A Khan, M. Ahmad, M. Zafar, N. I. Raja, M. Arshad and Samiullah, (2012) Macro-mineral quantification of the forage grass species in the Gandgar hills, western Himalaya, Pakistan. <i>Pak. J. Bot.</i>, 44: 117-121 (Impact factor = 1.207) 4. Sultana, S., M. Ahmad, M. Zafar M. A. Khan and M. Arshad. 2012. Authentication of Herbal drug Senna		

	(<i>Cassia angustifolia</i> Vahl.): A village Pharmacy for Indo-Pak Subcontinent. <i>African Journal of Pharmacy and Pharmacology</i>, 6(30): 2299-2308 (Impact factor = 0.839) 5. Munazir, M., R. Qureshi, M. Arshad and M. Gulfraz. 2012. Antibacterial activity of root and fruit extracts of <i>Leptadenia pyrotechnica</i> (Asclepiadaceae) from Pakistan. <i>Pak. J. Bot.</i>, 44(4): 1209-1213. (Impact factor = 1.207). 6. Shah G. M., M. Ahmad, M. Arshad, M. A. Khan, M. Zafar and S. Sultana. 2012. Ethno-phyto-veterinary medicines in Northern Pakistan. <i>Journal of Animal & Plant Science.</i>, 22(3): 791-797 (Impact factor: 0.638). 7. Muneer, M., R. Qureshi, , M. Arshad, S. K. Chaudhari and M. K. Lagari 2012. Taxonomic study of Bacillariophyta From Kallar Kahar Lake Chakwal, Punjab, Pakistan <i>Pak. J. Bot.</i>, 43(1): 121-133 (Impact factor = 1.207). 8. Javid A., M. Ahmad, M. Zafar, S. Sultana, M. A. Khan and M. Arshad, 2012. Palyno-anatomical studies of <i>clematis</i> l. (Ranunculaceae) from Poonch valley ajk, pakistan. <i>Journal of Animal & Plant Sciences</i>, 22(4): 1173-1176. (Impact factor = 0.638) 9. Mehmood, K., M. Arshad, G. M. ALI and A. Razzaq. 2013. Tissue culture responses of some Wheat (<i>Triticum aestivum</i> L.) cultivars grown in Pakistan. <i>Pak. J. Bot.</i>, 45(SI): 545-549(Impact factor = 1.207). 10. Kausar, R., M. Arshad., A. Shahzad and S. Komatsu. 2013. Proteomic analysis of sensitive and tolerant Barley genotypes under drought stress. <i>Amino Acid-SpringerLink</i>, 44(2): 345-359 (Impact factor = 4.1) 11. Ahmed, E., M. Arshad, A. Saboor, R. Qureshi, G. Mustafa, S. Sadiq, S. K. Chaudhari. 2013. Ethnobotanical appraisal and medicinal use of plants in Patriata, New Murree, evidence from Pakistan. <i>Journal of Ethnobiology and Ethnomedicine</i>, 9 (13): 1-10 (Impact factor = 2.42). 12. Rahim, G., R. Qureshi, M. Arshad and M. Gulfraz. 2013. Phytochemical analysis and Antioxident properties of <i>Teucrium stocksianum</i> Flowers from Malakand Division. Pakistan. <i>Int. J. Agric. Biol.</i>, 15(2):377-381 (Impact factor = 0.944) 13. Ilyas M., R. Qureshi, M. Arshad and S. N. Mirza, 2013. A preliminary checklist of the vascular flora of Kabal Valley, Swat, Pakistan. <i>Pak. J. Bot.</i>, 45(2): 605-615 (Impact factor = 1.207). 14. Ahmad M., M. Zafar, H. Sadia, S. Sultana, M. Arshad, M. Irfan and M. A. Khan, 2013. Physio-Chemical Characterization of Sunflower Oil Biodiesel by Using Base Catalyzed Transesterification. <i>Int. J. Green energy</i>. (Impact factor = 2.069) 15. Muneer , M., R. Qureishi,M. Munazar, M. K. Lagari, M.
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	Arshad and A. Khaliq Ch. 2013. Taxonomy of some pennate diatoms from Kallar Kahar Lake, District Chakwal, Pakistan <i>The Journal of Animal & Plant Sciences</i>, 23(2):457-463. (Impact factor = 0.638) 16. Ali, A., M. Arshad, A.M. Mastrangelo, A. Rasheed, A.G. Kazi, T. Mahmood and A. Mujeeb-Kazi. (2013) Comparative assessment of glutenin composition and their relationship with grain quality traits in bread wheat germplasm. Pakistan. <i>Pak. J. Bot.</i>, 45(SI): 289- 296 (Impact factor = 1.207) 17. Chaudhari, S. K., M. Arshad , E. Ahmed, G. Mustafa, S. Fatima and M. S. Amjad 2013 Ethnobotanical Evaluation of Grasses From Thal Desert of Pakistan. <i>Archive Des Science</i>, 66(5)248-255. (Impact factor = 0. 474). 18. Amjad M.S., M. Arshad, S.K. Chaudhari, K. Manzoor, S. Fatima, G. Mutaafa and N.Z. Malik 2013 Altitudinal Variation in Plant Species Diversity and its Components in Kotli Hills Azad Kashmir <i>Archive Des Science</i>, 66(5)614-621(Impact factor = 0. 474). 19. Akhtar S., A. Shahzad, M. Arshad, and Fayyaz-ul-Hassan,. (2013) Morpho-Physiological Evaluation of Groundnut (<i>Arachis hypogaea</i> L.) genotypes for iron deficiency tolerance. <i>Pak. J. Bot.</i>, 45(3): 893-899. (Impact factor = 1.207) 20. Razzaq, A., M. Arshad, S. Ashraf, A. Akram, A. Qayyum and I. Mahmood. 2013. Evaluation of Psyllium Husk (<i>Plantago ovata</i>) as a low cost gelling agent for callus formation and regeneration in wheat (<i>Triticum aestivum</i> L.) cultivar GA-2002. <i>wulfenia journal</i>, 20(7):153-161 (Impact factor = 0.467). 21. Nayyar B.G., A. Akram, M. Arshad, S. M. Mughal, S. Akhund and S. Mushtaq (2013) Mycoflora Detected from Seeds of <i>Sesamum indicum</i> L. in Sialkot, Pakistan <i>IOSR Journal of Pharmacy and Biological Sciences</i>, 7(3):99-103 (Impact factor = 1.13). 22. Ilyas, M., R. Qureshi, Z. K. Shinwari, M. Arshad, S. N. Mirza and Zia-Ul-Haq 2013. Some Ethnoecological Aspects of the Plants of Qalagai Hills, Kabal Valley Swat, <i>Int. J. Agric. Biol.</i>, 15(5)801-810(Impact factor = 0. 808). 23. Amjad, M. S., M. Arshad and I. A. Qamar. 2013. Phytosociology of Pinus-Qurecus Forest Vegetation Of Nikyal Hills, District Kotli, Azad Kashmir, Pakistan. <i>Int. J. Agri. Crop. Sci.</i>, 5 (24), 2952-2960 (Impact factor = 0. 84). 24. Chaudhari, S. K., M. Arshad, M. S. Amjad, and S. Fatima (2013) Taxonomic inventory of grasses on the basis of morphological attributes from Thal desert, Pakistan. <i>International Journal of Scientific and Engineering Research</i>, 11(4):509-517(Impact factor = 1.4). 25. Qureshi, H., M. Arshad and Y. Bibi 2014 Invasive flora
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	of Pakistan A Criticle Analysis. <i>International journal of Bioscience</i>, 4 (1), 407-424 (Impact factor = 0. 076). 26. Arshad M., M. Ahmad, E. Ahmad, A. Saboor, A. Abbas, and S. Sadiq,. 2014. An ethnobiological study in Kala Chitta hills of Pothwar region, Pakistan: multinomial logit specification <i>Journal of Ethnobiology and Ethnomedicine</i>, 2013, 10 (13):1-17 (Impact factor = 2.42) 27. Chaudhari, S. K., Y. Bibi and M. Arshad 2014 <i>Podophyllum hexandrum</i>: An endangered medicinal plant from Pakistan. <i>Pure and Applied Biology</i>, (3):1, 19-2 (Impact factor = 0.365). 28. Fatima, S., M. Arshad and R. Qureshi. 2014. QTL mapping for physiological maturity in synthetic hexaploid wheat (<i>Triticum aestivum</i> L.) under drought stress. <i>Pure and Applied Biology</i>, (3):1, 25-31(Impact factor = 0.365). 29. Chaudhari, S. K., M. Arshad, G. Mustafa , S. Fatima, M. S. Amjad and F. Yasmin 2014 Foliar epidermal anatomy of grasses from Thal Desert, District Khushab Pakistan. <i>International Journal Of Biosciences</i>, (4):8, 62-70 (Impact factor = 0.076). 30. Bano, A., M. Ahmad, T. B. Hadda, A. Saboor, S. Sultana, M. Zafar, M. P. Khan, M. Arshad and M. A. Ashraf 2014. <i>Journal of Ethnobiology and Ethnomedicine</i>, 10 (43):1-17 (Impact factor = 2.42) 31. Sabir, S., M. Arshad, S. Asif and S. K. Chaudhari. 2014. An insight into medicinal and thraupeutic potential of <i>Silybum marianum</i> (L) Gaertn. <i>International Journal Of Biosciences</i>, 4(11):104-115 (Impact factor = 0.076) 32. Fatima, S. and M. Arshad 2014 Mapping quantitative trait loci of morphological attribute using drought mapping population 5 (Opata x SH349) under drought stress. <i>International Journal Of Biosciences</i>, 4(12):134-143 (Impact factor = 0.076) 33. Fatima, S., M. Arshad, S. K. Chaudhari, A. Ali, M. S. Amjad and R. kousar. 2014 Utilization of synthetics for drought tolerance in wheat <i>Triticum aestivum</i> L. <i>International Journal Of Biosciences</i>, 5(1):104-112 (Impact factor = 0.076) 34. Ali, A., M. Arshad, S. M. S. Naqvi, M. Ahmed, H. Sher, S. Fatima, A. G. Kazi,,A. Rasheed, A. Mujeeb-Kazi. (2014) Exploitation of Synthetic- derived Wheat's through osmotic stress responses for drought tolerance improvement. <i>Acta Physiol Plant</i> (Springer), (Impact factor = 1.305). 35. Sabir, S., M. Arshad, K. Zahara, S. Tabassum and S. K. Chaudhari, 2014 Pharmacological attributes and nutritional benefits of tea tree oil. <i>International Journal of Biosciences</i>, 5(2):80-91 (Impact factor = 0.076). 36. Amjad, M. S., M. Arshad, S. K. Chaudhari. 2014.
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	Structural diversity, its components and regenerating capacity of lesser Himalayan forests vegetation of Nikyal valley District Kotli (A.K), Pakistan. Asian pacific journal of Tropical Medicine (Elsevier)., 7(Suppl 1): S454-S460. (Impact factor = 0.926) 37. Amjad, M. S., M Arshad, A. Rashid, S. K. Chaudhari, N. Z. Malik and F. Akrim. 2014. Examining relationship between environmental gradients and lesser Himalyan forest vegetation of Nikyal valley, Azad Jammu and Kashmir using ordination analysis. Asian journal of Tropical Medicine (Elsevier)., 7(Suppl 1): S610-S616. (Impact factor = 0.926) 38. Zahara K, S, Tabassum, S. Sabir, M. Arshad, R. Qureshi, M. S. Amjad and S. K Chaudhari. 2014. A review of therapeutic potential of Saussurea lappa-An endangered plant from Himalaya. Asian journal of Tropical Medicine (Elsevier). 7(Suppl 1): S60-S69. (Impact factor = 0.926) 39. Ilyas M., N. Ilyas, M. Arshad, A. G. Kazi, A. M. Kazi, and A. Waheed. 2014. Qtl mapping of wheat doubled haploids for chlorophyll content and chlorophyll fluorescence kinetics under drought stress imposed at anthesis stage Pak. J. Bot., 46(5): 1889-1897 (Impact factor = 1.207). 40. Fatima, S., A. Akram, M. Arshad, S. K. Chaudhari, , M. S. Amjad and H. Qureshi.. 2014 Effect of biological potassium fertilization (BPF) on the availability of phosphorus and potassium to maize (<i>Zea mays</i> L.) under controlled conditions. International Journal Of Biosciences, 5(8):25-36 (Impact factor = 0.076)
Research Grant	Date Title Organization 2003 Ethnobotanical study of the Galliyat for UAAR botanical demography and bioecological diversification. (Amount Funded: Rs. 100,000/-) Ethnobotanical Study of Mountain Range of Kalla Chitta in Potohar Region , Pakistan Funded by WWF Pakistan. Exploration and Eco.Taxonomic Screening Of Fodder Grasses from Thal Desert (Khushab) of Pakistan.
Selected Professional Presentations	A focus on Phytogeography of Medicinally important flora in suburban region, their mitigation redress, In-SITU Conservation and sustainable use. International Workshop on Conservation and Sustainable uses of Medicinal and Aromatic Plants in Pakistan. Organized Jointly by WWF, Qarshi Industries Pvt. Ltd. And MINFAL, Islamabad. (2003).

