PIR MEHR ALI SHAH

ARID AGRICULTURE UNIVERSITY RAWALPINDI

SELF ASSESSMENT REPORT 7TH CYCLE (2018-20)

Department of Statistics & Mathematics

M.Sc Mathematics

Program Team:

Dr. Muhammad Hanif Chairman	(Coordinator)
Dr. Muhammad Jamal Assistant Professor	(Member)
Dr. Ehtisham Azhar Assistant Professor	(Member)
Dr. Sadia Medhit Lecturer	(Member)

TABLE OF CONTENTS

INTRODUCTION

The Department of Mathematics and Statistics is one of active departments in Pir Mehr Ali Shah Arid Agriculture University Rawalpindi. The department had introduced the initiation of M.Sc Statistics degree program in 1996. Further in 2010, M.Phil Statistics program had been introduced. In order to enhance the productivity and progress of the PMAS, the establishment of Mathematics department was approved in 45th meeting of Academic Council in 2013 and has also approved its name as Department of Mathematics instead of the Department of Mathematics and Statistics. Moreover, M.Sc degree program in Mathematics (Morning and Evening) was initiated in 2014, after the approval of Scheme of studies by Academic Council of the University.

The philosophy and objectives of this program were centered on the aims to provide an advanced understanding of the core principles and topics of mathematics and their experimental basis, and to enable students to acquire a specialized knowledge and understanding of selected aspects by means of a stem/branch lecture series and a research project. It provides students with an advanced integrated knowledge, strength, self-reliance, economic emancipation, and the broadening of opportunities through well-coordinated education of citizens. Currently 160 students are enrolled in this discipline. The core research areas of M.Sc Mathematics are based on Analysis, Algebra, Geometry, Differential equations, Mechanics, Statistics, Operations research etc.

This Self Assessment Report (SAR) is prepared by following the Higher Education Commissions (HEC) framework based on eight criteria. The first criterion outlines the program mission and objectives. Criterion 2 is relevant with the curriculum development. The computer labs and other relevant information are prescribed in criterion 3. The fourth criterion is pertinent to the information about students' support and advising. The remaining four criteria provide information about process control, faculty characteristics and institutional support.

Criteria 1

PROGRAM MISSION OBJECTIVES AND OUTCOMES

Standard 1-1:

The program must have documented measurable objectives that support Faculty and institution mission statements.

Mission Statement

The mission of the program is to give the quality education, provide conducive environment for learning and to give an extensive support to the students to learn the fundamental concepts that constitute classical and contemporary mathematics.

Objectives

Consequently, the program objectives are generally aimed at:

1. Applying knowledge in modern industry or teaching, or secure acceptance in high-quality graduate programs in mathematics and other fields such as the field of quantitative, mathematical computing, statistics.
2. Providing the opportunity for professional cadre in the field of Mathematics.
3. Supporting the national development program within the public and higher education institutes and encouraging scientific research and publications in the accredited scientific publications.
4. Enhancing performance, standards in the field of Mathematics in order to be a leading department of academic arena .

   Main Elements of the Strategic Plan to Achieve Program Mission and Objectives:

1. The program is designed to prepare students for successful careers, either in mathematics or a related discipline. The degree is intended to familiarize students with a wide range of areas within the field of mathematics. A variety of practical based courses are provided.
2. Participation and presentation in national or international conferences are necessary for the enhancement of student's professional training and new developments.
3. As per the modern and global trends, inclusions of new courses are required.
4. Highly qualified and talented faculty is required.

PROGRAMME OBJECTIVES ASSESSMENT
Table 1: Program Objective Assessment

Sr. #	Objectives	How Measured	When Measured	Improvement Identified	Improvement Made
1.	The improvement and broadening of the Program of Mathematics on current lines Inclusion of practical based courses.	By evaluating student responses and feed back	At the end of each semester.	Practical based courses should be offered along with the student's opportunities in the field. Teachers should have interaction to local universities and foreign institutes	Practical based courses are included and also coordinated with other universities.
2	To give the healthy research environment and to train them with impart of new knowledge.	Through teacher students' discussions.	Continuous activity.	Seminars and special problems courses should be offered in the third and fourth semester.	The teachers have given research based topics to students and their communication skills have been improved through presentation.
3	Inclusion of new courses as per modern and latest lines	The curriculum is revised as per HEC policy and keeping in view the curriculum of others universities.	At the end of each year	Courses should be improved and modified	Scheme of study is designed according to HEC and according to curriculum of other universities.
4.	Highly qualified faculty is required	Through coordination with department	At the end of fiscal year	Highly qualified faculty is required	One Faculty member is Appointed in the year 2016.

Standard 1-2: **The program must have documented outcomes for graduating students. It must be documented that the outcomes support the program objectives and that graduating students are capable of performing these outcomes.**

PROGRAMME LEARNING OUTCOMES

All the students in this program possess following capabilities:

1. The student possesses the capability of better subject understanding, its scope and an advanced knowledge in different areas of Mathematics.
2. The students are capable to use of new analytical, classical and computational techniques in different practical fields.
3. Self-discipline and communication skills of the students have been improved.
4. Expertise of basic and applied knowledge are enhanced and their skills of Research publication are improved.

The relationship of program objectives and outcomes are represented in the following table.

Table: 2 Relationship of Program Objectives and Outcomes

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

The cells with the sign ++++ shows the achievement of that particular program objective with **highly relevant highly satisfactory level**.

+++ shows **very relevant and satisfactory**

++ shows **relevant and satisfactory**

+ shows **relevant**

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

Following actions have been taken on the basis of program assessment results.

Actions taken based on the Results of Program Assessment

- The main quality of the program is the accessibility of very qualified faculty with full expertise of their specialized subjects. Highly qualified faculty is required for enhancement of the Program. One PhD faculty member is appointed in the year 2016.
- The curricula are being updated on the basis of more applied, modern and professionally sound courses.
- Different questionnaires, workshops and surveys play a vital part in the identification and evacuation of shortcomings identified in the instructing techniques. The department is trying to work on these aspects.
- The establishment of personal computer lab will play a vital role in the improvement of teaching methodologies and for the updation of curriculum. Fundamental steps are being taken in this regard. Highly qualified Lab Technician is required. One Lab supervisor request has been forwarded in this regard.

As the program is running for the last two years and highly positive response is achieved from the public. Therefore it is necessary that the following weaknesses should be removed.

Weaknesses Detected:

- Highly qualified faculty with expertise in different subjects is required. There should be different training programs and seminars are required for faculty members and students.
- The program needs the separate representation (as per HEC requirement) for the initiation of M.Phil and Ph.D programs.
- The establishment of Personal computer lab needs quick consideration and it should be equipped with latest hardwares and softwares. The most recent and updated mathematical softwares are required .

- The separate allocation of budget is required for the smooth running of the program.
- Research Grant and proper funding are required for the development of the program.
- Latest book , reviews and journals from the authentic scientists are hardly available.

  The quantitative assessment of the program has been shown in the following table .

TABLE 3: QUANTITATIVE ASSESSMENT OF THE DEPARTMENT

Sr#	Particular	No	Remarks
1	M.Sc Degree Awarded	80	Most of them got better jobs in different organizations and some of students are admitted in M. Phil program in different universities for the enhancement of their degree
2	Student Faculty Ratio	1:4	Each teacher is taken almost 12 to 18 credit hours in each semester.

Standard 1-4: The Program must assess its overall performance periodically using quantifiable measure

- Performance of the faculty members with respect to their research publication indicates that faculty members have produced the following number of research papers during the year 2014-16.

Table 4: Quantitative Assessment of the Program (2014-2016)

Sr. #	Faculty	Publications	Other(Abstracts/reports)
1.	Dr Muhammad Hanif	7	. 5
2.	Dr. Saima Mustafa	8	5
3.	Dr. Muhammad Jamal	5	4
4	Mr. Nasir Jamal	7	5
5.	Dr. Saadia Masood	3	6
6.	Mr. Nasir Ali	3	4

7.	Ms. Beenish Shakir	Nil	Nil
8.	Dr. Sadia Medhit	3	5
9.	Dr. Ehtisham Azhar	10	10

Table 5: Degree Requirements

Degree	Pre-requites
M.Sc.	B.Sc. with General Math and 45% marks in said degree from a recognized institution.

Program Assessment Results

Fall 2018-19

According to the Performa 1 and Performa 10, the following teachers have been evaluated by the students for the semester Fall 2018-19as follows.

1) Dr. Saima Mustafa

Performa 1   titled **Student Course Evaluation.**

Performa 10 titled **Teacher Course Evaluation.**

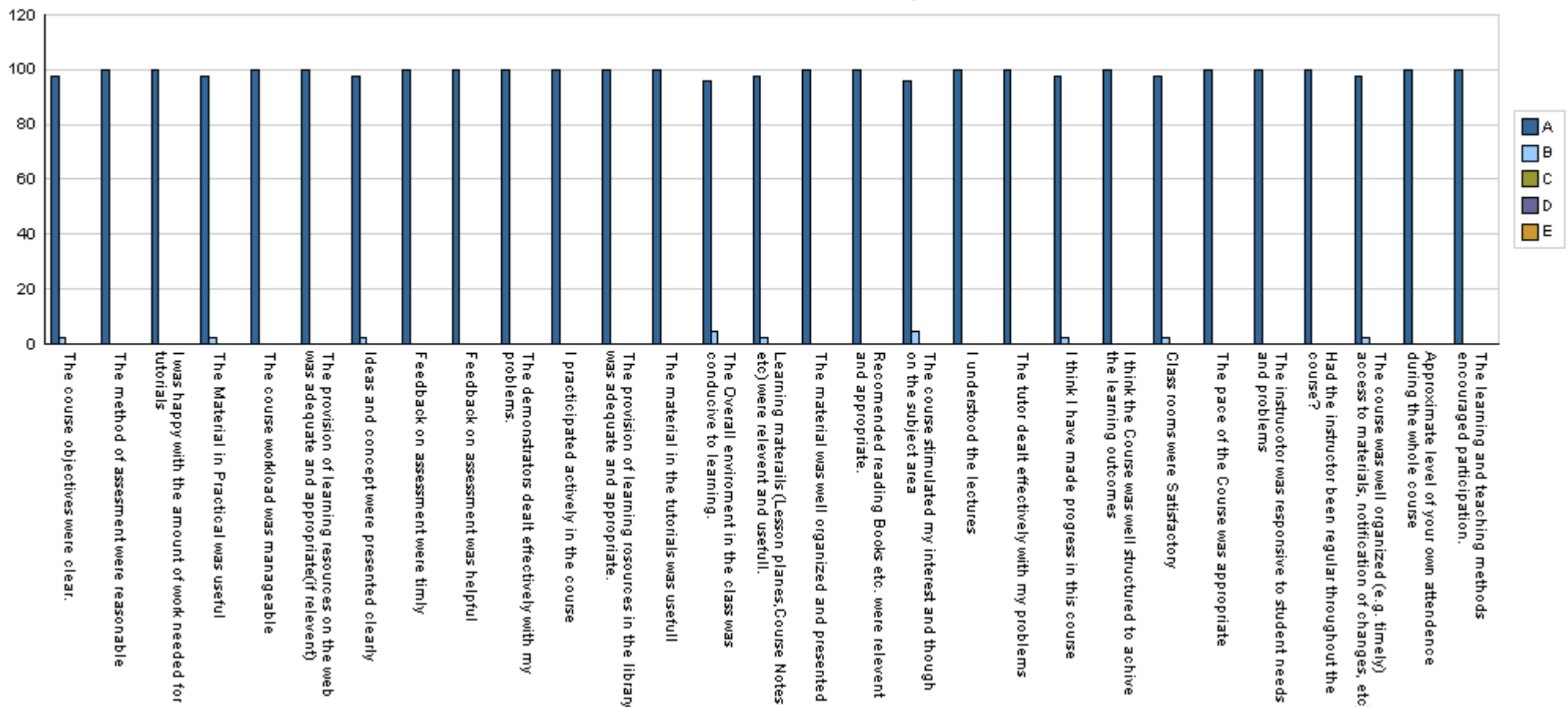Individual statements of the Performa's are also summarized in the following Figures.

Pir Mehr Ali Shah
Arid Agriculture University

Performa 1

Session Name: FALL-18

Teacher Name: Saima Mustafa

Course Name: Real Analysis

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

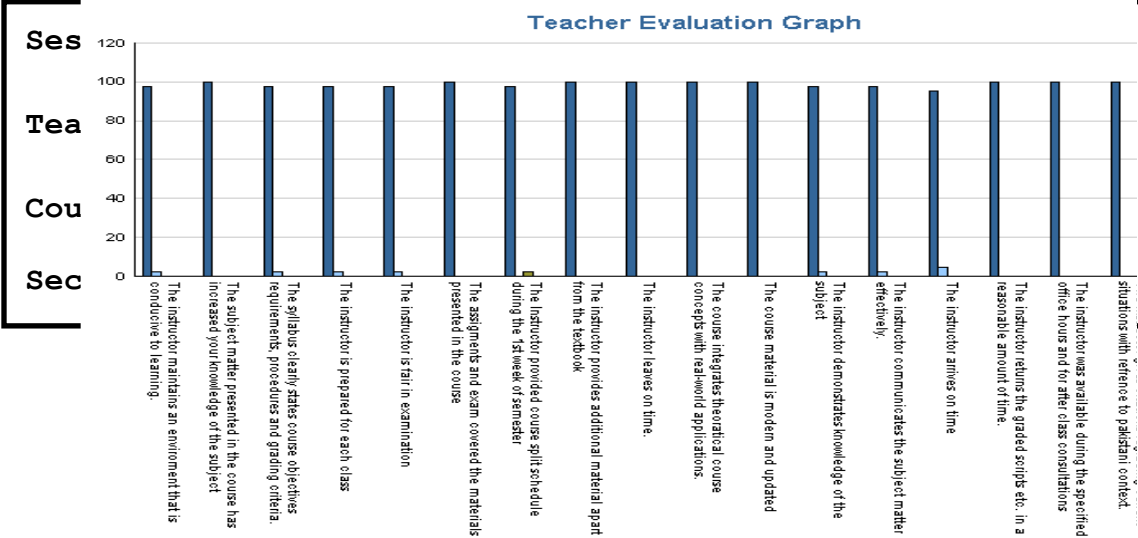**Class:** M.Sc (Mathematics)

Course Evaluation Graph

Legend: A, B, C, D, E

Data was collected from 40 students of M.SC Mathematics. First they were asked about the course organization. About 97\% students agreed strongly that the course was well organized, and 4% agreed 3

Pir Mehr Ali Shah
Arid Agriculture University
Performa 10

Teacher Evaluation Graph

Ses Tea Cou Sec

Data was collected from 40 students of M.Sc. Mathematics. First students were asked that whether the instructor gave citations regarding the current situations with reference to Pakistani context and also demonstrated the knowledge of the subject. About 70% agreed strongly,27% just agreed and 3% were uncertain about it . Further students were asked about the instructor's preparation for each class. 67% agreed strongly that instructor is alwayswell prepared, 30% just agreed and 3% disagreed strongly. When asked about the instructor's punctuality and wayof communication, 73% students agreed strongly and 27% just agreed that the instructor communicates the subjectmatter effectively and also arrives on time. However, 67% strongly agreed and 33% just agreed that the instructor leaves on time. Students also gave opinions about the practical application of the course. About, 61% students strongly agreed and 39% just
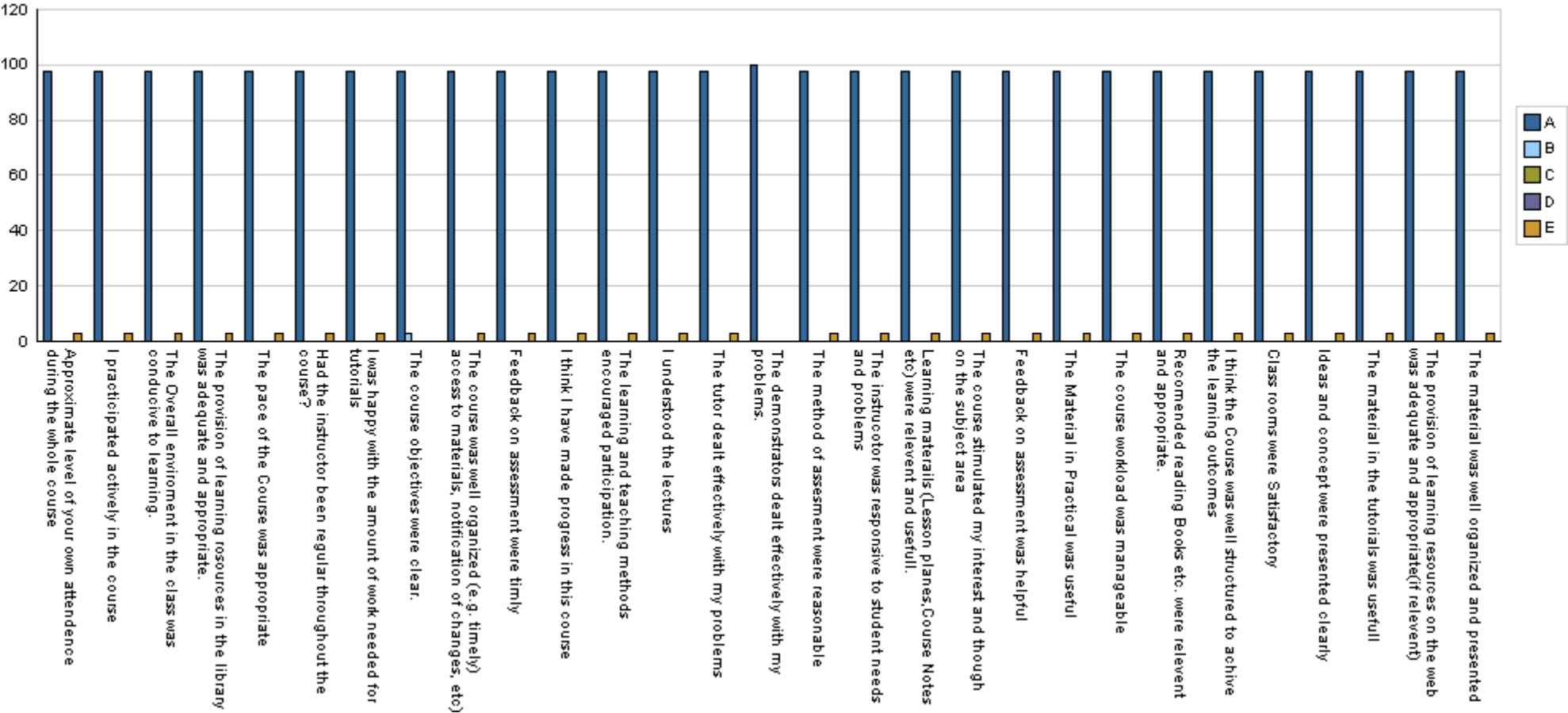
Pir Mehr Ali Shah
Arid Agriculture University

Performa 1

Session Name: FALL-18

Teacher Name: Saima Mustafa

Course Name: Group Theory

Section: A   M/E: E   Semester#   1

Class: M.Sc (Mathematics)
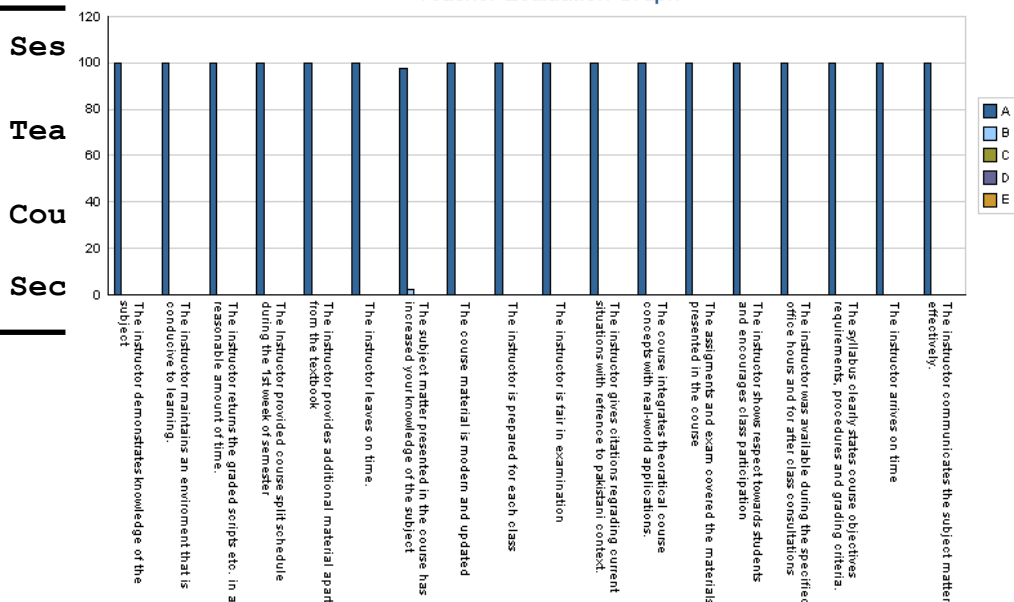

Course Evaluation Graph

Data is collected from the 40 student of M.Sc. Mathematics. About 97% were strongly and 3% were strongly disagree that the attendance of the student at approximate level during the whole class. 97% were strongly agree and 3% were strongly disagree that they not only actively participate in course but also made progress in the course. The overall environment in the class was conductive to learning includes that 97% were strongly agree and 3% were strongly disagree.97% were strongly agree and 3% were strongly disagree that the pace of the course was appropriate and course workload was manageable .97% were strongly agree and 3% were strongly disagree that the course objective were clear.97% were strongly agree and 3% were strongly disagree feedback on assessment was timely and helpful. Among 97% were strongly agree and 3% were strongly disagree that the learning and teaching methods encouraged the participation of the students.97% were strongly agree and 3% were strongly disagree that the material in the tutorial were useful and well organized.100% were strongly agree that the demonstrator dealt effectively with students problems.97% were strongly agree and 3% were strongly disagree that the method of assessment were reasonable.