	In vitro Conservation and its Implication for Grape Germplasm Biodiversity. International conference biotechnology shaping future agriculture. Organized by UAAR. June 20-21, 2006.
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Personal	DR. RAHMATULLAH QURESHI Muhammad Shafi Qureshi Pakistani 45502-9070455-3 Sindh [District Sukkur] 01-06-1972 Department of Botany, Pir Mehr Ali Shah Arid Agriculture University, Rawalpindi, Punjab, Pakistan +9251-9290093 +923006730496 rahmatullahq@yahoo.com , phytotaxonomist@gmail.com rahmatullahq@uaar.edu.pk,														
PRESENT POSITION	❖ Associate Professor (TTS), Department of Botany, Pir Mehr Ali Shah Arid Agriculture University, Rawalpindi (Pakistan) since 29 th August, 2011 to Date.														
EXPERIENCE	- Associate Professor (Regular), Department of Botany, Pir Mehr Ali Shah Arid Agriculture University, Rawalpindi (Pakistan) since 14th December, 2010 to 28th August, 2011. - Assistant Professor, Department of Botany, Pir Mehr Ali Shah Arid Agriculture University, Rawalpindi (Pakistan) since 23rd May, 2007 to 13th December, 2010. - Seed Certification Assistant (BPS-17) in Federal Seed Certification & Registration Department from 4th January, 2002 to 22nd May, 2007. - Research Associate in the Department of Botany, Shah Abdul Latif University Khairpur from 25th September 1998 to 31st December, 2001.														
Honor Students	A. <u>Ph.D. Theses Supervised (Major supervisor)</u> <table border="1"> <thead> <tr> <th>S. No.</th><th>Name</th><th>Year</th><th>Title of theses</th></tr> </thead> <tbody> <tr> <td>1</td><td>Ms. Mubashrah Munir HEC Indigenous Scholar</td><td>2014</td><td>Ecology of Algal Flora from Kallar Kahar Lake and its tributaries</td></tr> <tr> <td>2</td><td>Mr. Gul Rahim HEC Indigenous Scholar</td><td>2014</td><td>Bioactivity Guided Assessment of some medicinal plants of Malakand Division</td></tr> </tbody> </table>			S. No.	Name	Year	Title of theses	1	Ms. Mubashrah Munir HEC Indigenous Scholar	2014	Ecology of Algal Flora from Kallar Kahar Lake and its tributaries	2	Mr. Gul Rahim HEC Indigenous Scholar	2014	Bioactivity Guided Assessment of some medicinal plants of Malakand Division
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2	Mr. Gul Rahim HEC Indigenous Scholar	2014	Bioactivity Guided Assessment of some medicinal plants of Malakand Division												

B. PhD Theses Supervised (Co-supervisor/Member)

S. No.	Name	Year	Title of theses
1	Fakhira Shamim (03-arid-901)	2013	Relative physiological & biochemical evaluation of some tomato (<i>Lycopersicon esculentum</i> L.) genotypes under water deficit conditions
2	Mr. Ahmed Ali (06-arid-763)	2013	Utilization of triticeae primary gene pool to improve drought tolerance in bread wheat (<i>Triticum aestivum</i> L.)
3	Zakir Husain (07-arid-1074)	2013	Vegetation analysis, grassland productivity & carrying capacity of Deosai National Park, Gilgit-Baltistan
4	Dawood Ahmed	2013	Study of phytochemicals and antitumor activity of <i>Taraxicum officinale</i> L. in rats
5	Ms. Shamim Akhter (04-arid-985)	2013	Amelioration of iron deficiency in groundnut (<i>Arachis hypogea</i> L.) through genetic engineering
6	Pervaiz Anwar	2014	Biochemical analysis of oil extracted from wild olive (<i>Olea ferruginea</i>) and its comparison with standard oil of cultivated olive (<i>Olea europea</i>)
7	Khalid Mehmood (03-arid-827)	2014	Improvement of wheat for drought tolerance through Genetic Engineering
8	Ms. Sammar Fatima (02-arid-281)	2014	Drought stress induced metabolic changes in local cultivar of wheat (<i>Triticum aestivum</i> L.)s