Pir Mehr Ali Shah
Arid Agriculture University
Performa 10

Teacher Evaluation Graph

Ses

Tea

Cou

Sec

1

Legend: A, B, C, D, E

Chart categories:
- The instructor demonstrates knowledge of the subject
- The instructor maintains an environment that is conducive to learning.
- The instructor returns the graded scripts etc. in a reasonable amount of time.
- The Instructor provided course split schedule during the 1st week of semester
- The instructor provides additional material apart from the textbook
- The instructor leaves on time.
- The subject matter presented in the course has increased your knowledge of the subject
- The course material is modern and updated
- The instructor is prepared for each class
- The instructor is fair in examination
- The instructor gives citations regrading current situations with refrence to pakistani context.
- The course integrates theoratical course concepts with real-world applications.
- The assigments and exam covered the materials presented in the course
- The instructor shows respect towards students and encourages class participation
- The instructor was available during the specified office hours and for after class consultations
- The syllabus clearly states course objectives requirements, procedures and grading criteria.
- The instructor arrives on time
- The instructor communicates the subject matter effectively.

Data collected in Performa 10 from 40 student of evening shift from MSc. Mathematics. About 97% students were strongly agree and 3% student were strongly disagree that the instructor provided course spilt schedule during the first week of semester and maintains an environment that is conductive to learning.100% students were strongly agree that the syllabus clearly states course objectives requirements and grading criteria.100% were strongly agree that the instructor arrives and leaves on time.100% were strongly agree that the instructor is prepared for class and also fair in examination.100% were strongly agree that the course concept integrates with the real world applications and is also updated .Also 100% students were strongly agree that the instructor communicates the subjects matter effectively .

Pir Mehr Ali Shah
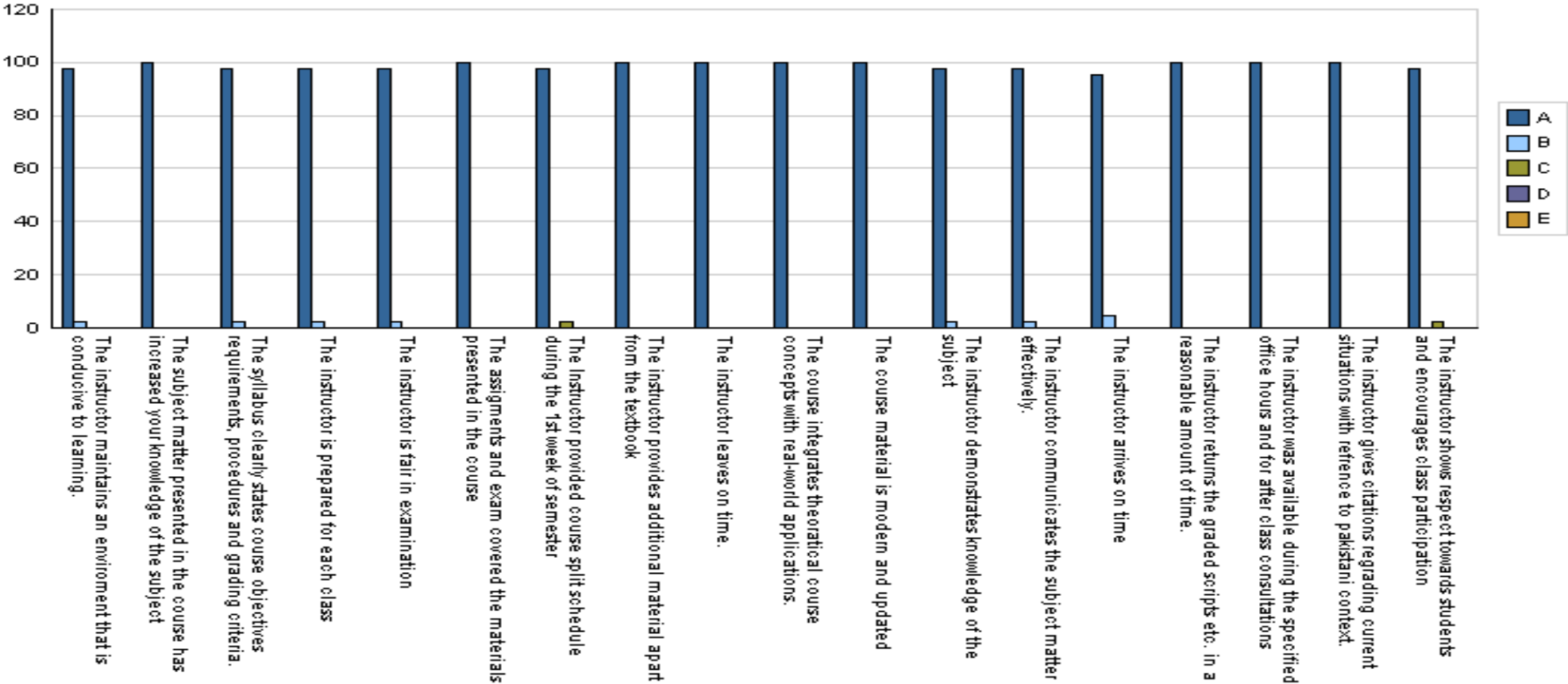# Arid Agriculture University

Performa 1

Session Name: FALL-18

Teacher Name: Saima Mustafa

Course Name: Group Theory

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

Class: M.Sc (Mathematics)

Teacher Evaluation Graph

Data collected from40 student of MSc. Mathematics in which 62% students strongly agreed ,27% agreed,3% were uncertain and 8% were Strongly disagree that their attendance at approximate level during the whole class. 70% were strongly agree,27% were agree and 3% were uncertain that the Learning material were relevant and useful.68% were strongly agree,30% were agree and 3% were uncertain that the pace of course was appropriate and material in the tutorial were useful. Feedback on assessment was helpful amongstudent in which 62% were strongly agree,32% were agree ,3% were uncertain and 3% were disagree. Students that actively participated in the course among which strongly 70% were strongly agree,27% were agree and 3% were uncertain. 76% were stronglyagree,16% were agree,5% were uncertain and 3% were disagree that concepts and ideas were clearly presented. Class rooms were satisfactory among student in which 70% were strongly agree,19% were agree,8% were uncertain and 3% were disagree.

Pir Mehr Ali Shah
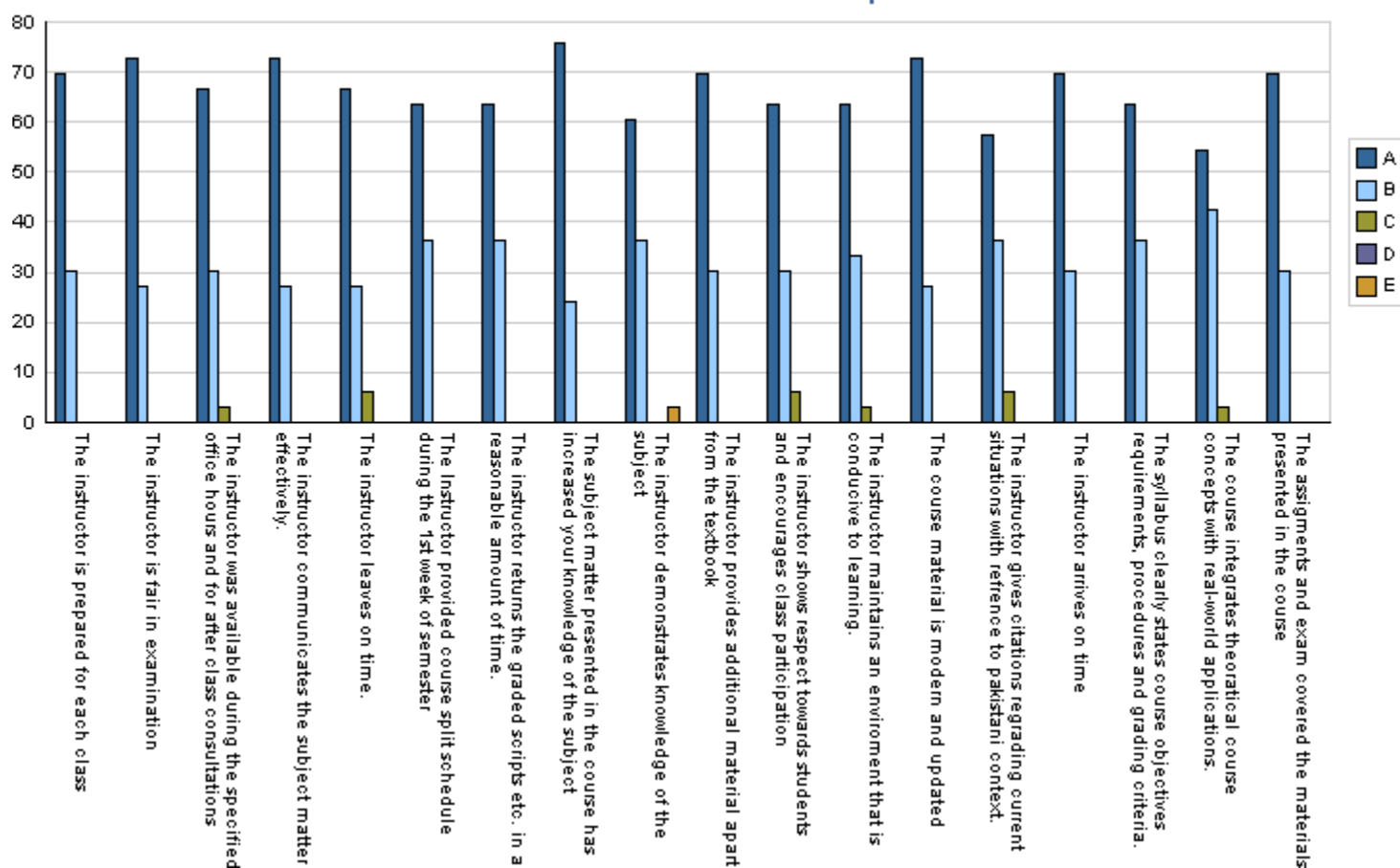# Arid Agriculture University
Performa 10

Session Name:	**FALL-18**
Teacher Name:	**Saima Mustafa**
Course Name:	**Group Theory**
Section:	**A** **M/E: M** **Semester#: 1**

Teacher Evaluation Graph

Data is obtained from 40 students Ms. Mathematics in which 70% student were strongly agree and 30% were agree that the instructor is prepared for class. 73% were strongly agree and 27% were agree is fair in examination.67% were strongly agree, 30% were agree and 3% were uncertain that the instructor was available during the specified office hours and for after class consultations.67% were strongly agree,27% were agree and 6% were disagree about the instructor leaves on times. The subject matter presented in the course has increased the knowledge among the student in which 76% were strongly agree and 24% were agree.61% were strongly agree ,36% were agree and 3%were strongly disagree that the instructor demonstrates knowledge of the subject. The course materials is updated and modern among which 73% student were strongly agree and 27% were agree.

Pir Mehr Ali Shah
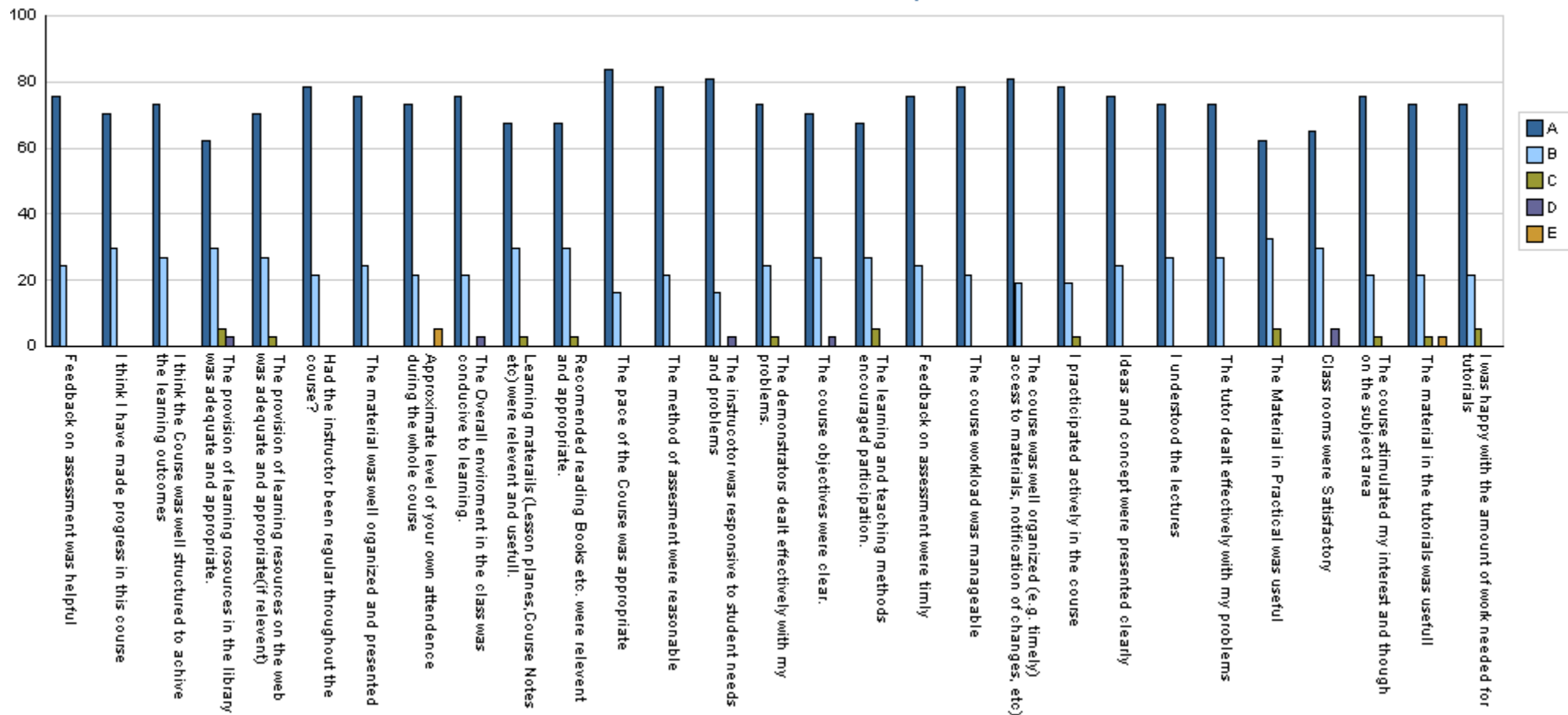# Arid Agriculture University

Performa 1

Session Name: FALL-18

Teacher Name: Saima Mustafa

Course Name: Linear Algebra

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

Class: M.Sc (Mathematics)

Course Evaluation Graph

From the 40 student of MSc. Mathematics,76% were strongly agree and 24% were agree that the feedback on assessment was helpful and timely.70% were strongly agree and 30% were agree that student made the progress in the course. 62% were strongly agree,30% were agree,5% were uncertain and 3% were disagree that the provision of learning resources in the library was adequate and appropriate.73% were strongly agree ,22% were agree and 5% were strongly disagree that the attendance during the whole class is at approximate level. The course stimulated students interest and though on the subject area among which 76% were strongly agree, 22% were agree and 3% were uncertain.78% were strongly agree and 22% were agree that the course workload was manageable.

Pir Mehr Ali Shah
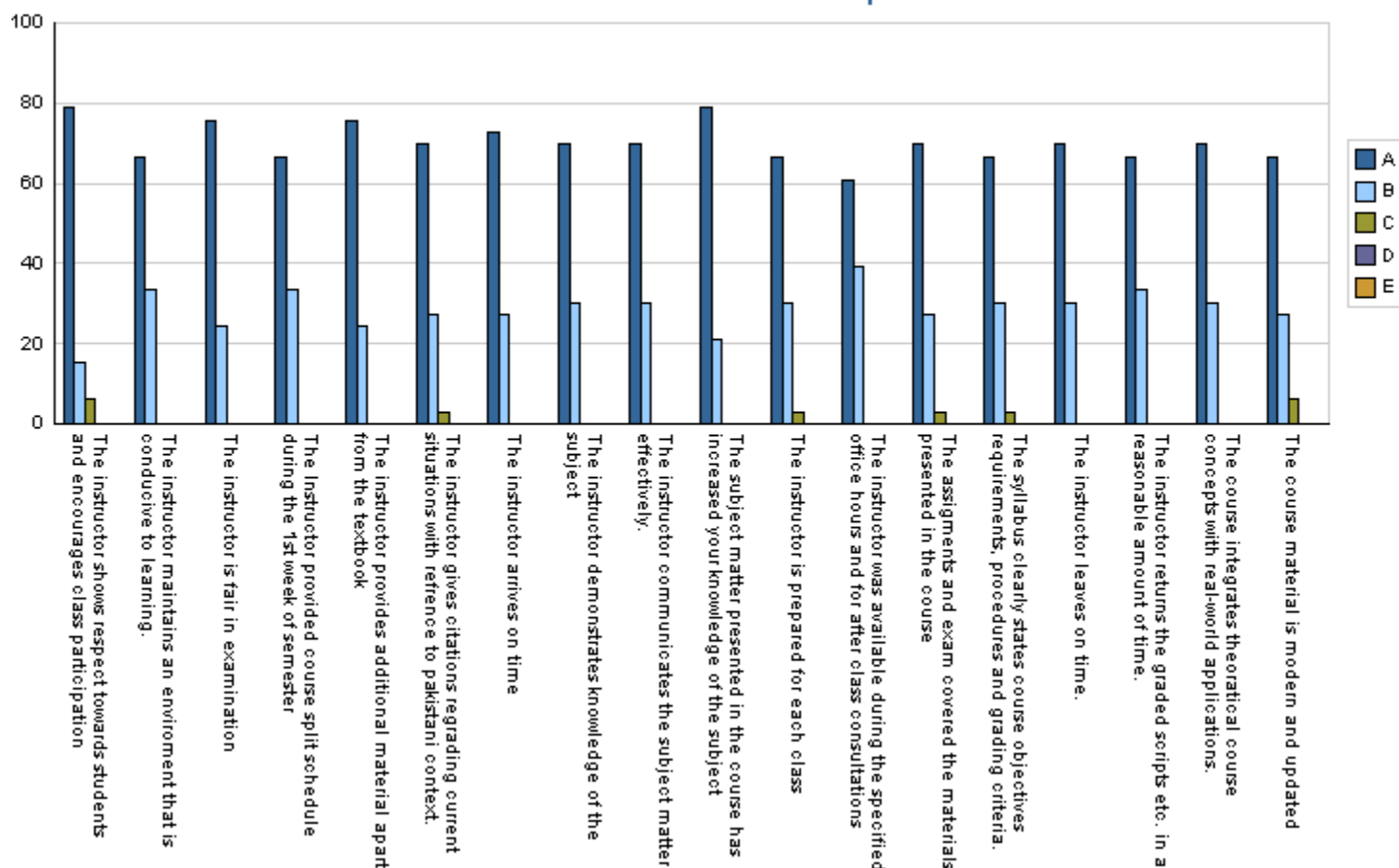# Arid Agriculture University
Performa 10

Session Name:	**FALL-18**
Teacher Name:	**Saima Mustafa**
Course Name:	**Linear Algebra**
Section: **A**	**M/E:** **M** **Semester#:** **1**

Teacher Evaluation Graph

Data collected from 40 student of MSc. Mathematics. About 79%were strongly agree ,15% were agree and 16% were uncertain that the instructor shows respect towards students and encourages class participation. 67% were strongly agree and 33% were agree that the instructor maintains an environment that is conducive to learning and returns the graded scripts etc. in a reasonable amount of time. 67% were strongly agree, 30% were agree and 3% were uncertain that he syllabus clearly states course objectives requirements, procedures and grading criteria .70% were strongly agree,27% were agree and 3% were uncertain that the assignments and exam covered the materials presented in the course.76% were strongly agree and 24% were agree that the instructor is fair in examination.

Spring 2019

According to the Performa 1 and Performa 10, the teachers have been evaluated by the students for the semester Spring 2019.

1) Dr. Saima Mustafa
2) Ms. Beenish Shakir

Performa 1 titled **Student Course Evaluation.**

Performa 10 titled **Teacher Course Evaluation.**

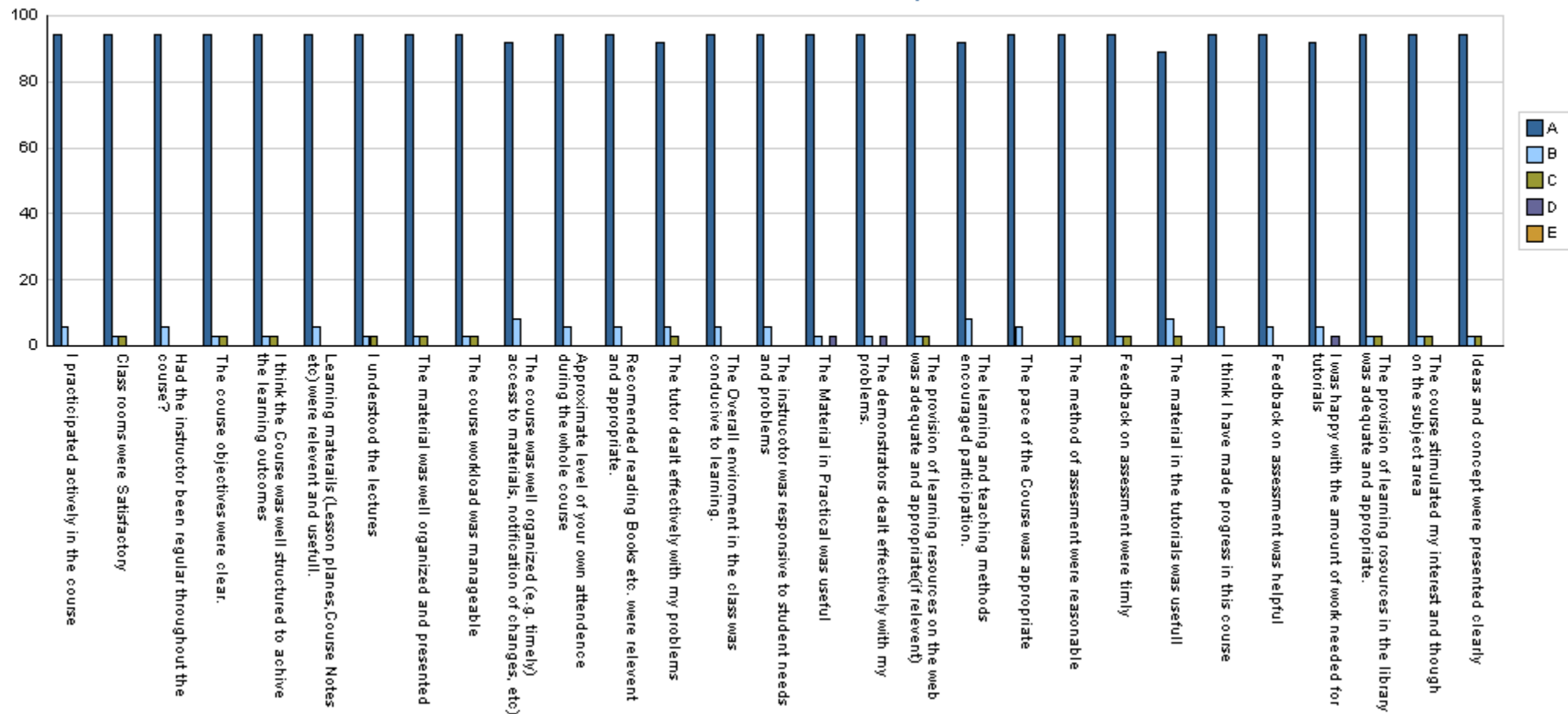Individual statements of the Performa's are also summarized in the following Figures.

Pir Mehr Ali Shah
Arid Agriculture University

Performa 1

Session Name: SPRING-19

Teacher Name: Saima Mustafa

Course Name: Topology

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

Class: M.Sc (Mathematics)

Course Evaluation Graph

Data were collected from the students of M.Sc mathematics morning. Among them 72% strongly agreed that the objectives of the course were clear. 69% strongly agreed that feedback on assessments were timely, instructor had been regular throughout the course and course workload was manageable. 66% strongly agreed regarding their attendance during whole course work, recommended books were relevant, the course was well organized and the material in practical was useful. 34% agreed that they participated effectively in the course. 31% agreed that the condition of class rooms was satisfactory and they made progress in the subject. 13% of the students were uncertain regarding the ideas and concepts of the course presented clearly and material in practical was useful. 6% of the students disagreed that the course stimulated their interest. 3% disagreed that the course was well structured, course was well organized and the demonstrator dealt effectively with the problems. 3% of the students strongly disagreed that the provision of learning resources on the web was adequate and appropriate.

Pir Mehr Ali Shah
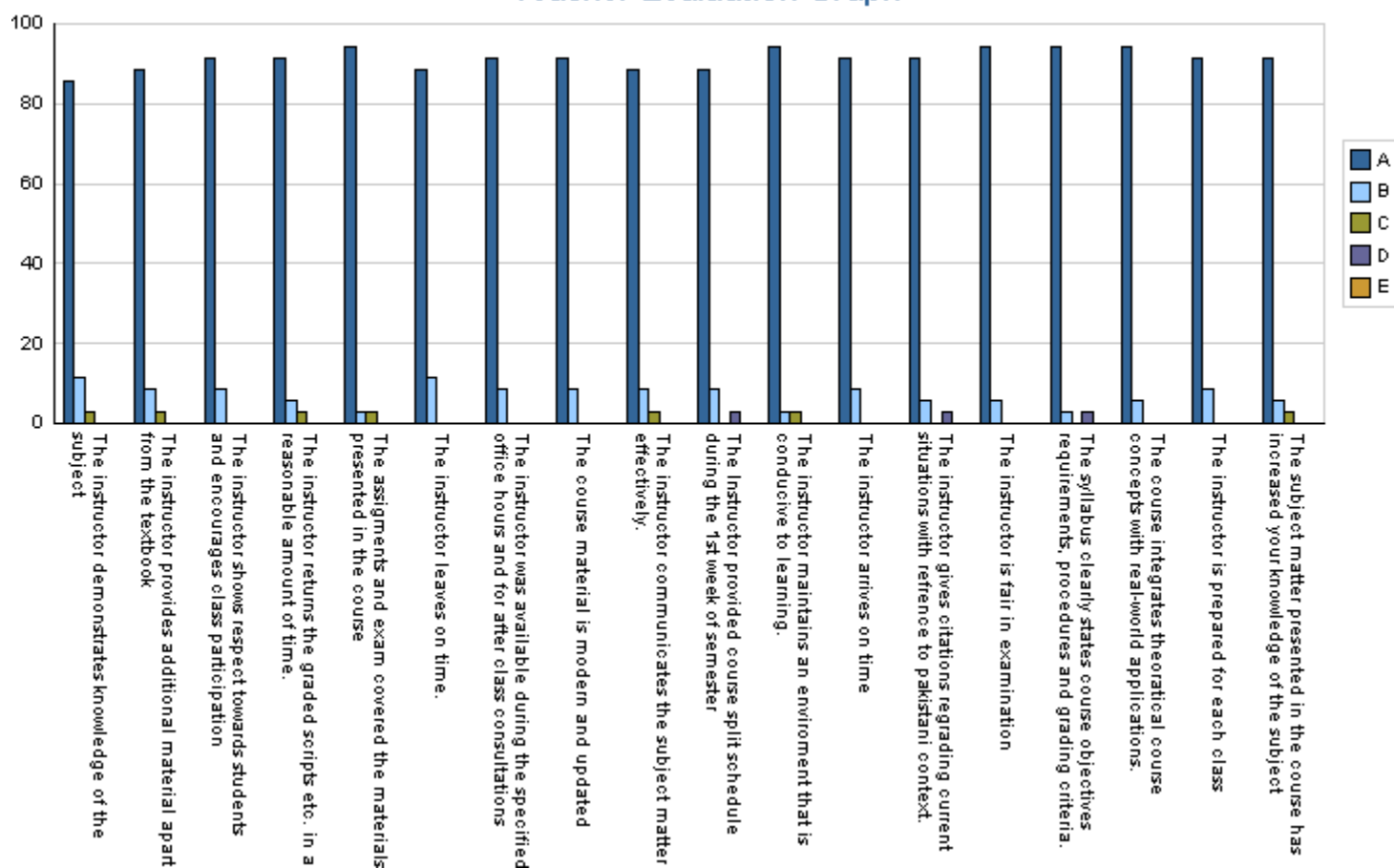# Arid Agriculture University
Performa 10

Session Name: SPRING-19

Teacher Name: Saima Mustafa

Course Name: Topology

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

Teacher Evaluation Graph

Data has been collected from 40 students of M.Sc mathematics. Among them 72% strongly agreed that instructor arrives on time and instructor showed respect towards the students. 69% of the students agreed that instructor provided course split schedule during first week and demonstrated the knowledge of the subject. 66% of the students strongly agreed that instructor leaves on time and the provided subject matter has increased knowledge. 31 of the students agreed that instructor was prepared for each class. 22% of the students agreed that course integrates theoretical concepts with real world applications, instructor leaves on time and deals with subject matter effectively. 28% of the students declared that they were uncertain regarding the objectives of the course.
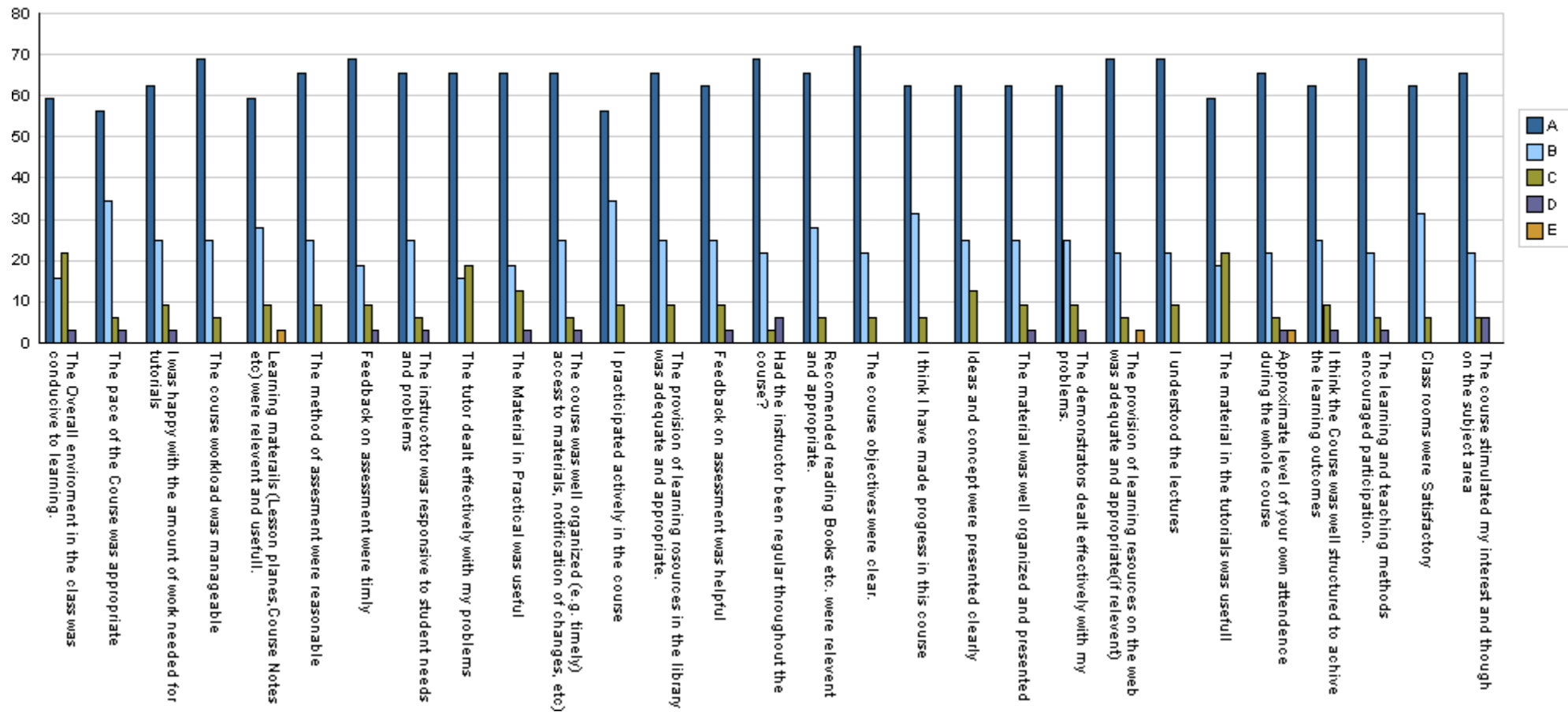
Pir Mehr Ali Shah
Arid Agriculture University

Performa 1

Session Name: SPRING-19

Teacher Name: Saima Mustafa

Course Name: Topology

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

Class: M.Sc (Mathematics)

Course Evaluation Graph

Data were collected from the students of M.Sc mathematics morning. Among them 72% strongly agreed that the objectives of the course were clear. 69% strongly agreed that feedback on assessments were timely, instructor had been regular throughout the course and course workload was manageable. 66% strongly agreed regarding their attendance during whole course work, recommended books were relevant, the course was well organized and the material in practical was useful. 34% agreed that they participated effectively in the course. 31% agreed that the condition of class rooms was satisfactory and they made progress in the subject. 13% of the students were uncertain regarding the ideas and concepts of the course presented clearly and material in practical was useful. 6% of the students disagreed that the course stimulated their interest. 3% disagreed that the course was well structured, course was well organized and the demonstrator dealt effectively with the problems. 3% of the students strongly disagreed that the provision of learning resources on the web was adequate and appropriate.

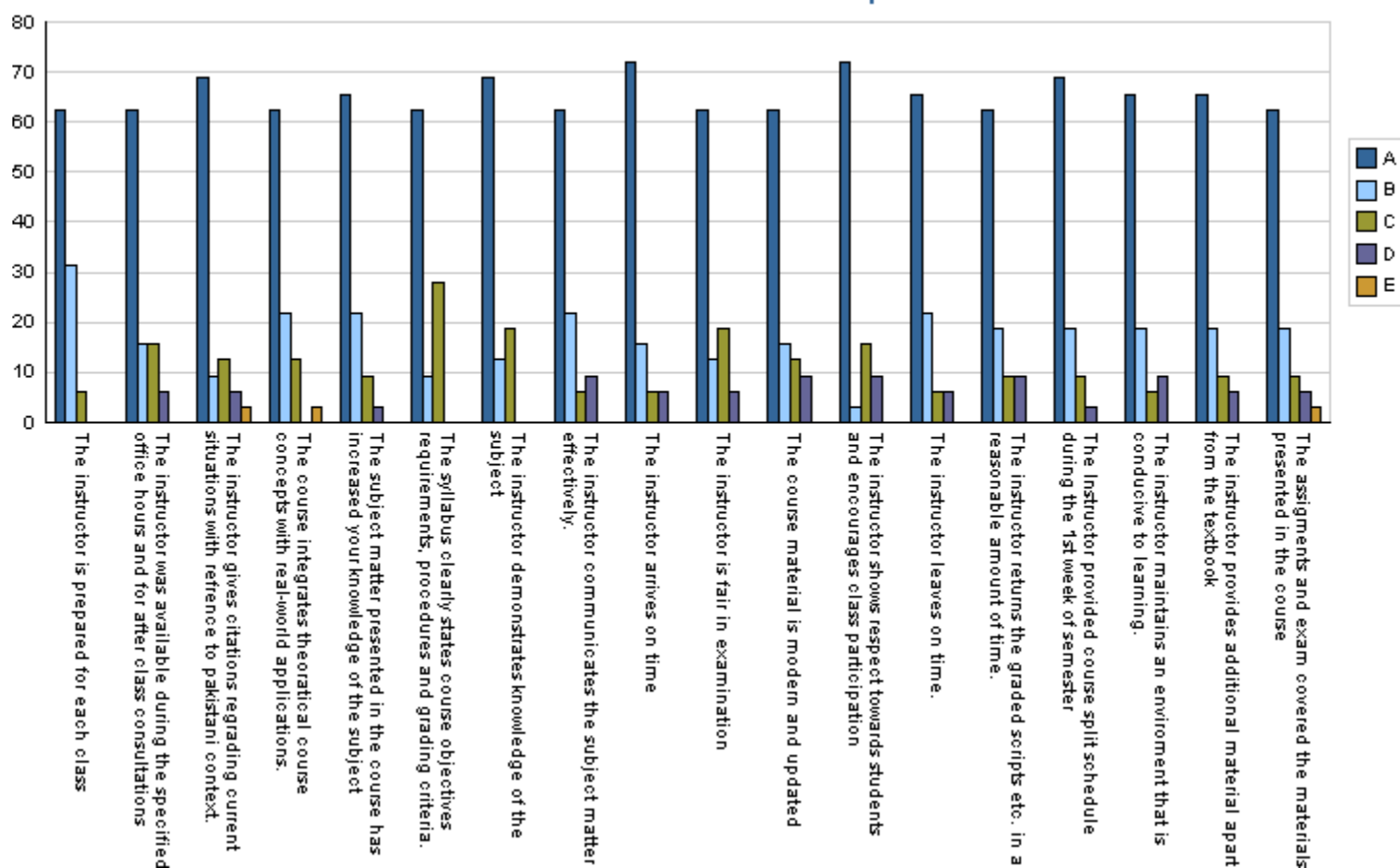# Pir Mehr Ali Shah
Arid Agriculture University
Performa 10

Session Name:	SPRING-19
Teacher Name:	Saima Mustafa
Course Name:	Topology
Section: A	**M/E:** M **Semester#:** 2