C. PhD Theses (Research complete/Under Write-up)

1. Cytotoxic and phytochemical analysis of selected medicinal plants from salt range, Pakistan (Mr. Muhammd Maqsood)
2. Phytosociology Floral Diversity and Conservation Status of Muree- Kotli Sattaian-Kahuta National Park (Mr. Wasim Ahmed)

D. M. Phil. Theses Supervised (Major Supervisor)

Name	Year of Passing	Title of theses
Sehrish Sadia	2012	Allelopathic potential of <i>Tagetes minuta</i> for controlling broad and narrow leaved weeds

	<table> <tr> <td>Abida Hussain</td> <td>2012</td> <td>Ethnobotanical study of Rawalakot, AJK</td> </tr> <tr> <td>Shahida Perveen</td> <td>2012</td> <td>Antimicrobial activity of <i>Cymbopogon jwarancusa</i> from Thal Desert</td> </tr> <tr> <td>Memoona Akram</td> <td>2012</td> <td>Weed flora dynamics of maize crop in Tehsil Gujrat, Pakistan</td> </tr> <tr> <td>Rukhsana Kausar</td> <td>2012</td> <td>Weed flora composition of wheat crop in Tehsil Gujrat, Pakistan</td> </tr> <tr> <td>Simeen Masood</td> <td>2012</td> <td>Ecotaxonomic study of cyanophyta of Kallar Kahar Lake</td> </tr> <tr> <td>Sadaf Anwaar</td> <td>2013</td> <td><i>In vitro</i> anthelmintic activity of native medicinal plants from Thal Desert</td> </tr> <tr> <td>Kaleem Ullah</td> <td>2013</td> <td>Floristic and ethnobotanical investigations of Monocotyledons from Thal Desert</td> </tr> <tr> <td>Mirza Faisal Qaseem</td> <td>2013</td> <td>Folk wisdom of plants used by the rural communities of Kotli, Azad Jammu and Kashmir</td> </tr> <tr> <td>Abdullah Rahim</td> <td>2014</td> <td>Ethnobotanical profile of District Battagram, KPK</td> </tr> <tr> <td>Saima Sharif</td> <td>2014</td> <td>Ethnobotanical Enumeration of Tehsil Bagh, AJK</td> </tr> </table>	Abida Hussain	2012	Ethnobotanical study of Rawalakot, AJK	Shahida Perveen	2012	Antimicrobial activity of <i>Cymbopogon jwarancusa</i> from Thal Desert	Memoona Akram	2012	Weed flora dynamics of maize crop in Tehsil Gujrat, Pakistan	Rukhsana Kausar	2012	Weed flora composition of wheat crop in Tehsil Gujrat, Pakistan	Simeen Masood	2012	Ecotaxonomic study of cyanophyta of Kallar Kahar Lake	Sadaf Anwaar	2013	<i>In vitro</i> anthelmintic activity of native medicinal plants from Thal Desert	Kaleem Ullah	2013	Floristic and ethnobotanical investigations of Monocotyledons from Thal Desert	Mirza Faisal Qaseem	2013	Folk wisdom of plants used by the rural communities of Kotli, Azad Jammu and Kashmir	Abdullah Rahim	2014	Ethnobotanical profile of District Battagram, KPK	Saima Sharif	2014	Ethnobotanical Enumeration of Tehsil Bagh, AJK
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Saima Sharif	2014	Ethnobotanical Enumeration of Tehsil Bagh, AJK																													
Brief Statement of Research Interest	My major focus is on systematic botany and plant taxonomy. I am interested primarily in describing and identifying arid zone (desert) plants and determination of their conservation status. In my PhD thesis, I studied floristic and ethnobotanical appraisal of Nara Desert, Pakistan. I have worked on various research projects. My further focus is on followings: ❖ Plant Taxonomy & Systematic Botany ❖ Biodiversity & Conservation ❖ Weed & Plant Ecology ❖ Ethnobotany ❖ Bioactivity of native medicinal plants																														
PUBLICATIONS	<u>INTERNATIONAL</u> <u>(Impact Factored)</u> 1. Shaheen, H., R. Qureshi, I. Zahra M. Munir and M. Ilyas. 2014. Floristic diversity of Santh Saroola, Kotli Sattian, Rawalpindi, Pakistan. <i>Pak. J. Bot.</i>, 46(6): 1945-1954 (Impact Factor: 1.207). 2. Qureshi, R. and S. Raana. 2014. <i>Conyza sumatrensis</i> (Retz.) E. H. Walker: A new record from Pakistan. <i>Plant Biosystems</i>, 148(5-6): 1035-1039. http://dx.doi.org/10.1080/11263504.2013.850119 (Impact Factor: 1.910) 3. Maqsood, A., A. Rehman, I. Ahmad, M. Nafees, I. Ashraf, R. Qureshi, M. Jamil, M. Rafay and T. Hussain. 2014. Physiological attributes of fungi																														

- associated with stem end rot of mango (*Mangifera indica* L.) cultivars in postharvest fruit losses. *Pak. J. Bot.*, 46(5): 1915-1920 (**Impact Factor: 1.207**).
4. Zahara, K., S. Tabassum, S. Sabir, M. Arshad, **R. Qureshi**, M.S. Amjad and S.K. Chaudhari. 2014. A review of therapeutic potential of *Saussurea lappa*-An endangered plant from Himalaya. *Asian Pac. J. Trop. Med.*, 7(Suppl 1): 560-569 (**Impact Factor: 0.926**).
 5. Wariss, H.M., S. A. Pirzada, K. Alam, S. Anjum and **R. Qureshi**. 2014. Flora of Lal Suhanra National Park, Bahawalpur, Punjab, Pakistan. *Pak. J. Bot.*, 46(4): 1331-1341 (**Impact Factor: 1.207**).
 6. **Qureshi, R.**, H. Shaheen, M. Ilyas, M. Wasim and M. Munir. 2014. Phytodiversity and plant life of Khanpur Dam, Khyber Pakhtunkhwa, Pakistan. *Pak. J. Bot.*, 46(3): 841-849 (**Impact Factor: 1.207**).
 7. Gulfraz, M., D. Ahamd, M.S. Ahmad, **R. Qureshi**, R.T. Mahmood, N. Jabeen and K.S. Abbasi. 2014. Effect of leaf extracts of *Taraxacum officinale* on CCl₄ induced Hepatotoxicity in rats, *in vivo* study. *Pak. J. Pharm. Sci.*, 27(4): 825-829 (**Impact Factor: 0.95**).
 8. Shaheen, H., **R. Qureshi**, A. Akram and M. Gulfraz. 2014. Inventory of medicinal flora from Thal Desert, Punjab, Pakistan. *Afr. J. Tradit. Complement. Altern. Med.*, 11(3): 282-290 (**Impact Factor: 0.56**).
 9. Shaheen, H., **R. Qureshi**, A. Akram, M. Gulfraz and D. Potter. 2014. A preliminary floristic checklist of Thal Desert Punjab, Pakistan. *Pak. J. Bot.*, 46(1): 13-18 (**Impact Factor: 1.207**).
 10. Anwar, P., A. Bendini, M. Gulfraz, **R. Qureshi**, E. Valli, G.D. Lecce, S.M.S. Naqvi and T. G. Toschi. 2013. Characterization of olive oils obtained from wild olive trees (*Olea ferruginea* Royle) in Pakistan. *Food Research International*, 54(2): 1965–1971 (**Impact Factor: 3.005**).
 11. Ahmed, D., M. Gulfraz, M.S. Ahmad, **R. Qureshi**, R.T. Mahmood and P. Anwar. 2013. Cytoprotective potential of methanolic leaves extract of *Taraxacum officinale* on CCl₄ induced rats. *Pensee Journal*, 75(11): 220-227. (**Impact Factor: 0.026**).
 12. Ilyas M., **R. Qureshi**, Z.K. Shinwari, M. Arshad, S.N. Mirza and Z.U. Haq. 2013. Some Ethnoecological aspects of the plants of Qalagai Hills, Kabal Valley, Swat, Pakistan. *Int. J. Agric. Biol.*, 15 (5): 801–810 (**Impact Factor: 0.940**).
 13. Sadiq, M., R. Asghar, **R. Qureshi** and A. Ali. 2013. Study of polypeptides induced by drought stress in some local varieties of barley from Pakistan. *Pak. J. Bot.*, 45(4): 1251-1254. (**Impact Factor: 1.207**)
 14. Munir, M., R. Qureshi, M. K. Laghari, M. Arshad and A.K. Ch. 2013. Taxonomy of some pennate diatoms from Kallar Kahar Lake, District Chakwal, Pakistan. *The Journal of Animal & Plant Sciences*, 23(2): 457-463. (**Impact Factor: 0.585**).
 15. Ilyas M., **R. Qureshi**, M. Arshad and S.N. Mirza. 2013. A Preliminary checklist of the vascular flora of Kabal Valley, Swat, Pakistan. *Pak. J. Bot.*, 45(2): 601-615. (**Impact Factor: 1.207**)
 16. Rahim, G., **R. Qureshi**, M. Arshad and M. Gulfraz. 2013. Phytochemical analysis and antioxidant properties of *Teucrium stocksianum* flower from Malakand Division, Pakistan. *Int. J. Agric. Biol.*, 15 (2): 377–381 (**Impact Factor: 0.940**)
 17. Ahmed, A., M. Arshad, A. Saboor, **R. Qureshi**, G. Mustafa, S. Sadiq and