Teacher Evaluation Graph

Data has been collected from 40 students of M.Sc mathematics. Among them 72% strongly agreed that instructor arrives on time and instructor showed respect towards the students. 69% of the students agreed that instructor provided course split schedule during first week and demonstrated the knowledge of the subject. 66% of the students strongly agreed that instructor leaves on time and the provided subject matter has increased knowledge. 31 of the students agreed that instructor was prepared for each class. 22% of the students agreed that course integrates theoretical concepts with real world applications, instructor leaves on time and deals with subject matter effectively. 28% of the students declared that they were uncertain regarding the objectives of the course.
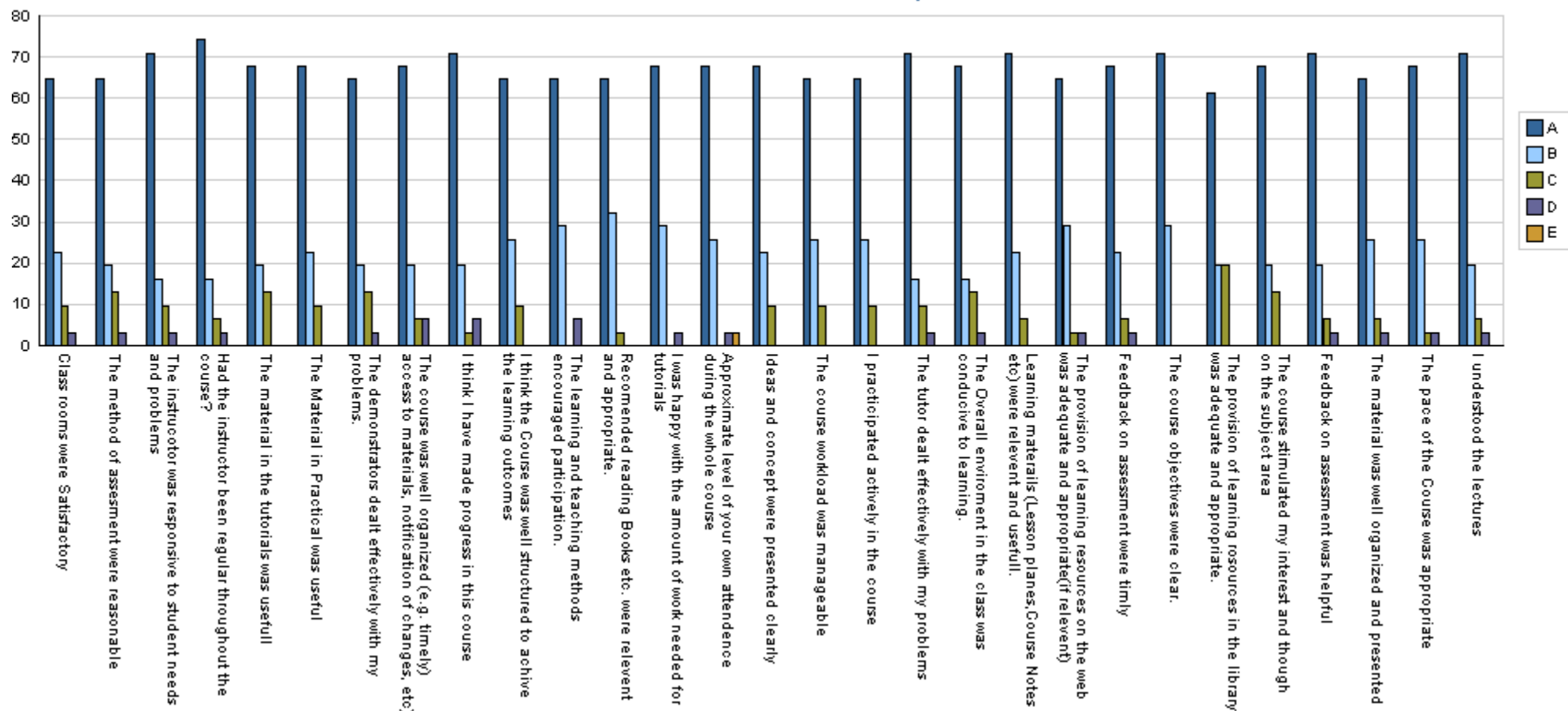
Pir Mehr Ali Shah
Arid Agriculture University

Performa 1

Session Name: SPRING-19

Teacher Name: Saima Mustafa

Course Name: Complex Analysis

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

Class: M.Sc (Mathematics)

Course Evaluation Graph

Data was collected from 40 students of M.Sc mathematics. 74% of the students strongly agreed that the instructor was regular throughout the course. 71% strongly agreed that feedback on assessments was helpful, students made progress in the subject, understood the subject and learning material was helpful. 68% strongly agreed that material in the tutorial was useful, pace of the course was appropriate and course stimulated the interest. 29% of the students agreed that they were happy with the amount of work required for tutorials, learning and teaching methods encouraged knowledge also the course objectives were clear. 26% agreed that the pace of the course was appropriate; course workload was manageable; material was well organized and presented. 19% of the students were uncertain regarding the provision of learning resources in the library was adequate and appropriate. 13% were uncertain regarding the usefulness of the materials available in tutorials, the methods of assessments were reasonable; overall environment in the class was conductive to learning, the course stimulated the interest. 6% disagreed that they have made progress in the subject, the course was well organized, and the learning and teaching methods encouraged participation. 3% disagreed that the feedback on the assessments was useful and timely, understood the lectures, ideas and concepts presented clearly and the method of assessment were reasonable. 3% strongly disagreed that the approximate level of attendance during the whole course.

Pir Mehr Ali Shah
Arid Agriculture University
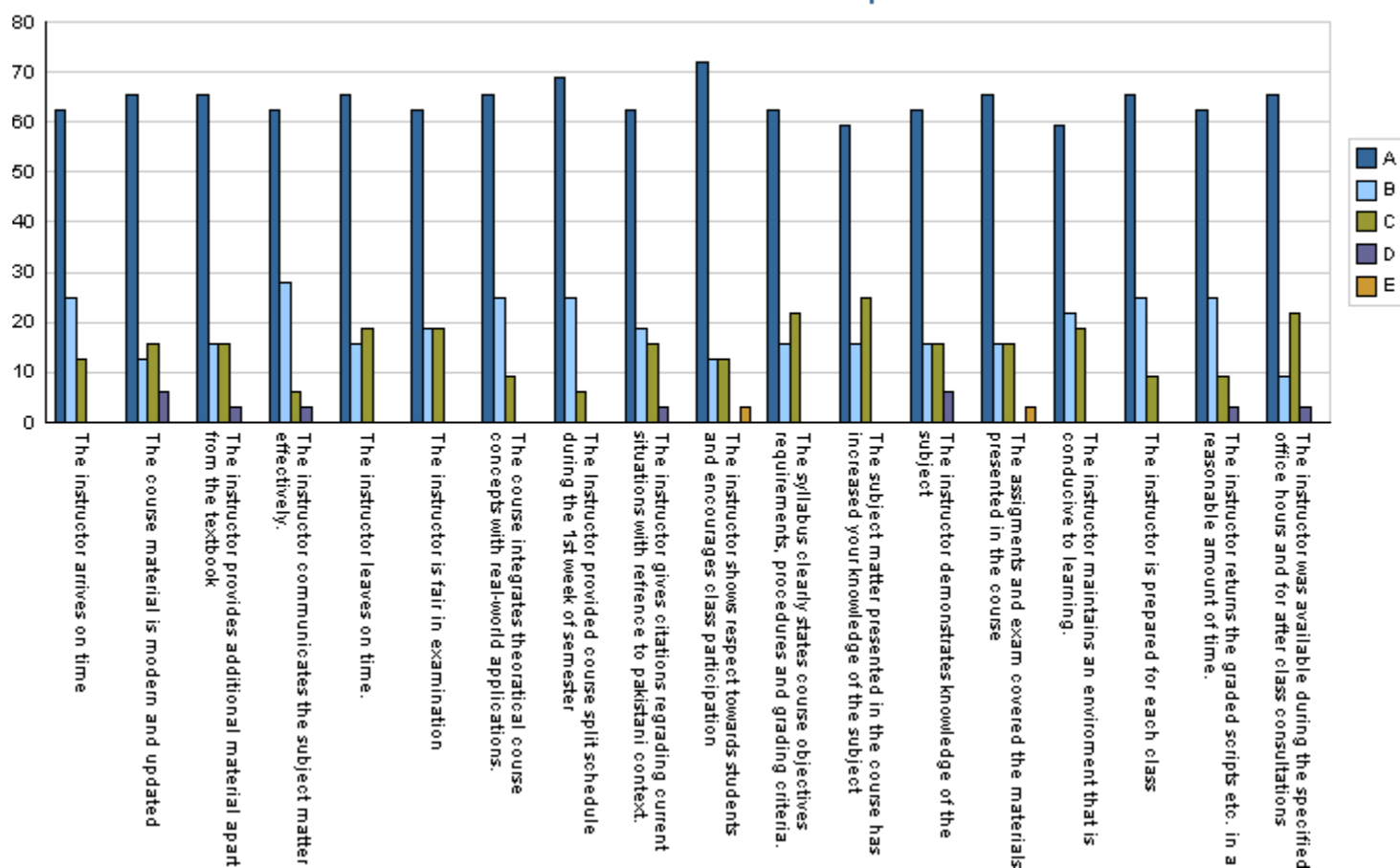## Performa 10

Session Name: SPRING-19

Teacher Name: Saima Mustafa

Course Name: Complex Analysis

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

Teacher Evaluation Graph

The data was collected from 40 students of M.Sc mathematics. 72% strongly agreed that instructor showed respect towards students. 69% the instructor provided course split schedule during first week. 66% strongly agreed assignments and exams covered the material, the course integrate theoretical course concepts with real world applications, the course material is modern and updated.28% agreed the instructor communicates the subject matter effectively. 25% the instructor arrives on time, instructor was prepared for each class. 22% agreed the instructor maintains an environment in class. 25% were uncertain that the subject matter presented increased knowledge. 22% were uncertain the instructor was available after the class, the syllabus clearly states course objectives. 6% disagreed that course material was modern and updated, the instructor demonstrates knowledge of the subject. 3% disagreed that instructor provided additional material. 3% strongly disagreed that exam and assignments covered the presented material and the instructor showed respect towards students and encouraged class participation.

Pir Mehr Ali Shah
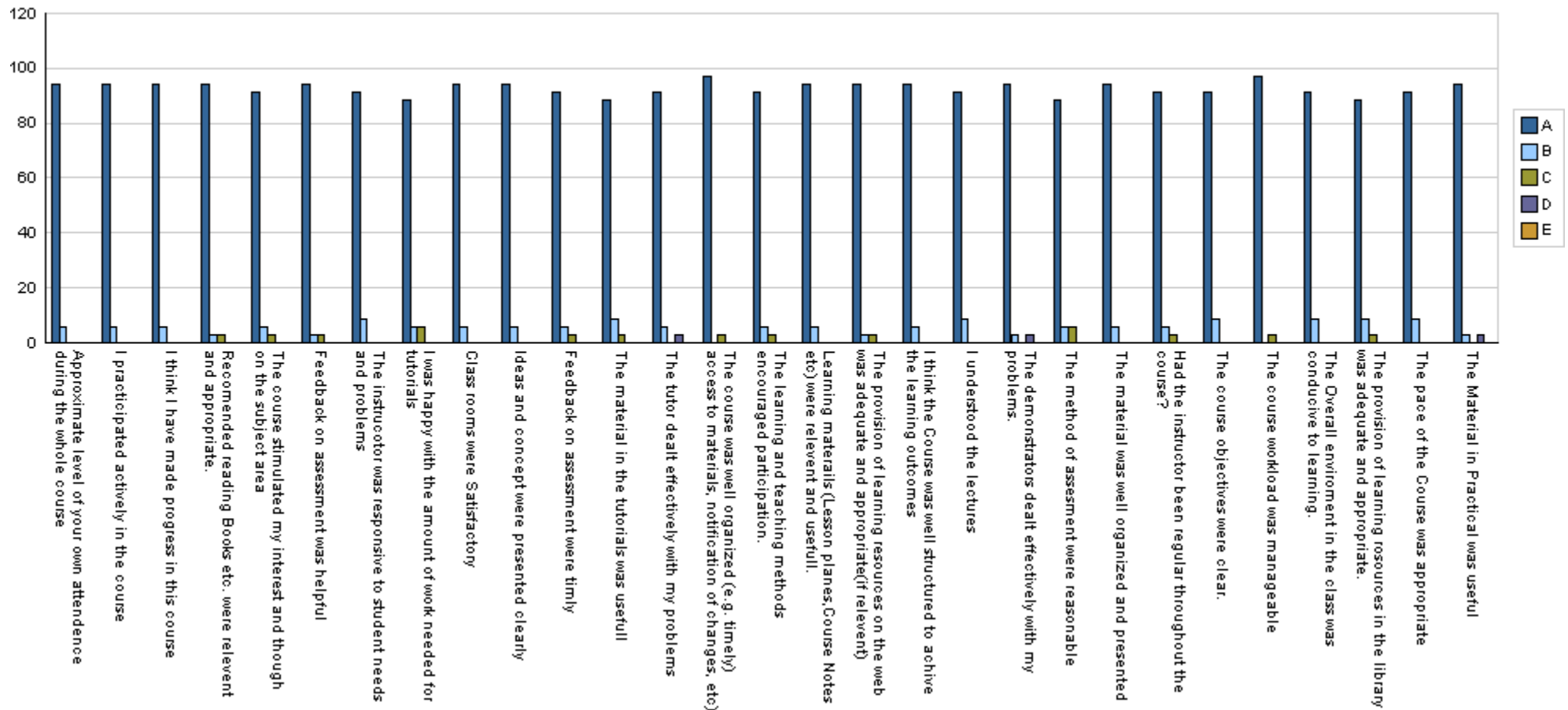# Arid Agriculture University

Performa 1

Session Name: SPRING-19

Teacher Name: Beenish Shakir

Course Name: Numerical Analysis

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

Class: M.Sc (Mathematics)

Course Evaluation Graph

The data has been collected from 40 students of mathematics. 97% strongly agreed that course was well organized and course workload was manageable. 94% of the students strongly agreed classroom was satisfactory, feedback on assignments was helpful, participated actively and ideas and concept were presented clearly. 91% strongly agreed that learning and teaching methods encouraged participation, the pace of the course was appropriate. 9% agreed understood the lectures, overall environment was conductive to learning. 6% uncertain that class rooms were satisfactory, feedback on assessments were timely. 3% disagreed that material in practical was useful and tutor dealt effectively with problems.
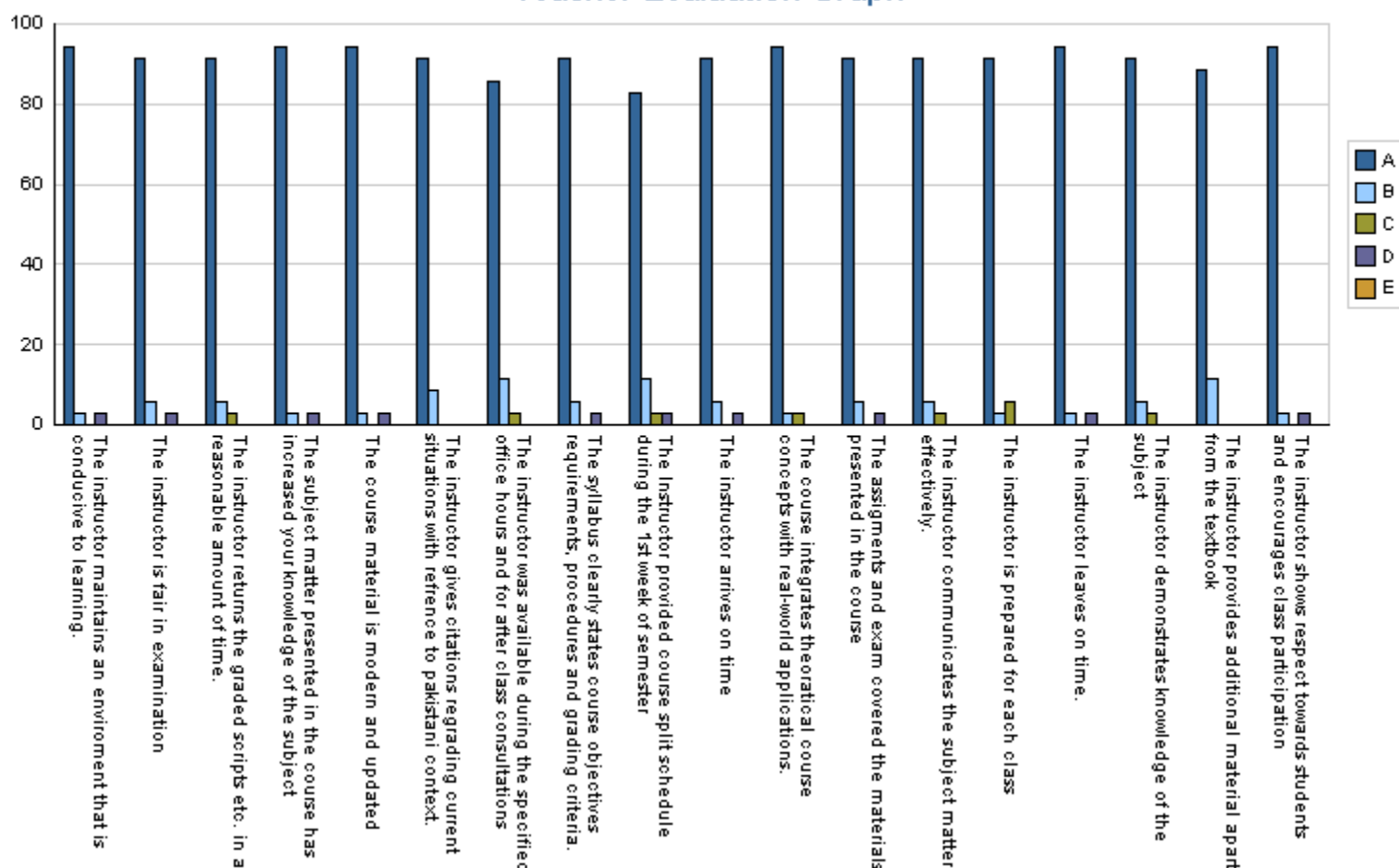
Pir Mehr Ali Shah
Arid Agriculture University
Performa 10

Session Name: SPRING-19

Teacher Name: Beenish Shakir

Course Name: Numerical Analysis

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

Teacher Evaluation Graph

The data was collected from 40 students. 94% strongly agreed that course integrates theoretical course concepts with real world applications, course material was modern and updated, instructor left the class on time and instructor showed respect towards students. 91% strongly agreed that instructor returned grading scripts, syllabus clearly states course objectives. 89% strongly agreed that instructor provided additional material, 11% agreed that instructor was available during specified office hours, instructor provided course split schedule. 6% were uncertain that instructor was prepared for each class. 3% were uncertain that instructor communicates the course matter effectively, instructor demonstrates the knowledge of the subject. 3% disagreed that instructor was fair in examination, arrives on time and leaves on time.
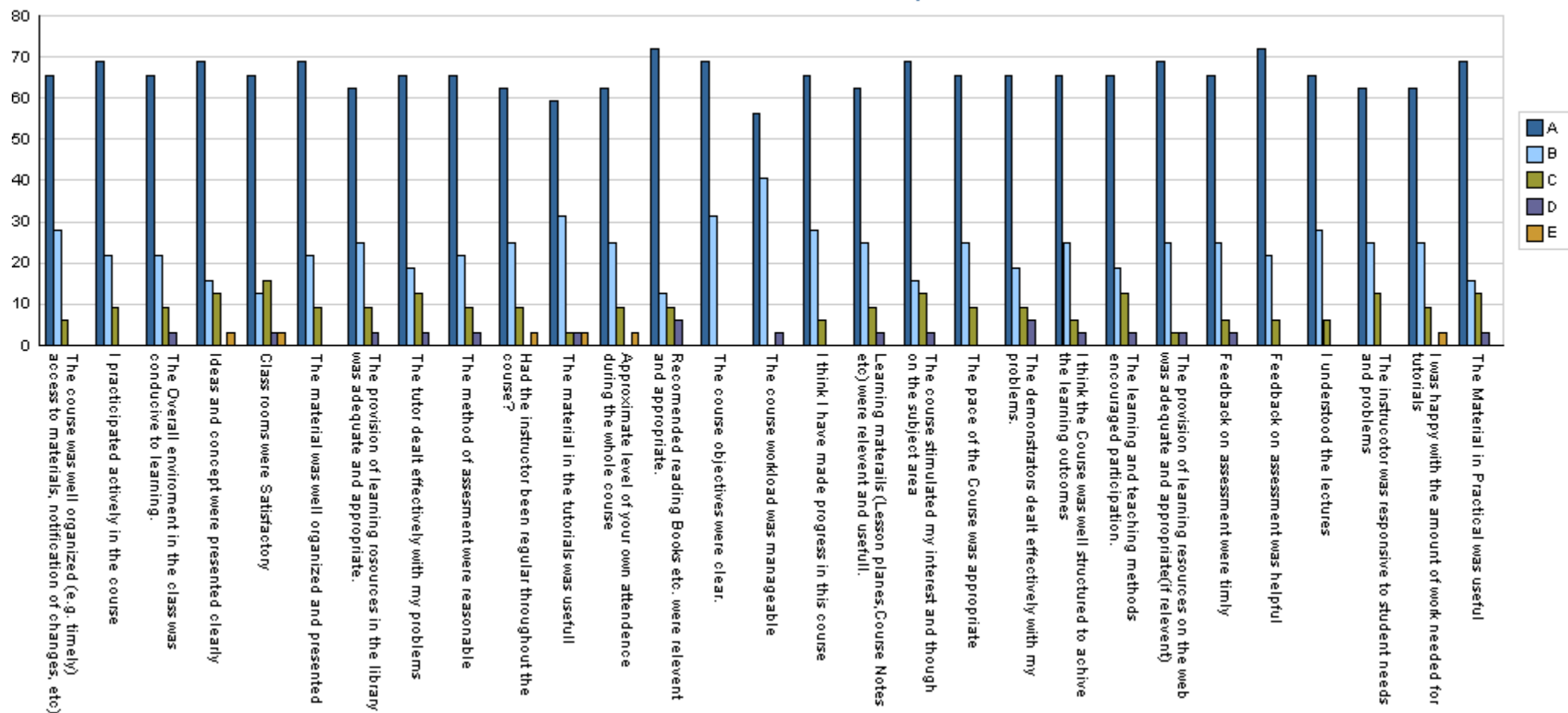
Pir Mehr Ali Shah
Arid Agriculture University

Performa 1

Session Name: SPRING-19

Teacher Name: Beenish Shakir

Course Name: Numerical Analysis

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

Class: M.Sc (Mathematics)

Course Evaluation Graph

The data has been collected from 40 students of M.Sc mathematics morning. Among them 72% strongly agreed that recommended books were appropriate and relevant also feedback on assessments was helpful. 69% strongly agreed that participated actively in the course, and ideas were presented clearly. Material in practical was useful. 41% agreed that course workload was manageable. 31% agreed that course objectives were clear, material in tutorials were useful. 28% agreed that they understood the lectures. 16% were uncertain regarding the satisfaction of class rooms. 13% were uncertain that ideas and concepts were presented clearly, material in practical was useful and course material stimulated the interest. 6% disagreed that demonstrator dealt effectively with the problems. 3% disagreed that learning and teaching methods encouraged participation, the method of assessments were reasonable and the pace of the course was appropriate. 3% strongly disagreed that material in the tutorial was useful, instructor was regular throughout the course, ideas and concepts were presented clearly.

Pir Mehr Ali Shah
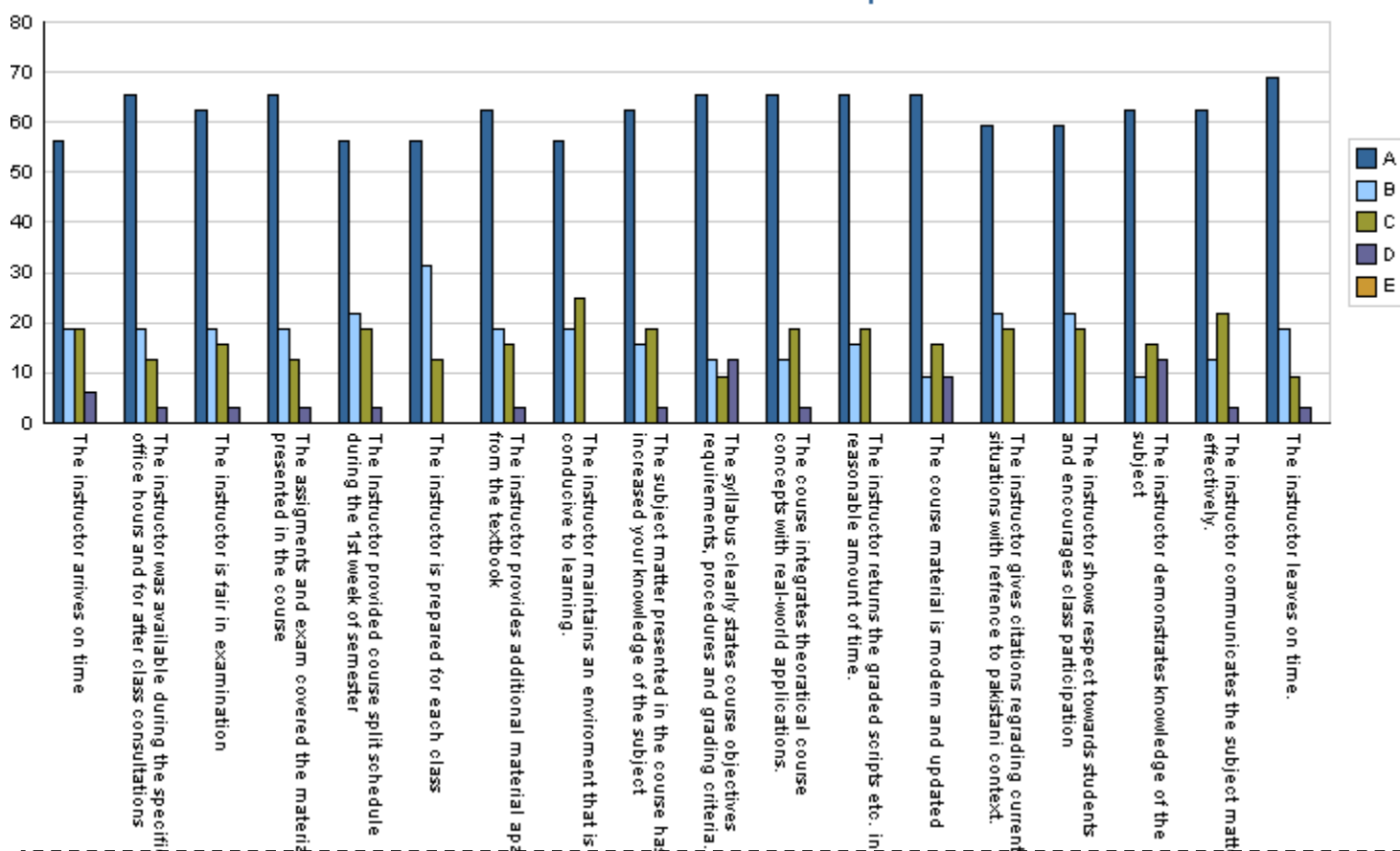# Arid Agriculture University
Performa 10

Session Name: SPRING-19

Teacher Name: Beenish Shakir

Course Name: Numerical Analysis

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

Teacher Evaluation Graph

The data has been collected from 40 students of M.Sc mathematics. 66% strongly agreed that assignments and exams covered the materials presented in the course, the course integrates theoretical course concepts, and course material was modern ad updated. 69% strongly agreed that instructor leaves on time. 63% strongly agreed that subject matter has increased knowledge, instructor was fair in examination, and instructor communicates the subject matter effectively. 22% agreed that instructor provided course split schedule, instructor gave citations regarding current situations. 19% agreed that instructor was available during specified office hours, instructor maintain conductive to learning environment in the class, instructor was prepared for each class and left the class on time. 22% were uncertain that instructor communicated the subject matter effectively. 19% were uncertain that instructor arrive on time, instructor returned grading scripts on time. 13% disagreed that instructor demonstrates knowledge of the subject and course syllabus clearly states the course objectives.

Pir Mehr Ali Shah
Arid Agriculture University

Performa 1

Session Name:　SPRING-19
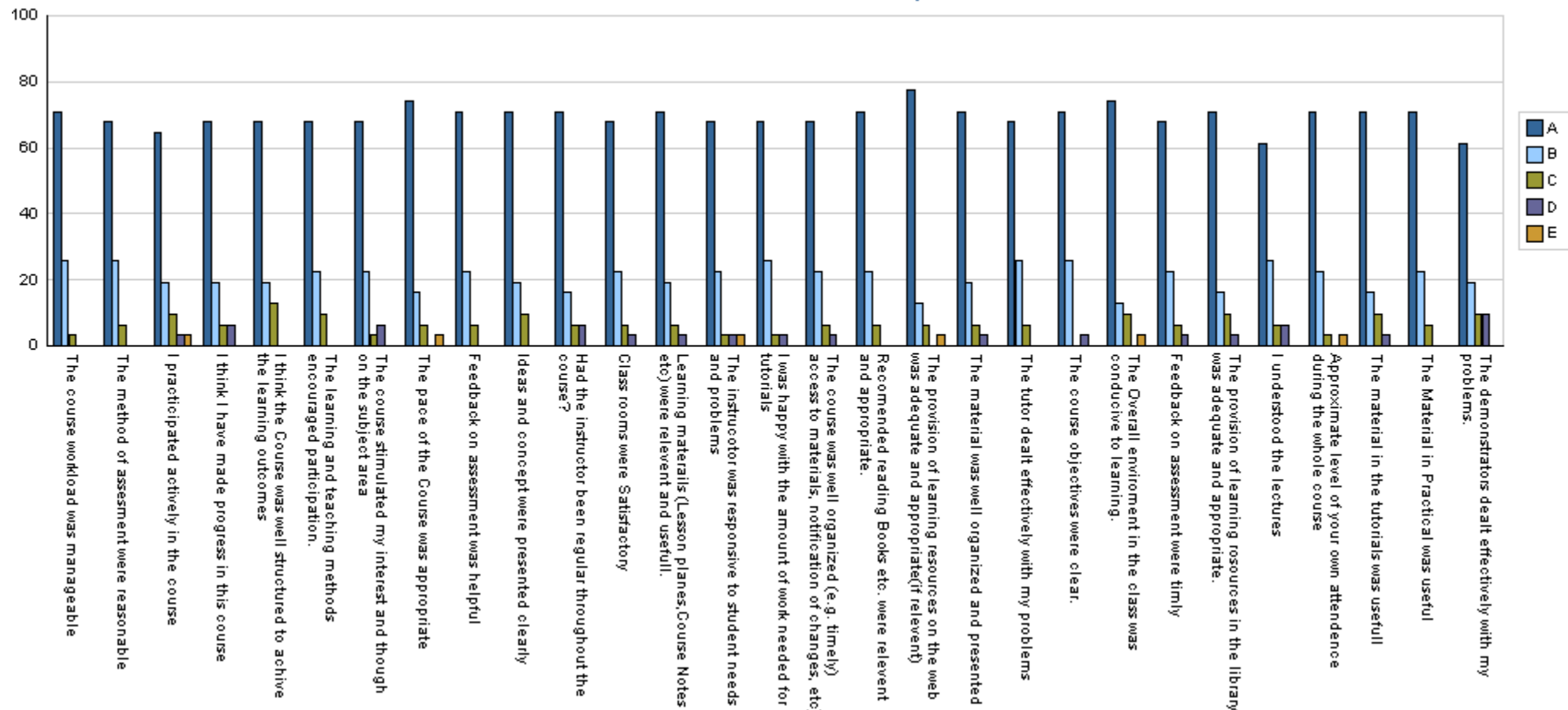
Teacher Name:　Beenish Shakir

Course Name:　Mathematical Physics

Section:　A　　　　M/E:　M　　　Semester#　2

Class:　M.Sc (Mathematics)

Course Evaluation Graph

The data have been collected from 40 students. 77% strongly agreed that provision of learning resources on web was adequate. 74% strongly agreed that pace of the course was appropriate. 71% strongly agreed that material in the tutorials was useful, material was well organized, provision of learning resources in library was adequate and appropriate. 68% of the students strongly agreed that tutor dealt effectively with the problems, classrooms were satisfactory, feedback on assessments was timely, students made progress in the subject. 26% of the students agreed that they understood the lecture, they felt happy with the amount of work needed for tutorials and the objectives of the course were clear. 23% of the students agreed that feedback on assessments was helpful and timely, material was useful in practical, recommended books were helpful, and the course stimulated the interest. 19% of the students agreed that ideas and concepts were presented clearly, they participated effectively in the course, and demonstrated dealt effectively with the problems. 13% of the students felt uncertain that the course was well structured to achieve the learning outcomes. 10% of the students were uncertain that they participated actively, ideas and concepts were presented clearly, and overall environment in the class was conductive to learning. 6% of the students were uncertain that instructor was regular, learning materials were helpful and useful, course was well organized and pace of the course was appropriate. 3% of the students disagreed that materials in the tutorials were useful, provision of learning material in library was adequate and learning materials were relevant. 3% strongly disagreed that they participated in the course and overall environment was conductive to learning.

Pir Mehr Ali Shah
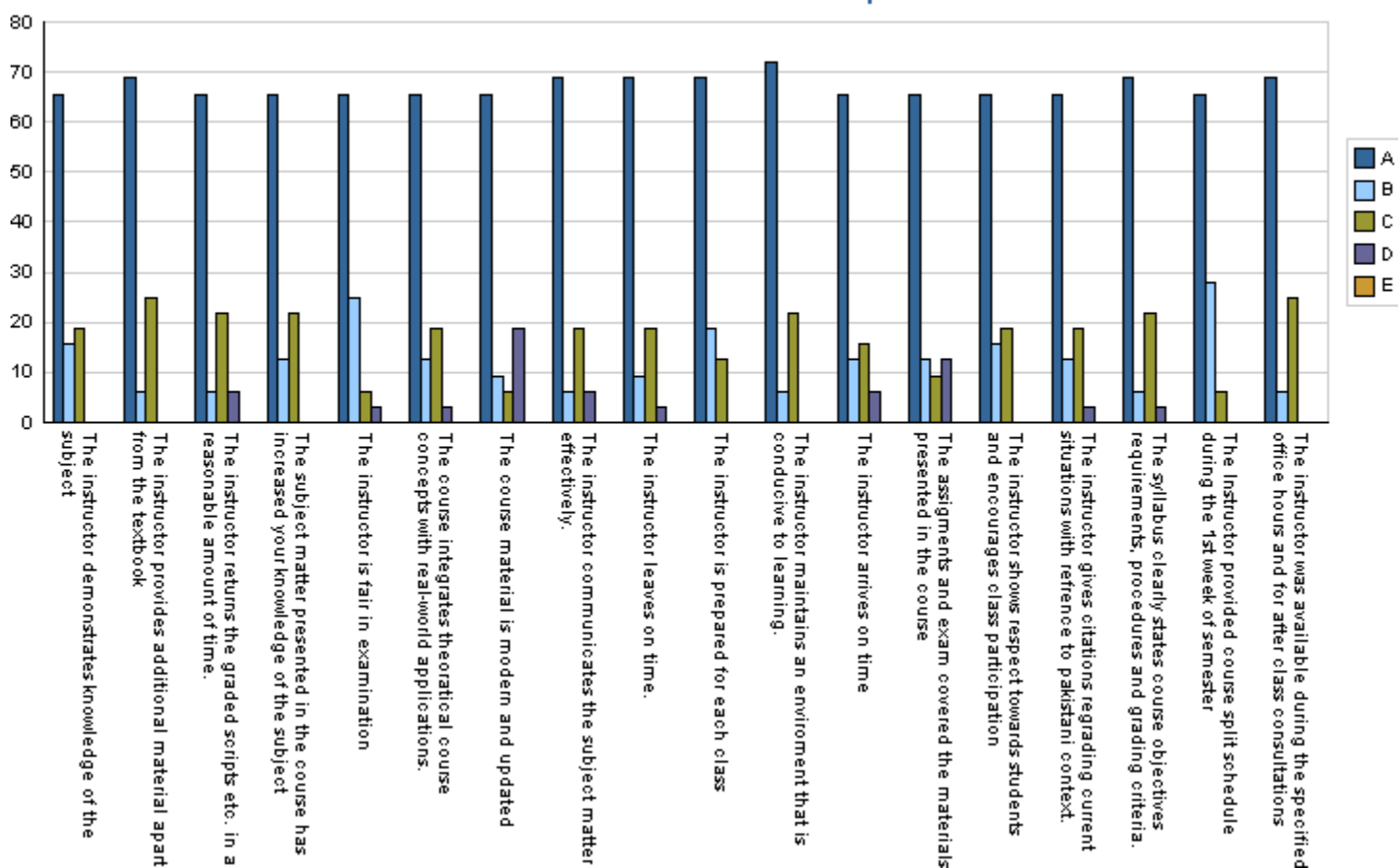# Arid Agriculture University
Performa 10

Session Name:	SPRING-19	
Teacher Name:	Beenish Shakir	
Course Name:	Mathematical Physics	
Section:	A	**M/E:** M **Semester#:** 2

Teacher Evaluation Graph

The data was collected from 40 students of M.Sc mathematics morning. 72% of the students strongly agreed that the instructor maintained conductive to learning environment in the class. 69% of the students strongly agreed that instructor communicated the subject matter effectively, instructor was well prepared for each class and leaves the class on time. 66% of the students agreed that assignments and exams covered the materials presented in the class, course material was modern and updated, instructor arrived on time and instructor returned graded scripts within reasonable amount of time. 285 of the students agreed that instructor provided course split during first week, 25% of the students agreed that instructor was fair in examination, 19% agreed that instructor was well prepared for each class. 25% of the students were uncertain instructor was available during specified office hours, instructor provided additional material apart from textbooks. 22% of the students were uncertain that instructor maintained the environment that was conductive to learning, the subject matter presented has increased knowledge.

Fall 2019-20

According to the Performa 1 and Performa 10, the teachers have been evaluated by the students for the semester Fall 2019-20.