- S.K. Chaudhari. 2013. Ethnobotanical appraisal and medicinal use of plants in Patriata, New Murree, evidence from Pakistan. *Journal of Ethnobiology and Ethnomedicine*, 9:13. **(Impact Factor: 2.39)**
18. Abbas Q., **R. Qureshi**, A.N. Naqvi, S.W. Khan and I. Hussain. 2013. Floristic inventory and ethnobotanical study of the Naltar Valley (Karakoram Range), Gilgit, Pakistan. *Pak. J. Bot.*, 45(SI): 269-277. **(Impact Factor: 1.207)**
 19. Jamil S., S.A. Pirzad, M.K. Alam, H.M. Wariss, **R. Qureshi**, K.A. Ansari and S.A. Sheikh. 2013. Seed Morphometry of Some Grasses and Sedges from Cholistan Desert, Pakistan. *Archives Des Sciences*, 66(1): 128-133. **(Impact factor: 0.474)**
 20. **Qureshi, R.**, H. Qureshi, H. Shaheen, G. Rahim, W. Ahmed, N.I. Raja, M. Hanif and M.A. Malik. 2012. Medico-Ethnobotanical Knowledge of Jhang Saiyidan, Islamabad, Pakistan. *Archives Des Sciences*, 65(12): 259-271. **(Impact factor: 0.474)**
 21. Rahim, G., **R. Qureshi**, H. Shaheen, M. Hanif and M.A. Malik. 2012. Germplasm screening of *Myrtus communis* var. *baetica* L. from Lower Dir (Malakand Division), Pakistan. *Archives Des Sciences*, 65(12): 49-77. **(Impact factor: 0.474)**
 22. Imran, M., M.J. Asad, M. Gulfraz, **R. Qureshi**, H. Gul, N. Manzoor and A.N. Choudhary. 2012. Glucoamylase production from *Aspergillus niger* by using solid state fermentation process. *Pak. J. Bot.*, 44(6): 2103-2110. **(Impact Factor: 1.207)**
 23. Ahmad, K.S., **R. Qureshi**, M. Hameed, F. Ahmad and T. Nawaz. 2012. Conservation Assessment and Medicinal Importance of some Plants Resources from Sharda, Neelum Valley, Azad Jammu and Kashmir, Pakistan. *Int. J. Agric. Biol.*, 14 (6): 997–1000. **(Impact Factor: 0.940)**
 24. Sher, A., M. Ansar, M.A. Malik, A. Wasaya, G. Shabbir and **R. Qureshi**. 2012. Variability of Hydrocyanic acid in fresh leaves of forage Sorghum grown under different soil moisture regimes. *Archives Des Sciences*, 65 (11): 752-762. **(Impact factor: 0.474)**
 25. **Qureshi, R.**, Qurat-Ul-Ain, M. Ilyas, G. Rahim, W. Ahmad, H. Shaheen and K. Ullah. 2012. Ethnobotanical study of Bhera, District Sargodha, Pakistan. *Archives Des Sciences*, 65 (11): 690-707. **(Impact factor: 0.474)**
 26. Munir, M., **R. Qureshi**, M. Arshad, A.K. Chaudhry and M.K. Laghari. 2012. Taxonomic study of bacillariophyta from Kallar Kahar Lake Chakwal, Punjab, Pakistan. *Pak. J. Bot.*, 44(4): 1805-1814. **(Impact factor: 1.207)**
 27. Munazir, M., **R. Qureshi**, M. Arshad and M. Gulfraz. 2012. Antibacterial activity of root and fruit extracts of *Leptadenia pyrotechnica* (Asclepiadaceae) from Pakistan. *Pak. J. Bot.*, 44(4): 1209-1213. **(Impact factor: 1.207)**
 28. Ilyas, M., Z.K. Shinwari and **R. Qureshi**. 2012. Vegetation composition and threats to the montane temperate forest ecosystem of Qalagai Hills, Swat, Khyber Pakhtunkhwa, Pakistan. *Pak. J. Bot.*, 44 (SI May, 2012): 113-122. **(Impact factor: 1.207)**
 29. Munir, M., A. Hussain, I. Haq, **R. Qureshi**, M. Munazir, M. Arshad and M.K. Laghari. 2012. Callogenesis potential of cotyledonry explant of *Althea rosea* From Pakistan. *Pak. J. Bot.*, 44 (SI): 271-275. **(Impact factor = 1.207)**.
 30. Amber, P., A. Akram, **R. Qureshi** and Z. Akram. 2012. HPLC analysis for secondary metabolites detection in *Sclerotium rolfsii* isolated from Chickpea. *Pak. J. Bot.*, 44 (SI): 417-422. **(Impact factor = 1.207)**.

31. **Qureshi, R.** 2012. Medicinal flora of Hingol National Park, Baluchistan, Pakistan. *Pak. J. Bot.*, 44 (2): 725-732 (**Impact factor = 1.207**).
32. Rauf, F., **R. Qureshi** and H. Shaeen. 2012. Folk medicinal uses of indigenous plant species of Barroha, Bhara Kahu and Maanga in Islamabad, Pakistan. *Journal of Medicinal Plants Research*, 6(11): 2061-2070 (**Impact factor = 0.879**)
33. Shaheen, H., **R. Qureshi**, A. Akram and M. Gulfraz. 2012. Some important medicinal flora of Noorpur Thal, Khushab, Pakistan. *Archives Des Sciences*, 65(2): 57-73. (**Impact factor = 0.474**).
34. **Qureshi, R.**, M. Munazir, A.A. Abul-Soad and M.A. Jatoti and G. Shabbir. 2012. In vitro callus induction protocol for *Leptadeniapyrotechnica* using various explants. *Journal of Medicinal Plants Research*, 6(3): 379-382. (**Impact factor = 0.879**).
35. Rahim, G., **R. Qureshi**, M. Gulfraz, M. Arshad and S. Rahim. 2012. Preliminary phytochemical screening and ethnomedicinal uses of *Teucrium stocksianum* from Malakand Division. 2012. *Journal of Medicinal Plants Research*, 6(5): 704-707. (**Impact factor = 0.879**)
36. Anwar, Z., M. Gulfraz, M. Imran, M.J. Asad, A.I. Shafi, P. Anwar and **R. Qureshi**. 2012. Optimization of dilute acid pretreatment using response surface methodology for bioethanol production from cellulosic biomass of rice polish. *Pak. J. Bot.*, 44(1): 169-176. (**Impact factor = 1.207**)

(Non-Impact Factored Papers)