1) Dr. Saima Mustafa
2) Ms. Beenish Shakir

Performa 1 titled **Student Course Evaluation.**

Performa 10 titled **Teacher Course Evaluation.**

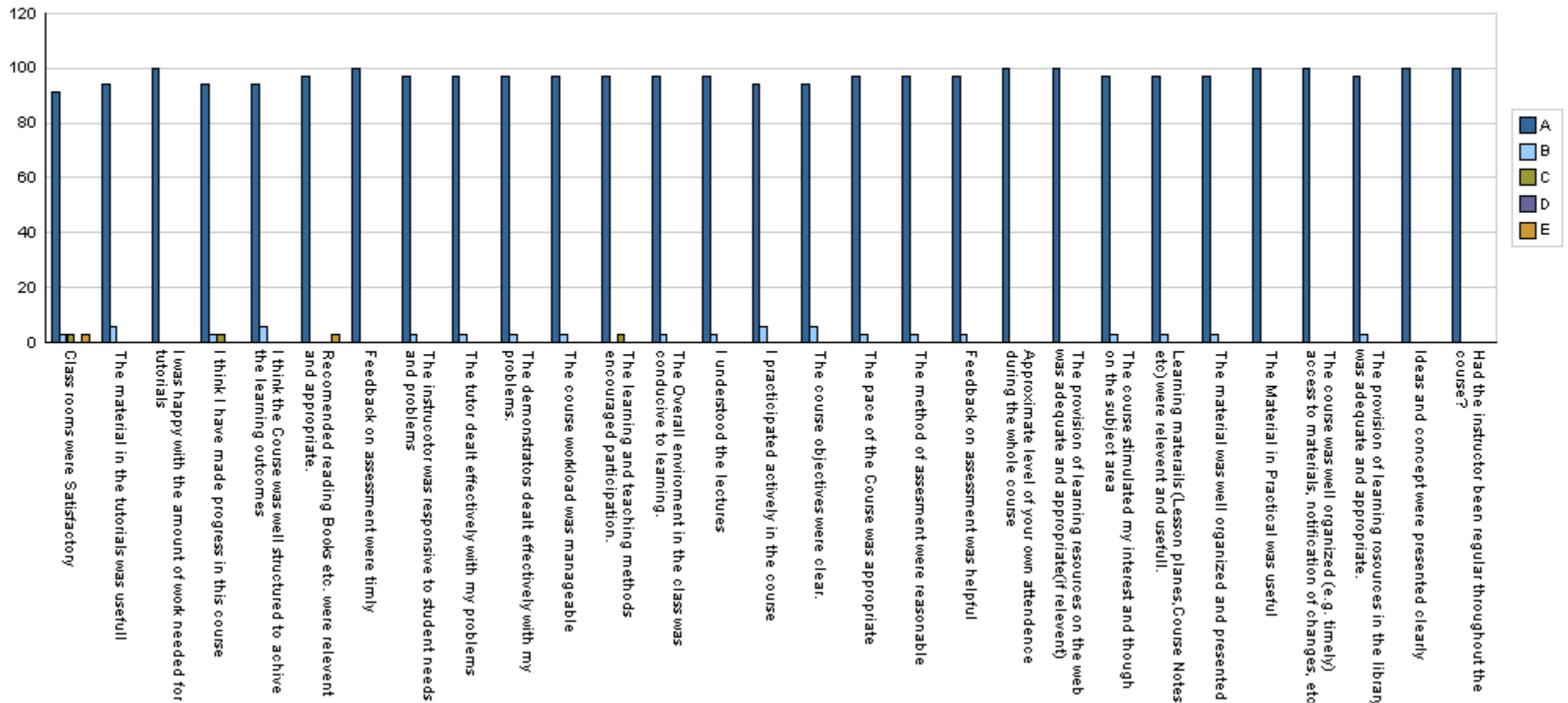Individual statements of the Performa's are also summarized in the following Figures.

Pir Mehr Ali Shah
Arid Agriculture University

Performa 1

Session Name: FALL-19

Teacher Name: Saima Mustafa

Course Name: Real Analysis

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

Class: M.Sc (Mathematics)

Course Evaluation Graph

Legend: A, B, C, D, E

Data is collected from 40 students of MSc. Mathematics. About 91% were strongly agree ,3% were agree, 3% were uncertain and 3% were Strongly disagree that the class rooms were satisfactory.94% were strongly agree and 6% were agree that the material in the tutorials was useful.100% students were strongly agree that they were happy with the amount of work needed for tutorials. Ideas and concepts were presented clearly in which 100% students were strongly agree.94% were strongly agree and 6% were agree that the Course was well structured to achieve the learning outcomes.100% were strongly agree that the instructor had been regular throughout the course.97% were strongly agree and 3% were agree that the Learning materials (Lesson planes, Course Notes etc.) were relevant and useful and the Overall environment in the class was conducive to learning. Recommended reading Books etc. were relevant and appropriate in which 97% were strongly agree and 3% were strongly disagree.

Pir Mehr Ali Shah
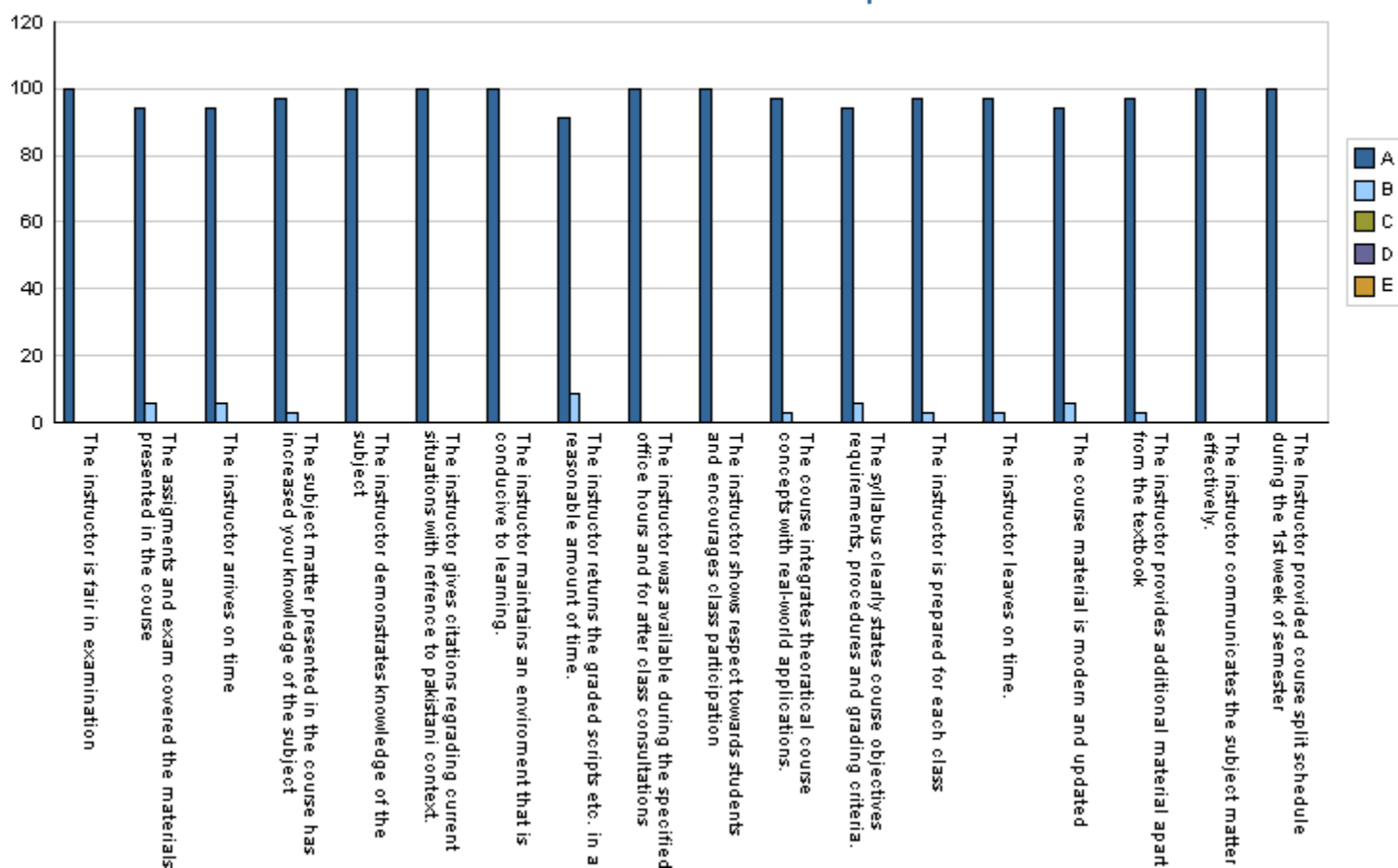# Arid Agriculture University
Performa 10

Session Name: **FALL-19**

Teacher Name: **Saima Mustafa**

Course Name: **Real Analysis**

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

Teacher Evaluation Graph

Legend: A, B, C, D, E

Data is collected from 40 students of MSc. Mathematics. About 100% were strongly agree that the instructor is fair in examination. 94% were strongly agree and 6% were agree that the assignments and exam covered the materials presented in the course.100% were strongly agree that the instructor communicates the subject matter effectively and also demonstrates the knowledge of the subject. The course material is modern and updated in which 94% were strongly agree and 6% were agree.97% were strongly agree and 3% were agree that the course integrates theoretical course concepts with real-world applications.94% were strongly agree and 6% were agree that the instructor arrives on time.97% were strongly agree and 3% were agree that the instructor is prepared for each class and also leaves on time.100% were strongly agree that The instructor gives citations regarding current situations with reference to pakistani context.
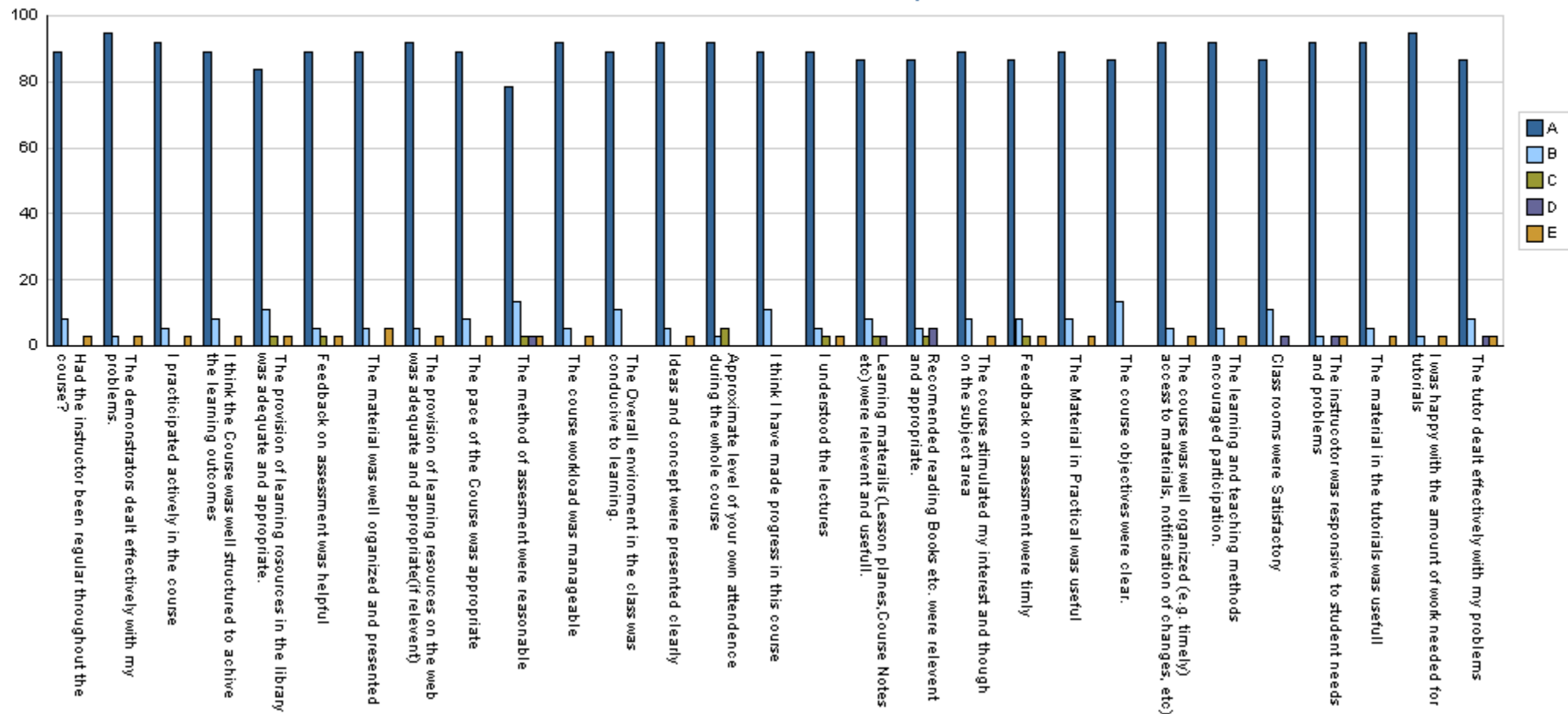
Pir Mehr Ali Shah
Arid Agriculture University

Performa 1

Session Name: FALL-19

Teacher Name: Saima Mustafa

Course Name: Group Theory

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

Class: M.Sc (Mathematics)

Course Evaluation Graph

Data is collected from 40 students of MSc. Mathematics. About 100% students were strongly agree that the attendance of the students during the course is at approximate level .92% were strongly agree and 8% were agree that they understood the lectures.100% were strongly agree that the tutor dealt effectively with my problems. Ideas and concepts were presented clearly and also the learning material were relevant in which 96% students were strongly agree and 4% were agree.100% were strongly agree that the course objective were clear. The provision of learning resources in the library was adequate and appropriate in which 96% student were strongly agree , 2% were agree and 2%were uncertain.95% were strongly agree and 5% were agree that the students take interest in the course. The pace of the course was appropriate and course workload was manageable in which 100% students were strongly agree.100% were strongly agree that the learning and teaching methods encouraged participations.97% were strongly agree and 3% were agree that the method of assessment were reasonable.96% were strongly ,2% were strongly agree and 2% were uncertain that the instructor had been regular throughout the course.

Pir Mehr Ali Shah
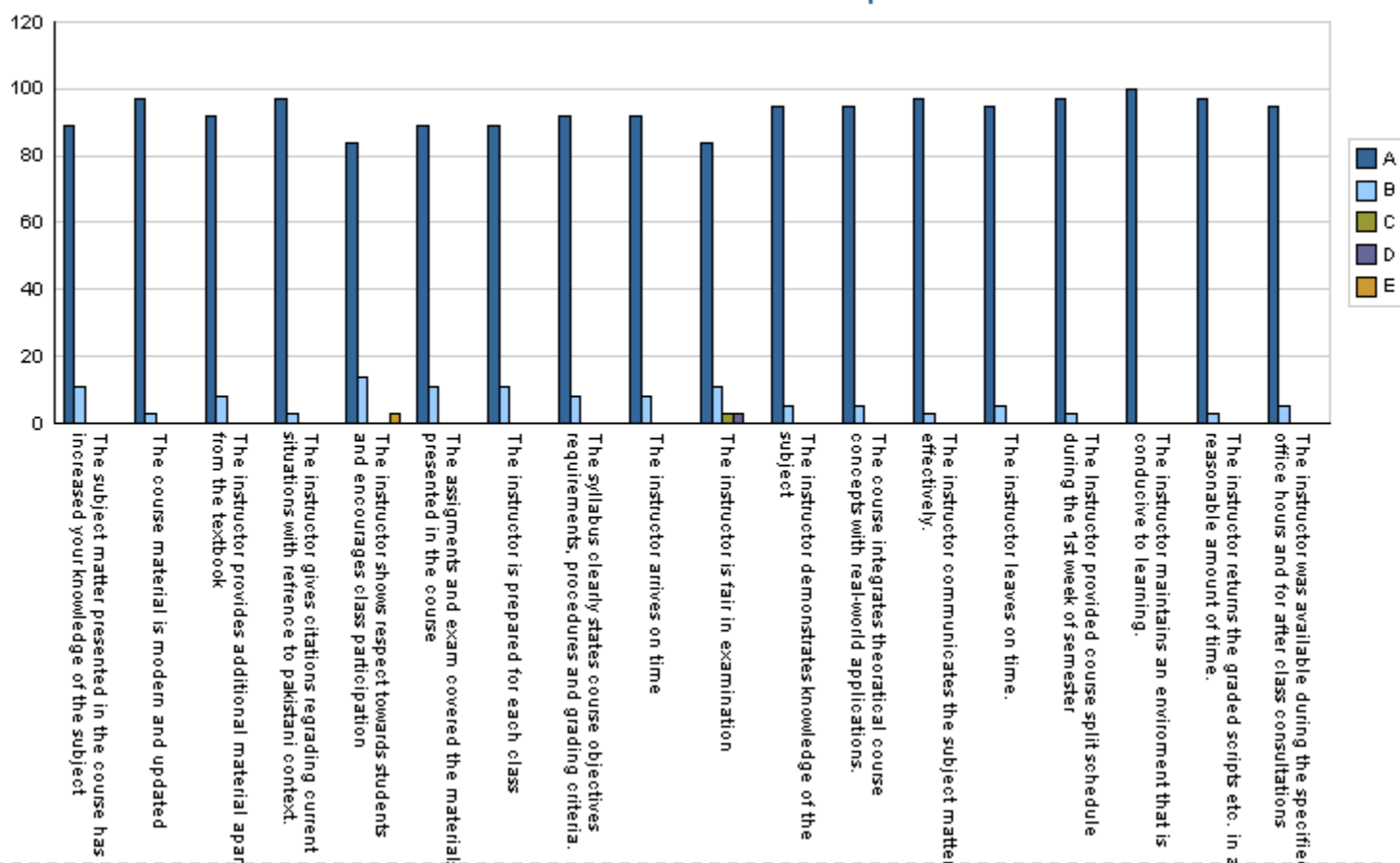# Arid Agriculture University
Performa 10

Session Name:	**FALL-19**
Teacher Name:	**Saima Mustafa**
Course Name:	**Group Theory**
Section:	**A** **M/E:** **E** **Semester#:** **1**

Teacher Evaluation Graph

Data is collected from 40 students of MSc. Mathematics .About 89% were strongly agree and 11% were agree that the subject matter presented in the course has increased the students' knowledge of the subject.97% were strongly agree and 3% were agree that the course material was modern and updated.92% were strongly agree and 8% were agree that the instructor provides additional material apart from the textbook.97% were strongly agree and 3% were agree that the instructor gives citations regarding current situations with reference to pakistani context.84% were strongly agree,14% were agree and 3% were strongly disagree that The instructor shows respect towards students and encourages class participation. 89% were strongly agree and 11% were agree that the instructor is prepared for each class. The instructor is fair in examination for each class in which 84% were strongly agree, 11% were agree,3% were uncertain and 3% were strongly disagree.97% were strongly agree and 3% were agree that The instructor communicates the subject matter effectively.
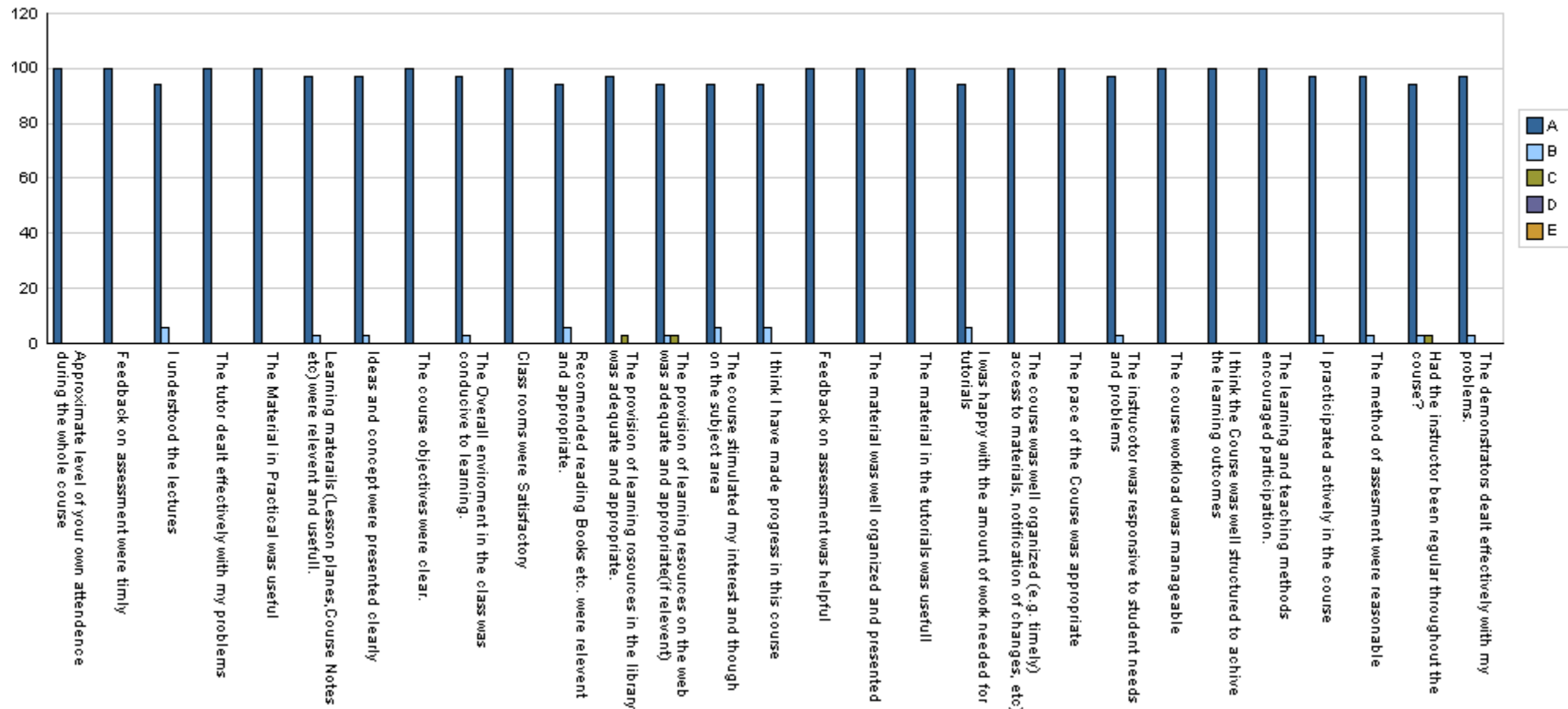
Pir Mehr Ali Shah
Arid Agriculture University

Performa 1

Session Name: FALL-19

Teacher Name: Saima Mustafa

Course Name: Group Theory

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

Class: M.Sc (Mathematics)

Course Evaluation Graph

Data is collected from 40 students MSc. Mathematics. About 94% were strongly agree, 3% were agree and 3% were uncertain that the instructor been regular throughout the course. 97% were strongly agree and 3% were agree that the demonstrators dealt effectively with my problems.100% were strongly agree that the feedback on assessment was helpful and timely.100% were strongly agree that the classrooms were satisfactory .The provision of learning resources on the web was adequate and appropriate among which 94% students were strongly agree ,3% were agree and 3% were uncertain.100% were strongly agree that the material were well organized and presented.100% were strongly agree that the pace of the course was appropriate.100% were strongly agree that the course workload was manageable.100% were strongly agree that the learning and teaching methods encouraged participation.94% were strongly agree and 6% were agree that the students understood the lectures.