37. **Qureshi, R.**, M. Khanum, H. Shaheen and M. Munir. 2014. Medicinal plants of Koont research farm, Pir Mehr Ali Shah Arid Agriculture University Rawalpindi, Pakistan. *Indian J. Nat. Prod. Resour.*, 5(3): 273-277.
38. Abbas, Q., S. W. Khan, S. Khatoon, S. A. Hussain, S. N. Hassan, A. Hussain, **R. Qureshi** and I. Hussain. 2014. Floristic biodiversity and traditional uses of medicinal plants of Haramosh Valley Central Karakoram National Park of Gilgit district, Gilgit-Baltistan, Pakistan. *J. Bio. & Env. Sci.*, 5 (6): 75-86.
39. Fatima, S. M. Arshad and **R. Qureshi**. 2014. QTL mapping for physiological maturity in synthetic hexaploid wheat (*Triticum aestivum* L.) under drought stress. *Pure Appl. Bio.*, 3(1): 25-31.
40. Ali, S., M.A. Malik, M. Ansar and **R. Qureshi**. 2014. Weed growth dynamics associated with rainfed wheat (*Triticum aestivum* L.) establishment under different tillage systems in Pothwar. *International Journal of Plant, Animal and Environmental Sciences*, 4(2): 146-154.
41. Shaheen, H., **R. Qureshi**, S. Iqbal and M. F. Qaseem. 2014. Seasonal availability and palatability of native flora of Santh Saroola Kotli Sattian, Rawalpindi, Pakistan. *African Journal of Plant Sciences*, 8(2): 92-102. DOI:10.5897/AJPS12.169.
42. Fatima, S., M. Arshad, A.M. Mastrangelo, D. Marone, G. Laido, **R. Qureshi**, A.G. Kazi, and A.B. Kazi. 2013. Detection of QTL for drought tolerance in a doubled-haploid mapping population. Annual wheat newsletter, vol. 59: 70-71. Edited by W.J. Raupp, Department of Plant Pathology, Kansas State University, Manhattan, KS 66506-5502 USA.
43. Kouser, R. and **R. Qureshi**. 2013. Antimicrobial activity of *Fagonia indica* from Thal Desert, Punjab, Pakistan. *International Journal of Phytomedicine*, 5(1): 113-118.

	44. Raana, G., S. Khalid, R. Qureshi, S. Sadia and A.A. Bajwa. 2012. Screening and evaluation of <i>Euphorbia pulcherrima</i> for weed management. <i>Pak. J. Weed Sci. Res.</i>, 18(4): 529-539. 45. Saeed, S., R. Qureshi, M.A. Ullah and M. Nasir. 2012. Herbaceous flora of Chotran area, Rawalpindi in Pakistan. <i>Agricultural Science Research Journal</i>, 2(6): 312 – 317. <u>NATIONAL</u> 46. Sadia, S., S. Khalid, R. Qureshi and A.A. Bajwa. 2013. <i>Tagetes minuta</i> L., A useful underutilized plant of family Asteraceae: A Review. <i>Pak. J. Weed Sci. Res.</i>, 19(2): 179-189. <u>BOOK CHAPTER/RESEARCH SUMMARY PUBLISHED</u> 47. Qureshi and G.R. Bhatti. 2014. Floral diversity of Nara Desert, Pakistan. , 413-431. In: Biodiversity of Pakistan (Editor: Rafique, M., K.A. Ibupoto, S.A. Hussain & K. Mahmood). pp. 413-431. (ISBN: 978-969-8040-28-4). 48. Qureshi, R. 2014. Floral Diversity, Threats and Conservation Measures: A Case Study from Nara Desert, Pakistan. In: Environmental and Agricultural Research Summaries (Editor: Lucille T. Cacioppo). Volume 3. pp.175-176. ISBN: 978-1-63117-090-4. eBook: ISBN: 978-1-63117-094-2. <u>BOOKS</u> 49. Qureshi, R. 2012. <i>The Flora of Nara Desert, Pakistan</i>. Nova Science Publishers, Inc. Hauppauge, New York, USA. Hard cover (ISBN: 978-1-62081-683-7). Pp. 1-317. 50. eBook (ISBN: 978-1-6281-648-6). https://www.novapublishers.com/catalog/product_info.php?products_id=33457 51. Qureshi, R. and H. Shaheen. 2013. <i>The Ethnobotanical profile of Tehsil Kotli Sattian, Rawalpindi, Pakistan</i>. Nova Science Publishers, Inc. Hauppauge, New York, USA. 978-1-62417-290-8. Pp. 1-165. 52. eBook (978-1-62417-626-5) https://www.novapublishers.com/catalog/product_info.php?products_id=38770.
PROJECT SUBMITTED FOR FUNDING	1. Establishment of Herbarium & Botanical Garden submitted to Ministry of Science & Technology.
Travel Grant for research paper presentation	1. International Conference on Anthropology in the World, organized by British Museum of Natural History, London by Pakistan Science Foundation, Islamabad, vide letter No. PSF/P&D/T.G.II (534)/11 dated 14.05.2012. 2. Hong Kong International Tropical Medicine Forum, Hong Kong, China by Pakistan Science Foundation, Islamabad vide letter NO. PSF/P&D/T.G-II (470)/11 dated 09.01.2012.
ABSTRACTS PRESENTED/PUBLISHED	1. Qureshi, R. 2012. Medico-Ethnobotany of plants used by the nomads of Nara Desert, Pakistan. Anthropology in the world organized by Royal Anthropological Institute, British Museum, London dated 8th to 10th June, 2012. Pp. 106.

2. **Qureshi, R.** 2012. Flora of Khanpur Dam, Punjab, Pakistan. 12th National & 3rd International Conference of Botany, Quaid-i-Azam University, Islamabad. 1st to 3rd September, 2012. OPTE-21. Pp.206.
3. **Qureshi, R.,** H. Shaheen, M. Maqsood, A. Akram, and M. Gulfraz. 2012. Survey of Medicinal Plants From arid Land of Khushab, Punjab, Pakistan. In: *The 3rd International Symposium on medicinal plants, their cultivation and aspects of uses*, Beit Zaman Hotel & Resort, Petra – Jordan, November 21-23/ 2012.
4. **Qureshi, R.** 2013. Traditional Date palm farming in Pakistan In: International conference on Date Palm: "Present Status and Future Prospects" organized by University College of Agriculture & Environmental Science, The Islamia University of Bahawalpur, Pakistan dated 02 to 03.09.2013.
5. **Qureshi, R.** and G.R. Bhatti. 2014. Palatability, seasonal availability and animal preference of native forage species from Northern Nara Desert, Pakistan. In: 4th International and 13th National conference of Botany, organized by Pakistan Botanical Society, Shaheed Benazir Butto University, Sheringal, Upper Dir, Pakistan dated 27 to 30.08.2014.
6. **Qureshi, R.** and G.R. Bhatti. 2014. Medicinal uses of trees and shrubs by the inhabitants of Northern Nara Desert, Pakistan. In: 4th International and 13th National conference of Botany, organized by Pakistan Botanical Society, Shaheed Benazir Butto University, Sheringal, Upper Dir, Pakistan dated 27 to 30.08.2014.

Name:	Dr. AbidaAkram
Personal:	Associate Professor Dept. Botany 0333-5320262 abidaaakram@hotmail.com abidaaakram@uaar.edu.pk
Honors and Awards	List honors or awards for scholarship or professional activity
Memberships	Botanical Society of Pakistan Pakistan Phytopathological Society. Soil Science Society of Pakistan (UAAR-47)
Graduate Students, Postdocs, Undergraduate Students, Honor Students	M.Phil : 14 Ph.D (under supervision) : 03
Service Activity	List University and public service activities.
Brief Statement of Research Interest	Recent working on mcoflora, mycotoxins and mcotoxin management Strategies.
Publications	1. Fatima.S., A.Akram, M.Arshad, S.K.Chaudhri, M.S.Amjad and H.Qureshi. 2014. Effect of biological potassium fertilization (BPF) on availability of phosphorus and potassium to maiz (<i>Zea mays</i> L.) under controlled conditions. I. J. of Biosc. (IJB) 8(5):25-36 Impact factor 0.553 2. Nayyar, B. G., A. Akram .,S. Akhund and M. Rafiq, 2014. Short Communication: Seed Viability Test and Pathogenecity Assessment of Most Prevalent Fungi Infecting <i>Sesamum indicum</i> L. J. of Pharm. & Bio. Sc. (IOSR-JPBS) 9(5): 21-23 Impact factor 1.12 3. Nayyar, B. G., S. Akhund and A. Akram, 2014. A review: management of <i>Alternaria</i> and its mycotoxins in crops. Scho. J. Of Agri. Sc.4(7): 432-437. Impact factor 1.3725 4. Shaheen. H., R. Qureshi., A. Akram, M. Gulfraz . 2014. Inventory of medicinal flora from Thal Desert, Punjab, Pakistan. Afr. J. Tradit. Complement Altern Med. 11(3):282-290 Impact factor 0.71 5. Shaheen. H., R. Qureshi., A. Akram, M. Gulfraz and D. Potter. 2014. A preliminary floristic checklist of Thal desert Punjab, Pakistan. Pak. J. Bot., 46(1): 13-18. Impact factor 1.207 6. Batool, S., M. Gulfraz1, A. Akram, S.M. S. Naqvi, I.Haq, B. Mirza and M. S. Ahmad. 2014 Evaluation of antioxidant potential and hplc based identification of phenolics in <i>Polygonum amplexicaule</i> extract

	and its fractions. Pak. J. Pharm. Sci., 7. Nayyer.G.B., A. Akram, M.Arshad, S.M. Mughal, S. Akhund and S. Mushtaq. 2013. Mycoflora detected from seeds of <i>Sesamum indicum</i> L.in Sialkot, Pakistan. IOSR J. Phar.& Bio Sc.7(3) 99-103 Impact factor 1.138 8. Razzaq,A., M. Arshad, S. Ashraf, A. Akram, A. Qayyum and I. Mahmood. 2013. Evalution of Psyllium Husk (<i>Plantago ovata</i>) as a low cost gelling for callus formation and regeneration in wheat (<i>Triticum aestivum</i> L.) cultivar GA-2002.Wul. J,Klagenfurt, Austria 20(7)153-161 9. Impact factor 0.467. 10. Bano, Q., N. Ilyas., A. Bano., N. Zafar. A. Akram and F. Hassan. 2013. Effect of <i>Azospirillum</i> inoculation on maize (<i>Zea mays</i> L.)under drout stress. Pak. J. Bot., 45(SI): 13-20 11. Amber, P., A. Akram., R. Qureshi and Z. Akram.2012. HPLC analysis for secondary metabolites detection in <i>Sclerotium rolfsii</i> isolated from chickpea. Pak. J. Bot., 44: 417-422 special issue March 2012 12. Jabeen, Z., A. Riaz., K. sultana., A. Akram., M. Ansar., I. Hassan and I. Ahmad. 2012. Incidence of <i>Aspegillus flavus</i> and extent of aflatoxin contamination in peanut samples of Pothwar region of Pakistan. Af. J. of Micro. Re.6 (9):1942-1946 13. Shaheen. H., R. Qureshi., A. Akram and M. Gulfraz. 2012. Some important medicinal flora of Noorpur Thal, Khushab, Pakistan. Arch. Des Sc. 2(65):57-73
Research Grants and Contracts	1).13-02-2012 Virulence analysis of <i>Xanthomonas campestris</i>pv sesame and <i>Pseudomonas syringae</i>pvsesame the casual organism of sesame (<i>Sesamumindicum</i> L.) bacterial blight. HEC Rs. 6,413,760/- (in progress) 2). Screening of mycoflora and mycotoxins from some pulses of arid region. PMAS-AAUR Rs. 108000/- (Completed 2012) 3). Molecular characterizationof <i>Sclerotium rolfsii</i>Sacc. isolated from chickpea (<i>Cicer arietium</i> L.). Funded PMAS-AAUR Rs. 138,000/- (completed in 2009).

	4). Characterization to determine the adaptive role of dehydrins under drought stress in wheat (<i>Triticumaestivum</i> L.). ALP project PARC. Rs. 2.943 Million (completed in 2009).
Other Research or Creative Accomplishments	NA
Selected Professional Presentations	

Name:	Dr. Noshin Ilyas
Personal:	Department of Botany, PNMAS-Arid Agriculture University Rawalpindi 0572032247 noshinilyas@uaar.edu.pk
Experience	22-02-2010 Lecturer Botany, PMAS-AAUR 01-01-2010 Assist Prof Botany, PMAS-AAUR
Honors and Awards	1. Gold medallist (M.Sc Botany) 2. HEC indigenous scholarship
Memberships	Pakistan Botanical Society
Graduate Students, Postdocs, Undergraduate Students, Honor Students	M.Phil : 12 Ph.D 1
Service Activity	1. Member SAR team 2. Member of QEC team of department. 3. Faculty in charge for CMS
Brief Statement of Research Interest	1. Plant Physiology 2. Plant Microbiology
Publications	1. Ilyas M., N. Ilyas , M. Arshad, A. G. Kazi, A. M. Kazi, A. Waheed. 2014 QTL mapping of Wheat Doubled Haploids for Chlorophyll content and chlorophyll fluorescence kinetics under drought stress imposed at anthesis stage. Pakistan Journal of Botany. 46 (5) :1889-1898 2. Batool N., N. Ilyas , T. Noor, M. Saeed, R. Mazhar, F. Bibi, A. Shahzad, 2014. Evaluation of drought stress effects on

	germination and seedling growth of <i>Zea mays</i> L. International Journal of Biology. 5(4) 203-209. 3. Batool N., N. Ilyas, A. Shahzad. 2014. Asiatic Mangrove (<i>Rhizophora mucronata</i>) – An overview. European Academic Research. 2(3). 3349-3363. 4. Batool N., A. Shahzad, N. Ilyas, T. Noor. 2014. Plants and Salt Stress. International Journal of Agriculture and Crop Sciences, 7(9):582-589 5. Batool N., Y. Bibi, N. Ilyas. 2014. Current status of <i>Ulmus wallichiana</i>: Himalayan endangered Elm. Pure and Applied Biology, 3(2): 60-65 6. Batool N., N. Ilyas. Polyhydroxyalkanoates from plants and microorganism. International Journal of Biosciences. 5(1):298-307 7. Bano Q., N. Ilyas, A. Bano, N. Zafar, A. Akram F. Hassan. 2013. Effect of <i>Azospirillum</i> inoculation on maize (<i>Zea mays</i> L.) under drought stress. Pakistan Journal of Botany 45(S1):13-20. Impact Factor: 0.947 8. Ilyas N., A. Bano, S. Iqbal, N.I. Raja. 2012. Physiological, biochemical and molecular characterization of <i>Azospirillum</i> spp. isolated from maize under water stress Pakistan Journal of Botany.44: 71-80. Impact Factor: 0.947 9. Iqbal S., Bano A. and Ilyas N. 2012. Absciscic acid (ABA) seed soaking induced changes in physiology of two wheat cultivars under water stress. Pakistan Journal of Botany.44:51-56. Impact Factor: 0.947
Research Grants and Contracts	Date Title Agency / Organization Total Amount Principal Investigator of HEC funded project “Exploration of Genetic Variations for Drought Tolerance in Wheat (<i>Triticumaestivum</i> L) by Using Some Physiological and Biochemical Attributes”
Other Research or Creative Accomplishments	8 Accession numbers submitted at NCBI

Name:	Dr. Naveed Iqbal Raja
Personal:	Department of Botany, PMAS-Arid Agriculture University Rawalpindi +92-(0)313-5257004 drnaveedraja@gmail.com
Experience	17-09-2010- to date Assist Prof Botany, PMAS-AAUR
Honors and Awards	HEC indigenous scholarship
Memberships	Pakistan Botanical Society
Graduate Students, Postdocs, Undergraduate Students, Honor Students	M.Phil : 04
Service Activity	Date Sheet incharge
Brief Statement of Research Interest	Plant biotechnology
Publications	Paper (Impact factor) : 06
Research Grants and Contracts	Correlation of percentage disease resistance with level of gene expression in transgenic wheat with Xa21 gene. Donar agency: HEC, Worth: 0.5 Millions
Other Research or Creative Accomplishments	Nil
Selected Professional Presentations	

FACULTY RESUME

Name	DrYamin Bibi
Personal	Department of Botany PMAS Arid Agriculture University Rawalpindi Email address: dryaminbibi@uaar.edu.pk yamin.phd@gmail.com Contact #: +923035712234
Experience	From 4 th July 2012 to date (Regular) As Assistant professor Botany (BS-19) PMAS Arid agriculture University Rawalpindi