Pir Mehr Ali Shah
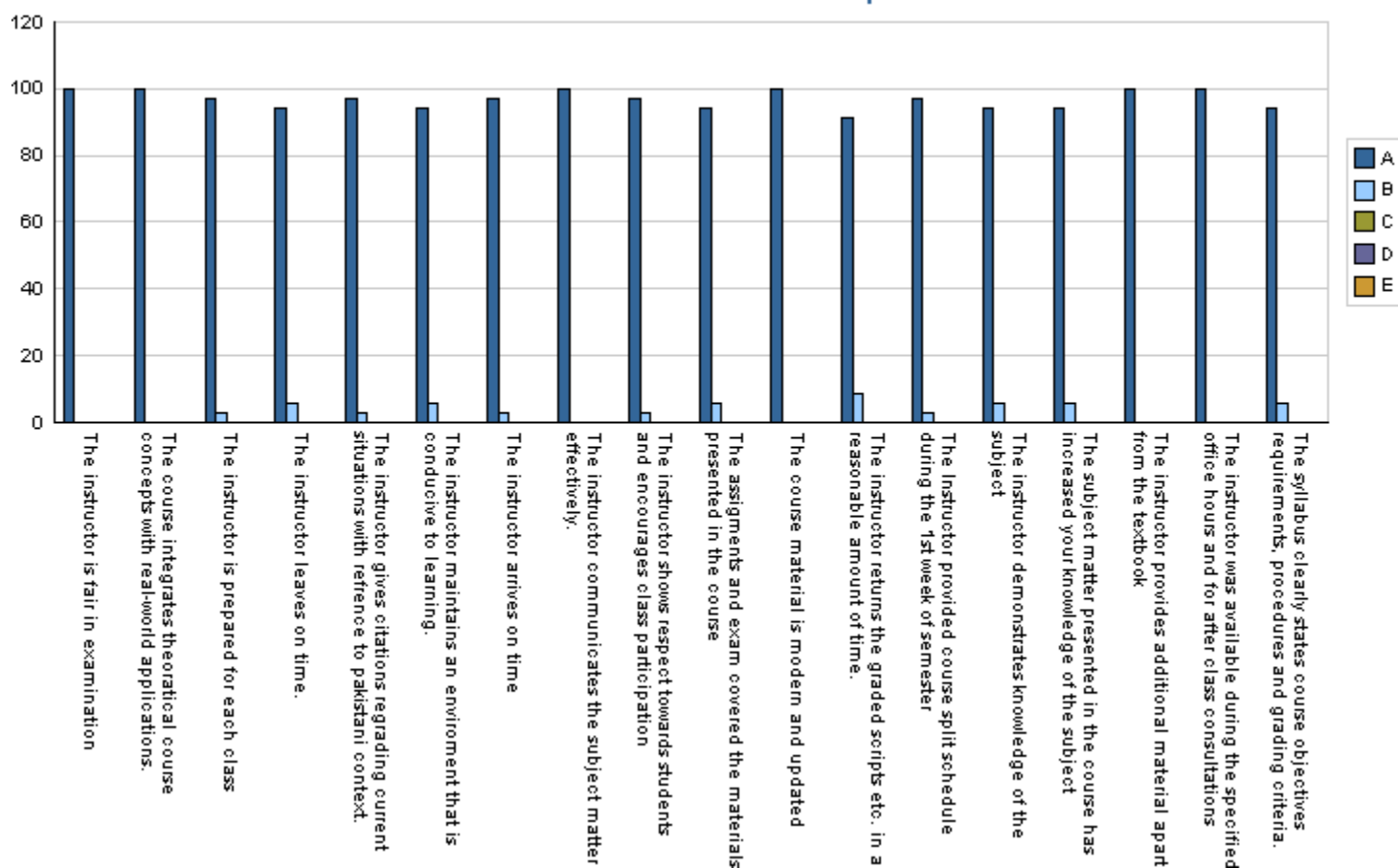# Arid Agriculture University
Performa 10

Session Name: FALL-19

Teacher Name: Saima Mustafa

Course Name: Group Theory

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

Teacher Evaluation Graph

Data is collected from the 40 students of MSc. Mathematics. About 100% were strongly agree that the instructor is fair in the examinations.100% were strongly agree that course material is modern, updated and also integrates theoretical course concepts with real-world applications.94% were strongly agree and 6% were agree that the assignments and exam covered the materials presented in the course.94% were strongly agree and 6% were agree that the instructor maintains and environment that is conducive to learning and leaves on time. The instructor gives citations regarding current situations with reference to Pakistani context in which 97% students were strongly agree and 3% were agree.100% were strongly agree that the instructor communicates the subject matter effectively.97% were strongly agree and 3% were agree that the Instructor provided course split schedule during the 1st week of semester.94% were strongly agree and 6% were agree that the assignments and exam covered the materials presented in the course.

Pir Mehr Ali Shah
Arid Agriculture University

Performa 1

Session Name:　　FALL-19
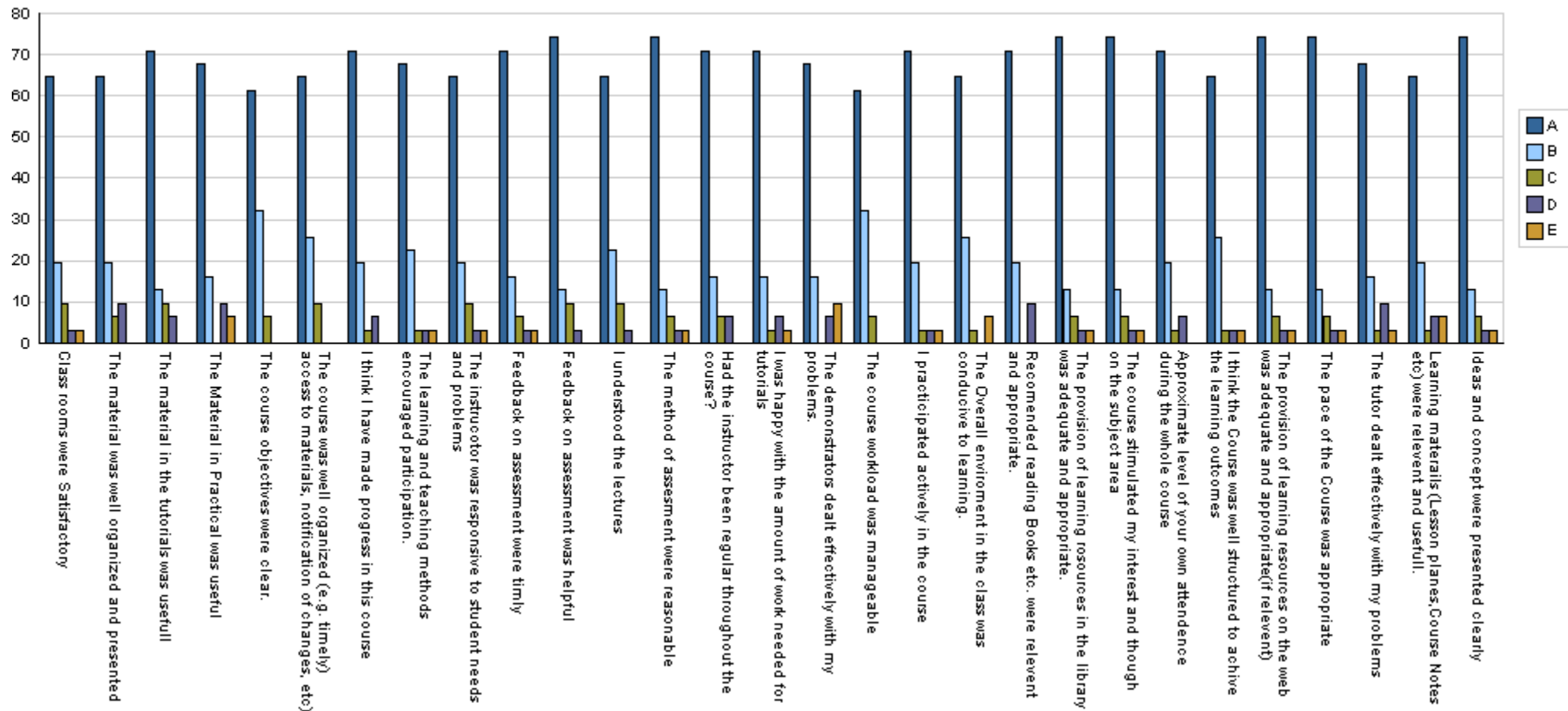
Teacher Name:　　Saima Mustafa

Course Name:　　Functional Analysis

Section:　　A　　　　M/E:　M　　　　Semester#　3

Class:　　M.Sc (Mathematics)

Course Evaluation Graph

Data is collected from 40 students M.Sc. Mathematics. About 65% were strongly agree,19% were agree,10% were uncertain ,3% were disagree and 3% were strongly agree that the classrooms were satisfactory.65% were strongly agree,19% were agree,6% were uncertain and 10% were disagree that the material was well organized and presented.71% were strongly agree,13% were agree,10% were uncertain and 6% were disagree that the materials in the tutorials was useful.68% were strongly agree,23% were agree, 3% were uncertain,3% were disagree and 3% were strongly agree.74% were strongly agree,13% were agree,6% were uncertain,3% were disagree and 3% strongly disagree that the method of assessment were reasonable. The provision of learning resources on the web was adequate and appropriate that the 74% were strongly agree,13% were agree,6% were uncertain ,3% were strongly disagree and 3% were disagree that the provision of learning resources in the library was adequate and appropriate.68% were strongly agree,16% were agree,3% were uncertain,10% were strongly disagree and 3% were disagree that the tutor dealt effectively with my problems.

Pir Mehr Ali Shah
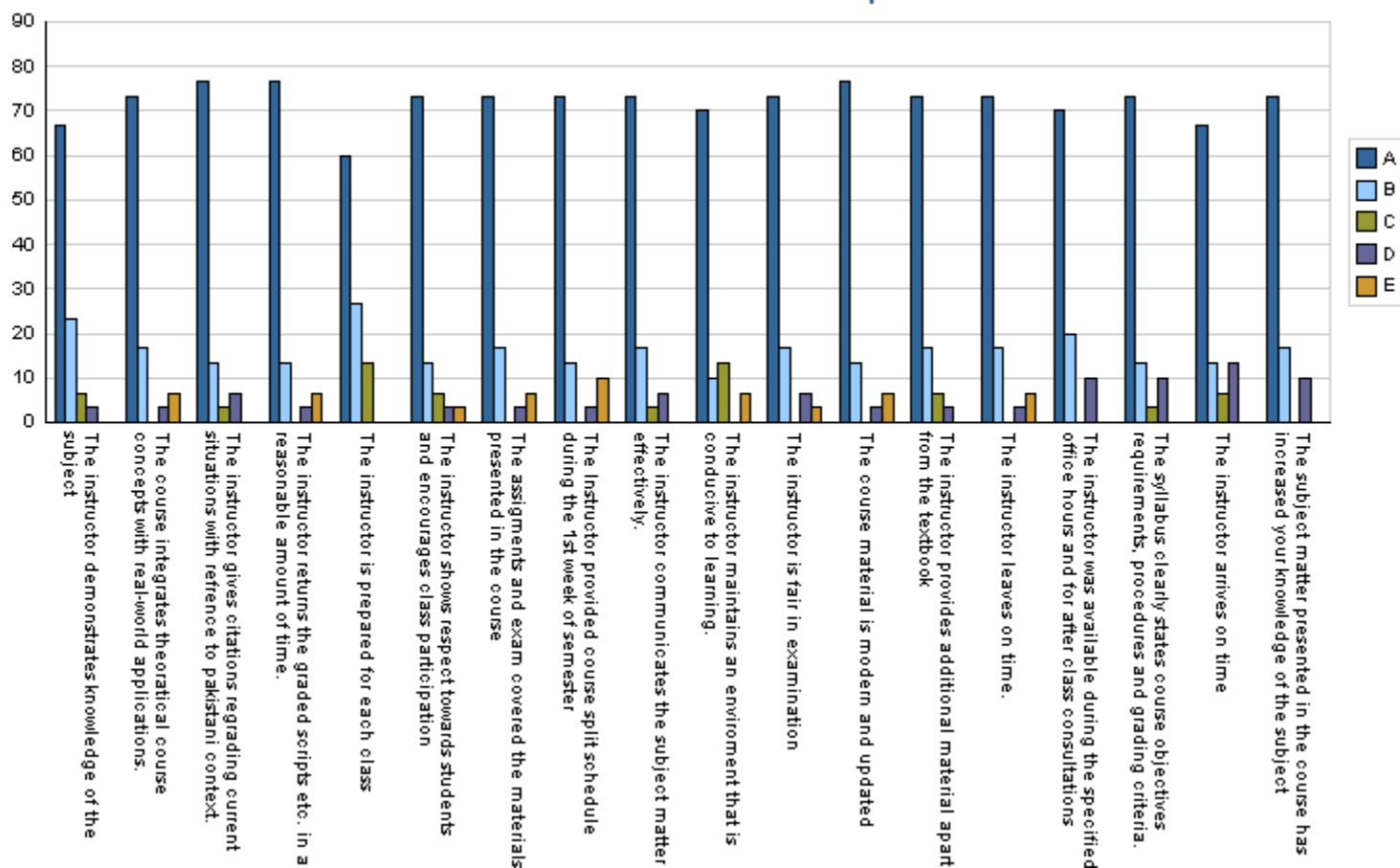# Arid Agriculture University
Performa 10

Session Name: FALL-19

Teacher Name: Saima Mustafa

Course Name: Functional Analysis

Section: A   **M/E:** M   **Semester#:** 3

Teacher Evaluation Graph

Data is collected from the 40 students of MSc. Mathematics. About 67% were strongly agree,23% were agree,7% were uncertain and 3% were disagree that the instructor demonstrates the knowledge of the subject.73% were strongly agree,17% were agree,3% were disagree and 7% were strongly disagree that the course integrates theoretical course concepts with real-world applications. 73% were strongly agree,17% were agree,3% were disagree and 3% were strongly disagree that the assignments and exam covered the materials presented in the course.73% were strongly agree, 17% were agree,7% were disagree and 3% were strongly disagree that the instructor is fair in examination. The instructor is prepared for each class in which 60% students were strongly agree,27% were agree and 13% were Uncertain.,73% were strongly agree,13% were agree,7% were uncertain,3% were disagree and 3% were strongly disagree that The instructor shows respect towards students and encourages class participation.
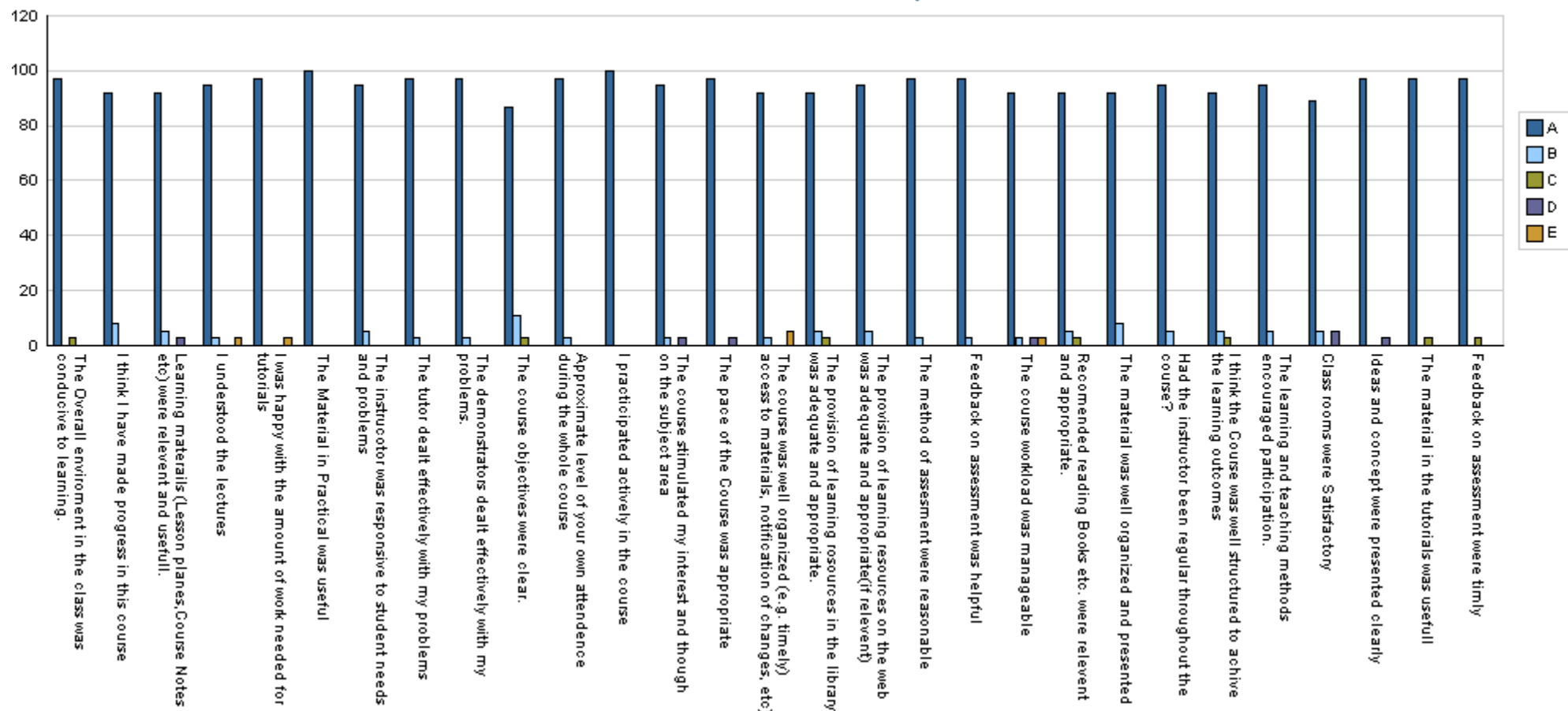
Pir Mehr Ali Shah
Arid Agriculture University

Performa 1

Session Name: FALL-19

Teacher Name: Beenish Shakir

Course Name: Linear Algebra

Section: A   M/E: E   Semester#   1

Class: M.Sc (Mathematics)