	From September 2011 to 3rd July 2012 Assistant Professor (IPFP) PMAS Arid agriculture University Rawalpindi
Honor and Awards	Award of merit scholarship during HSC 1st Position in MSc Botany Gold Medalist Award of Indigenous Scholarship by HEC Award of IRSIP for six months research in UK Excellent Result in PhD Course Work Award of HEC approved supervisor Reviewer in national and international journals
Memberships	-
Graduate Students Postdocs Undergraduate Students Honour Students	Degree: PHD (In Progress) NAME: Muhammad Ishaque Degree: Mphil Year: 2014 Names: LubnaShafique, ZakiaBenish
Service Activity	Research and academics
Brief Statement of Research Interest	Plant based Natural Products Evaluation and Isolation characterization, Tissue culture of medicinal plants
Publications	1. NazimaBatoool, Yamin Bibi and NoshinIlyas (2014).Current status of <i>Ulmuswallichiana</i>: Himalayan endangered Elm. <i>Pure Appl. Bio.</i>, 3(2): 60-65. (HEC Recognised) 2. Sunbal Khalil Chaudhari, Yamin Bibi and Muhammad Arshad (2014).<i>Podophyllumhexandrum</i>: An endangered medicinal plant from Pakistan. <i>Pure Appl. Bio.</i>, 3(1): 19-24. (HEC Recognised) 3. ShaistaTabassum, Yamin Bibi, KulsoomZahara. (2014) A Review on conservation status and pharmacological potential of <i>Podophyllumhexandrum</i>. <i>International journal of Biosciences</i>. 5(10): 77-86. 4. Ejaz Ahmed, Yamin Bibi, Muhammad Arshad and KaleemUllah. 2014. Conservation status of <i>Taxusfloridana</i>, a critically endangered evergreen coniferous plant. <i>Pure and Appl. Biology</i>. 3(4): 188-191. (HEC Recognised) 5. KulsoomZahara, Yamin Bibi and ShaistaTabassum 2014. Clinical and therapeutic benefits of <i>Centellaasiatica</i> .<i>Pure andAppied Biology</i> 3(4): 152-159. (HEC Recognised) 6. HummaMehreenSadaf, Yamin Bibi, Muhammad Arshad, Muhammad ShoaibAmjad2014. Status of Maiden Hair Tree-<i>Ginkgo biloba</i> : Living Fossils Becoming Endangered. <i>Nova Journal of Medical and Biological Sciences</i> 3(4), 2014:1-3. 7. NaureenAuregzeb, Sobia Nisa, Yamin Bibi, FarrukhJaved and Farrukh Hussain. 2014. Phytoremediation potential of aquatic herbs from steel foundry effluent Brazilian journal of chemical engineering .31 (4): 881 – 886. 1.043 impact factor 8. Huma Qureshi, Muhammad Arshad, Yamin Bibi (2014). Invasive flora

	of pakistan: a critical analysis. International journal of Biosciences Vol. 4, No. 1, p. 407-424, (Impact factor 0.03) 9. Huma Qureshi, Muhammad Arshad and Yamin Bibi. (2014) Toxicity assessment and phytochemical analysis of <i>Broussonetiapyrifera</i> and <i>Lantana camara</i>: Two notorious invasive plant species. Journal of Biodiversity and Environmental Sciences 5 (2): 508-517. 10. Sadia Sarwar, BirgitDietz, Yao Ping, YaminBibi, SobiaNisa and Muhammad FayyazChaudhary (2013). Novel anti-uteruscancerpotential of fruitextract of <i>Lantana camara</i> as exhibitedthroughtheinhibition of alkalinephosphatase in human endometrial adenocarcinomaticcell line. Journal of Medicinal Plants Research 7(18): 1216-1221 11. Abdul Waheed, Yamin Bibi, Sobia Nisa, Muhammad Zia, Sabbir Ahmed and M Fayyaz Chaudhary (2013). Anticancer activity of extracts from <i>Viburnum foetenson</i> human breast and colorectal cancer cells <i>in vitro</i>. Asian Pacific Journal of Tropical Diseases 3(1): 32-36. 12. Sobia Nisa, Yamin Bibi, Muhammad Zia, Abdul Waheed, M Fayyaz Chaudhary (2013). Anticancer investigations on <i>Carissa opaca</i> and <i>Toonaciliata</i> extracts against human breast carcinoma cell line. Pakistan Journal of Pharmaceutical Sciences 26(5): 1009-12. 13. Yamin Bibi, Sobia Nisa, Abdul Waheed, Muhammad Zia, Sabbir Ahmed and M Fayyaz Chaudhary(2012) Invitro cytotoxic activity of <i>Aesculusindica</i> against breast adenocarcinoma cell line (MCF-7) and phytochemical analysis. Pakistan Journal of Pharmaceutical Sciences 25(1): 183-187. (impact factor 1.103) 14. Yamin Bibi, Sobia Nisa, Abdul Waheed, Muhammad Zia, Sabbir Ahmed and M Fayyaz Chaudhary(2012) "The study of anticancer and antifungal activities of <i>Pistaciaintegerrima</i> extract in vitro" Indian Journal of Pharmaceutical Sciences 74(4): 375-379.(Impact factor 0.626)
Research Grants and Contracts.	In Review Year 2014 Title: Isolation and screening of anticancer natural products: A step towards new drug discovery Amount: 9 Million
Other Research or Creative Accomplishments	NA
Selected Professional Presentations	➤ Oral Presentation In National Science Conference at PMAS arid Agriculture University, 10th Jan to 12th Jan, 2012. ➤ 12th national and 3rd international conference of Botany, 1st-3rd Sep, 2012 at Quaid-i-Azam University Islamabad Pakistan

Name	Dr. Mubashrah Munir Assistant Professor PMAS- Arid Agriculture University, Rawalpindi											
Personal	Father’s nameMian Munir Ahmad Date of BirthApril 13, 1978 CNIC No352029616805-8 ReligionIslam DomicileLahore Marital statusMarried E. mail Address mubjan@gmail.com , mubashrah@uaar.edu.pk Present AddressDeptt. of Botany, PMAS-Arid Agriculture University, Rawalpindi Permanent AddressH. No. 23 Mohammadi Mohallah Shahdrah More Lahore											
Qualification	Ph.D. (2014)PMAS- Arid Agriculture University, RWP M.Phil. (2002)1 st Govt College University, LHR M.Sc. (1999)1 st Govt College University, LHR B.Sc (1997)2 nd University of Punjab, LHR HSSC. (1995)1 st BISE, LHR SSC (1993)1 st BISE, LHR											
International Trainings	Six months training on Algal Taxonomy especially Diatoms in Michigan State University, USA under HEC IRSIP programme.											
Experience	<table><thead><tr><th>Date</th><th>Title</th><th>Institution</th></tr></thead><tbody><tr><td>3-03-2015</td><td>Assistant Professor</td><td>Deptt.of Botany, PMAS- AAUR</td></tr><tr><td>24-01-2006</td><td>Lecturer</td><td>Deptt.of Botany, PMAS- AAUR</td></tr></tbody></table>			Date	Title	Institution	3-03-2015	Assistant Professor	Deptt.of Botany, PMAS- AAUR	24-01-2006	Lecturer	Deptt.of Botany, PMAS- AAUR
Date	Title	Institution										
3-03-2015	Assistant Professor	Deptt.of Botany, PMAS- AAUR										
24-01-2006	Lecturer	Deptt.of Botany, PMAS- AAUR										
Memberships	Life time member of Pakistan Botanical Society											
Impact Factor	10.19											
Honors Students	Supervised students <table><thead><tr><th>Year</th><th>Degree</th><th>Name</th></tr></thead><tbody><tr><td>2012</td><td>M.Phil Botany</td><td>Simeen Imtiaz 10-arid-1780</td></tr><tr><td>2014</td><td>M.Phil Biology</td><td>Mumtaz Begum 10-arid-1780</td></tr></tbody></table> Under Supervision: PhD. Students			Year	Degree	Name	2012	M.Phil Botany	Simeen Imtiaz 10-arid-1780	2014	M.Phil Biology	Mumtaz Begum 10-arid-1780
Year	Degree	Name										
2012	M.Phil Botany	Simeen Imtiaz 10-arid-1780										
2014	M.Phil Biology	Mumtaz Begum 10-arid-1780										

	2013	PhD Botany	Rehana Kausar	
	2014	PhD Botany	Rizwan	
	Under Supervision: M.Phil students			
	2014	M.Phil Botany	Saeed Khalil	10-arid-1780
	2014	M.Phil Botany	Sajeed Safeer	10-arid-1780
	2014	M.Phil Biology	Farhan	10-arid-1780
	2015	M.Phil Biology	Sidra Murtaza	11-arid-2473
	2015	M.Phil Biology	Sobia Kiran	14-arid-4337
Research Interest	Algal Eco-taxonomy and Biotechnology			
Citation	27 (upto 9-7-2015)			
International Publications	- Humaira Shaheen, Rahmatullah Qureshi, Iram Zahra, Mubashrah Munir And Muhammad Ilyas. 2014. Floristic diversity of Santh Saroola, Kotli Sattian, Rawalpindi, Pakistan. <i>Pak. J. Bot.</i>, 46(6): 1945-1954. (Impact factor: 1.207). - Akhtar S., N. Bangash, R. Asghar, Mubashrah Munir and Nauman Khalid. 2014. Allelopathic Assessment Of Selected Invasive Species Of Pakistan <i>Pak. J. Bot.</i>, 46(5): 1709-1713. (Impact factor: 1.207). - Qureshi, R., M. Khanum, H. Shaheen and Mubashrah Munir. 2014. Medicinal plants of Koont research farm, Pir Mehr Ali Shah Arid Agriculture University, Rawalpindi. <i>Indian Journal of Natural Products and Resources</i>, 5(3):273-277. - Qureshi R., Shaheen H., Ilyas M., Ahmed W. and Mubashrah Munir. 2014. Phytodiversity and plant life of Khanpur Dam, Khyber Pakhtunkhwa, Pakistan. <i>Pak. J. Bot.</i>, 46(3): 841-849. (Impact factor: 1.207). Mubashrah Munir., R. Qureshi., M. K. Laghari, M. Arshad and A.Khaliq Ch. 2013. Taxonomic study of some pennate diatoms from Kallar Kahar Lake, District Chakwal, Pakistan. <i>JAPS</i>, 23 (2):457-463. (Impact factor: 0.638). Mubashrah Munir., Rahmatullah Qureshi., M. Arshad and M. K. Laghari. 2012. Taxonomic study of Bacillariophyta from Kallar Kahar Lake Chakwal, Punjab. <i>Pak. J. Bot.</i> 44(5) 1805-1814. (Impact factor: 1.207). Mubashrah Munir., A. Hussain., I. Haq., Rahmatullah Qureshi., M. Munazir., M. Arshad and M. K. Laghari. 2012. Callogenesis potential of cotyledonary explants of <i>A. rosea</i> L. from Pakistan <i>Pak. J. Bot</i> special issue. 44:271-275(Impact factor: 1.207).			
Workshops attended	One day training workshop on Dendrochronology, 22nd April 2014.			

Name:	Dr. Zia-ur-Rehman Mashwani
Personal:	Department of Botany, PNMAS-Arid Agriculture University Rawalpindi 03339022077

	mashwani@uaar.edu.pk
Experience	10-02-2010 Lecturer Botany, PMAS-AAUR
Honors and Awards	1. HEC indigenous scholarship 2. Silver medal in MSc Botany
Memberships	Pakistan Botanical Society
Graduate Students, Postdocs, Undergraduate Students, Honor Students	M.Phil : 10 Ph.D 0
Service Activity	1. Program Team Representative, Quality Enhancement Cell (QEC) 2. Central Lab In-charge, Department of Botany 3. In-charge, time table and date sheet 4. Focal person and faculty representative in Student Resource centre 5. Department Course in-charge 6. Member, ASA executive body 7. Member, M.Sc. admission committee 8. Member, M.Phil./Ph.D. admission committee 9. Member, Board of Studies of Botany and Biology 10. Member, Program assessment team Biochemistry
Brief Statement of Research Interest	1. Medicinal plant and Ethnopharmacology 2. Medicinal plant biotechnology
Publications	• Mashwani, ZR., M. A. khan, M. Ahmad. 2014. Potential of Pakistani traditional medicinal plants to combat diabetes. J. Tradit. Chin. Med. 15; 34(4): 488-490 • Khan, G., F. Zhang, Q. Gao, ZR. Mashwani, K.Rehman, M.A.Khan and S. Chen. 2013. Trichomes diversity in the tropical flora of Pakistan. J.Med.Plant.Res 7(22):1587-1592 • Mashwani, ZR., M.A. Khan, S. Irum and M. Ahmad. 2013. Antioxidant potential of root bark of Berberis lycium Royle. from Galliyat, Western Himalaya, Pakistan. Pak. J. Bot., 45(SI): 231-234. • Mashwani, ZR., M. A. khan, M. Ahmad, M. Zafar, N. I. Raja, M. Arshad and Samiullah. 2012. Macro-mineral quantification of the forage grass species in the Gandgar Hills, Western Himalaya, Pakistan. <i>Pak. J. Bot.</i>, 44: 117-121 SI.

Other Research or Creative Accomplishments	N/A
Selected Professional Presentations	• Abstract published in “1st international Symposium on the Himalayas of Pakistan; Resources and Conservation Issues” November 27-30, 2014 at Hazara University, Mansehra • Abstract published in International Conference on Emerging Trends in Life Sciences for Sustainable Development 9-11th October, Forman Christian College (A Chartered University), Lahore, Pakistan • Abstract published in International Conference of Plant Sciences organized by Department of Botany, at GC University, Lahore Pakistan on 22-24 September 2014 • Abstract published and Poster presentation at the 5th International Conference on Agriculture, Food Security and Climate Change jointly organized by University of Poonch Rawalakot, PAS-Forum and HEC on 09-14 September 2014. • Two abstract published at 4th International and 13th National conference of Botany organized by Pakistan Botanical Society at Shaheed Benazir Bhutto University, Sheringal, Dir Upper, Khyber Pakhtunkhwa Pakistan on 27-30 August 2014. • Abstract published in “International I conference on Advances of Plant Sciences (ICAPS-2012)” November 14-18, 2012, Chiang Mai, Thailand • Abstract published in “First national conference on poverty alleviation through sustainable management of biodiversity in Pakistan” September 29-30, 2012 Bara Galli, Organized by Institute of Plant Sciences and Biodiversity, Uni. Of Swat and HEC. • Five abstracts published in proceeding of “12th National &

	3rd International Conference of Botany”, published by Pakistan Botanical Society. • Poster presentations in “12th National & 3rd International Conference of Botany”, published by Pakistan Botanical Society on September, 1-3, 2012 at Quaid-i-Azam University, Islamabad • Abstract published in “National Science Conference, Roadmap to cutting edge technology”, January 10-12, 2012 at PMAS Arid Agriculture University, Rawalpindi
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Resume “Saira Asif “

Objective	To acquire experience, creativity, talents, and commitments to excellence scientific research work	
Personal Information	Father’s name Date of Birth CNIC No Religion Cell No Mohammad Asif Janjua 2-12-1984 34601-6251531-6 Islam 0341 9089889	
Service Activity	1. Teaching of various courses relevant to Plant Sciences. 2. Time Table Management of the Department.	
Experience	Four years.	
Publications		
Membership	Life time membership of Pakistan Botanical Society	

SUMMARY AND CONCLUSION

During 2012-14, Botany Department has produced a large number of Ph.Ds. This Ph.D program Self-Assessment Report (SAR) covers activities and achievements in Ph.D. program carried out in department of Botany, Pir Mehr Ali Shah Arid Agriculture Rawalpindi from fall 2012-14.

Since the discipline's mission is to produce high quality graduates which can play their role in their field, impartment of quality education, introducing new and innovative techniques and conducting research has been emphasized. There existed effective transmission of educational material, communication skills, training of young scholars in suitable environment. PhD students' performed well in their studies and teachers improved in teaching, research and transmission of applied knowledge to common public. The teachers improved the course according to the need of the time. Information collected from alumni and graduating students required better management of time and resources. Communication technologies and interpersonal skills were demanded to meet the challenges better job opportunities.

International academic and research standards are highly observed in the department.

The efficiency and effectiveness was measured through branded standards and was found to be acceptable. Survey indicates a good level of research work being pursued in the department. 90 percent of faculty members are HEC approved supervisors. Although there are less HEC indigenous scholarship available to Ph.D. students but the department is trying to facilitate their research work. Students further avail IRSIP programme of HEC to incorporate advance techniques in their research.

Research being carried by Ph.D. students is also strengthening research activities in department. Novel research finding are being published in ISI recognized impact factor journals with improved citation. Collaborations with other institutions and universities are being developed to boost up the research activities. Institutional facilities need to be strengthened. Major shortcomings have been observed in survey for Ph.D. programme which include gas supply to laboratories and departmental library and computer laboratory. Latest equipment like GC-MS is another limitation. Accordingly, institutional support will greatly promote and strengthen academic, research, management and leadership capabilities.

Prepared by:

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Date of submission to HEC