Course Evaluation Graph

Legend: A, B, C, D, E

Data is collected from 40 students of MSc. Mathematics. About 97% were strongly agree and 3% were uncertain that the Overall environment in the class was conducive to learning.92% were strongly agree and 8% were agree that the students thought they have made the progress in this course. Learning materials (Lesson planes, Course Notes etc) were relevant and useful in which 92% students were strongly agree,5% were agree and 3% were disagree . 95% were strongly agree,3% were agree and 3% were strongly disagree that the students understood the lectures.97% were strongly agree and 3% were strongly disagree that the students was happy with the amount of work needed for tutorials.100% were strongly agree that the materials in practical was useful.97% were strongly agree and 3% were disagree that the ideas and concepts were presented clearly.95% were strongly agree and 5% were agree that the instructor the had been regular throughout the course. 97% were strongly agree and 3% were agree that the feedback on assessment was helpful. The feedback on assessment were timely in which 97% students were strongly agree and 3% were uncertain .
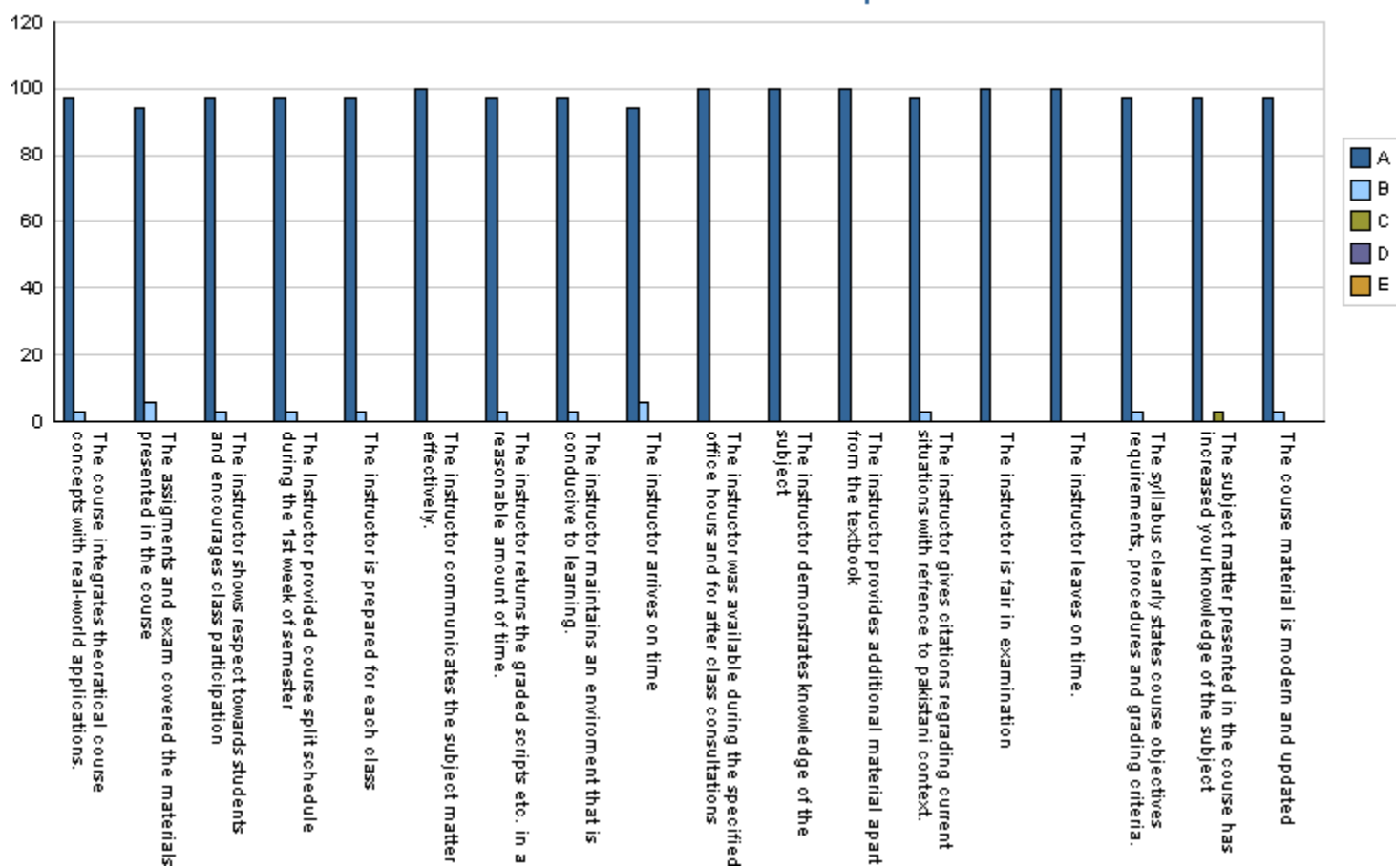
Pir Mehr Ali Shah
Arid Agriculture University
Performa 10

Session Name: FALL-19

Teacher Name: Beenish Shakir

Course Name: Linear Algebra

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

Teacher Evaluation Graph

Data is collected from the 40 students of M.Sc.Mathematics. About 89% were strongly agree,8% were agree and 3% were disagree that the instructor shows respect towards students and encourages class participation.97% were strongly agree and 3% were agree that the assignments and exam covered the materials presented in the course.94% were strongly agree,3% were disagree and 3% were strongly disagree that the instructor provides additional material apart from the textbook. The instructor was available during the specified office hours and for after class consultations in which 94% were strongly agree,3% were agree and 3% were disagree .89% were strongly agree,6% were agree,3% were uncertain and 3% were strongly disagree that the instructor demonstrates knowledge of the subject.81% were strongly agree,14% were agree and 6% were disagree that the instructor is prepared for each class.94% were strongly agree and 6% were agree that the instructor leaves on time. The instructor communicates the subject matter effectively in which 89% were strongly agree,8% were agree and 3% were disagree.

Pir Mehr Ali Shah
Arid Agriculture University

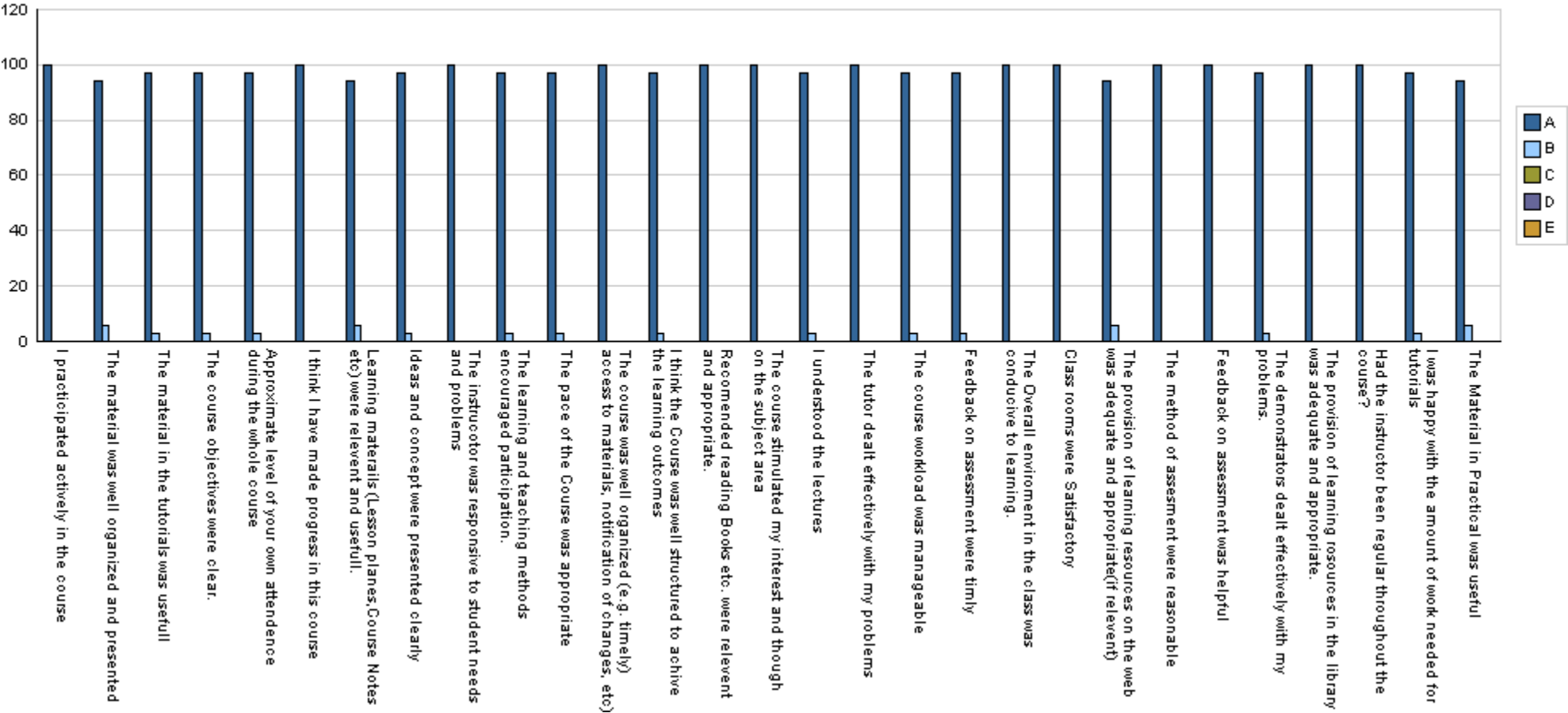**Performa 1**

Session Name: FALL-19

Teacher Name: Beenish Shakir

Course Name: Linear Algebra

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

Class: M.Sc (Mathematics)

Course Evaluation Graph

Data is collected from 40 students of MSc. Mathematics. About 95% were strongly agree that the students actively participate in the course and also think that they have made progress in this course.99% were strongly agree that the instructor had been regular throughout the course.97% were strongly agree and 3% were agree that the Feedback on assessment were timely.97% were strongly agree and 3% were agree that the students understood the lectures.100% were strongly agree that the feedback on assessment was helpful. 97% were strongly agree and 3% were agree that the course objective was clear. Ideas and concepts were presented clearly in which that the 97% were strongly agree and 3% were agree.94% were strongly agree and 6% were agree that the learning materials (Lesson planes, Course Notes etc) were relevant and useful.100% were strongly agree that the instructor was responsive to student needs and problems.97% were strongly agree and 3% were agree that the demonstrators dealt effectively with my problems.

Pir Mehr Ali Shah
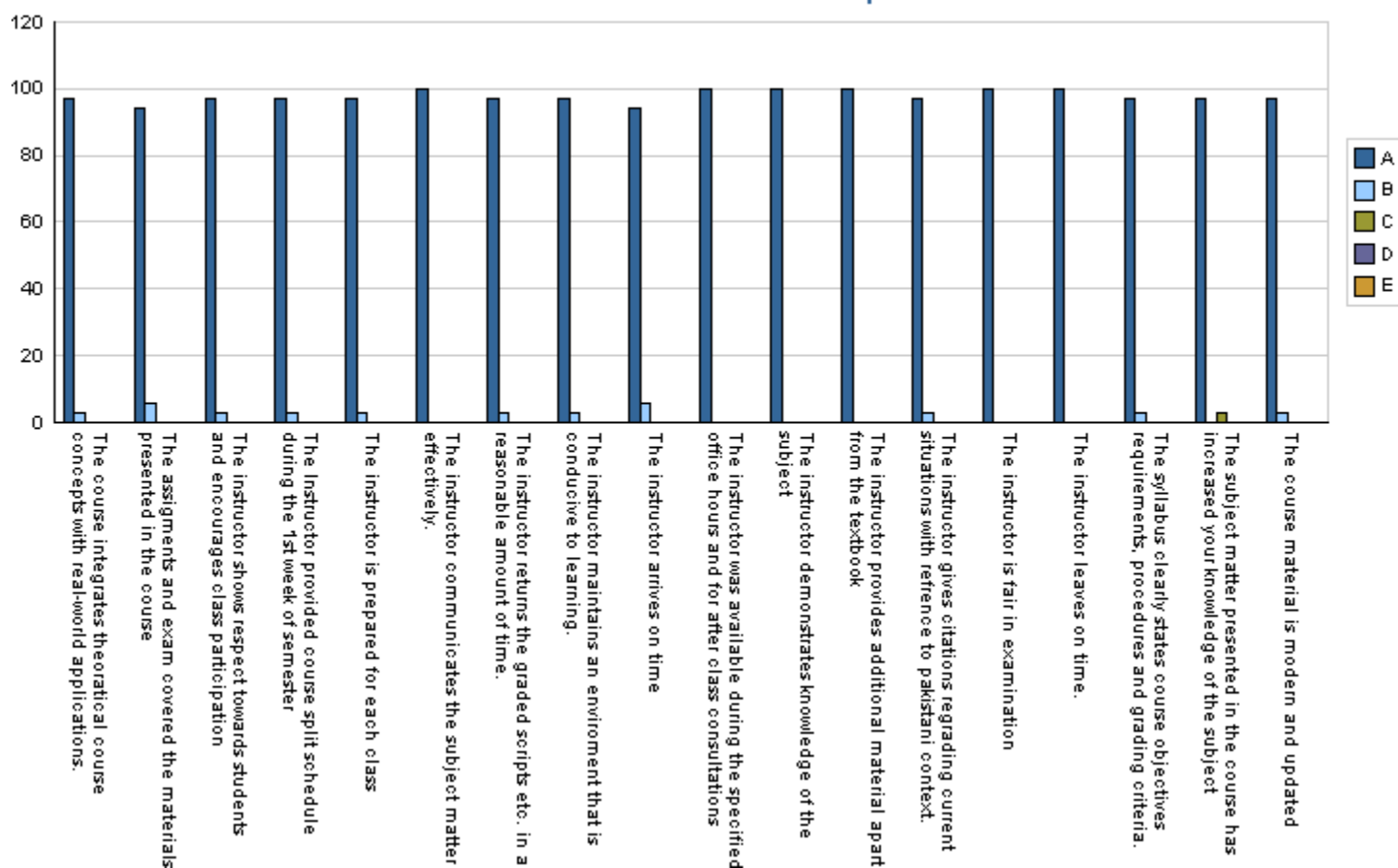# Arid Agriculture University
Performa 10

Session Name:	**FALL-19**
Teacher Name:	**Beenish Shakir**
Course Name:	**Linear Algebra**
Section:	**A** **M/E:** **M** **Semester#:** **1**

Teacher Evaluation Graph

Data is collected from 40 students of M.Sc. Mathematics. About 97% were strongly agree and 3% were agree that the course integrates theoretical course concepts with real-world applications and also the course is modern.94% were strongly agree and 6% were agree that the assignments and exam covered the materials presented in the course.94% were strongly agree and 6% were agree that the instructor arrives on time.100% were strongly agree that the instructor communicates the subject matter effectively and also demonstrates knowledge of the subject.100% were strongly agree that the instructor is fair in examination . The instructor gives citations regarding current situations with reference to pakistani context in which that the 97% were strongly agree and 3% were

agree .97% were strongly agree and 3% were agree that the instructor is prepared for each class.100% the instructor leaves on time. The instructor returns the graded scripts etc. in a reasonable amount of time in which 97% were strongly agree and 3% were agree.97% were strongly agree and 3% were uncertain that the subject matter presented in the course has increased your knowledge of the subject.

Pir Mehr Ali Shah
Arid Agriculture University

Performa 1

Session Name:　FALL-19

Teacher Name:　Beenish Shakir

Course Name:　Differential Geometry

Section:　A　　　　**M/E:**　E　　　　**Semester#**　3

Class:　M.Sc (Mathematics)
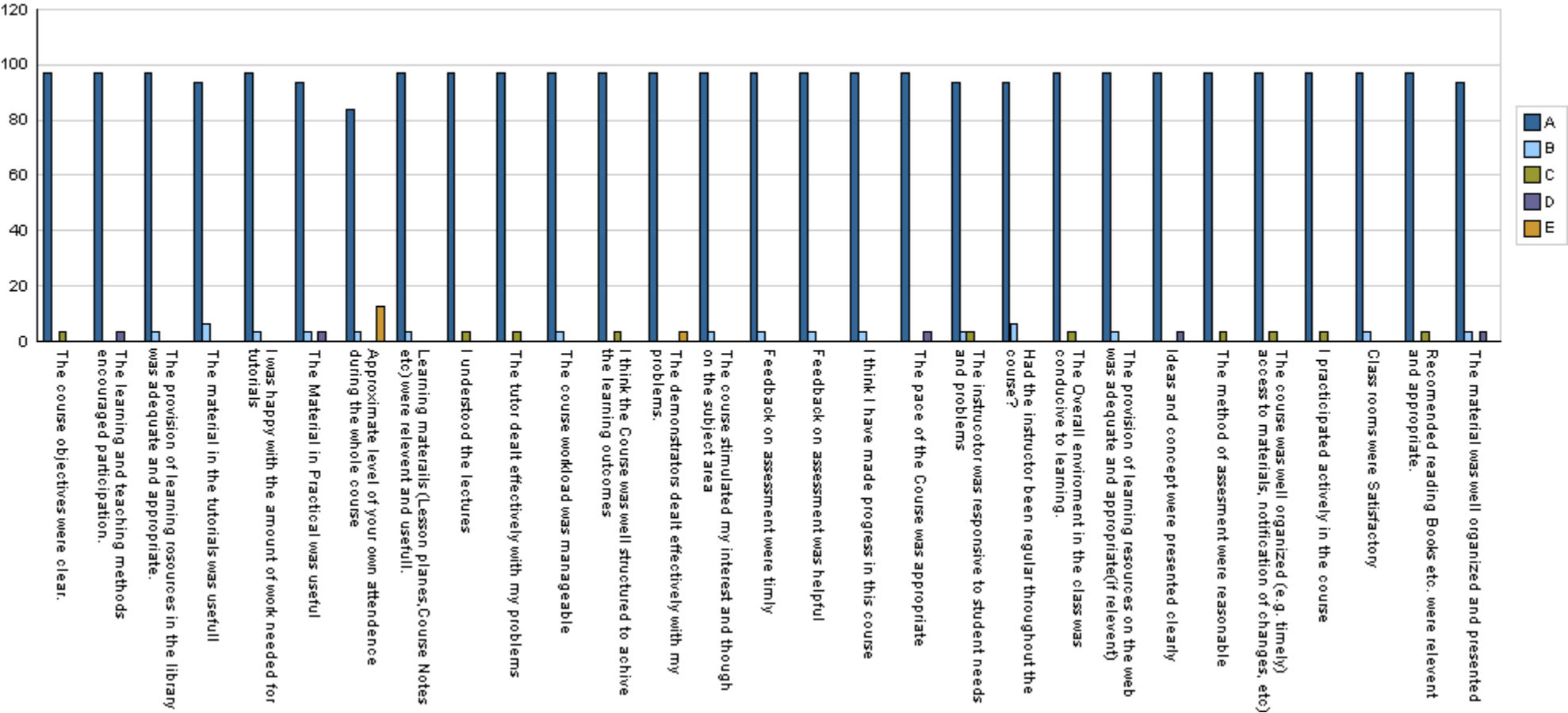
Course Evaluation Graph

Legend: A, B, C, D, E

Data is collected from the 40 students of Msc. Mathematics. About 97% were strongly agree and 3% were agree that the feedback on assessment was timely and helpful. 94% were strongly agree and 6% were agree that the instructor had been regular throughout the course. 97% were strongly y agree and 3% were disagree that the ideas and concepts were presented clearly. 84% were strongly agree, 13% were agree and 3% were strongly disagree that the approximate level of their own attendance during the whole course. 97% were strongly agree and 3% were agree that they have made the progress in the course. 97% were strongly agree and 3% were strongly disagree that the demonstrators dealt effectively with my problems. 94% were strongly agree 3% were agree 3% and 3% were disagree that the Material in Practical was useful.

Pir Mehr Ali Shah
Arid Agriculture University
Performa 10

Session Name:	**FALL-19**
Teacher Name:	**Beenish Shakir**
Course Name:	**Differential Geometry**
Section: **A**	**M/E:** **E** **Semester#:** **3**

Teacher Evaluation Graph
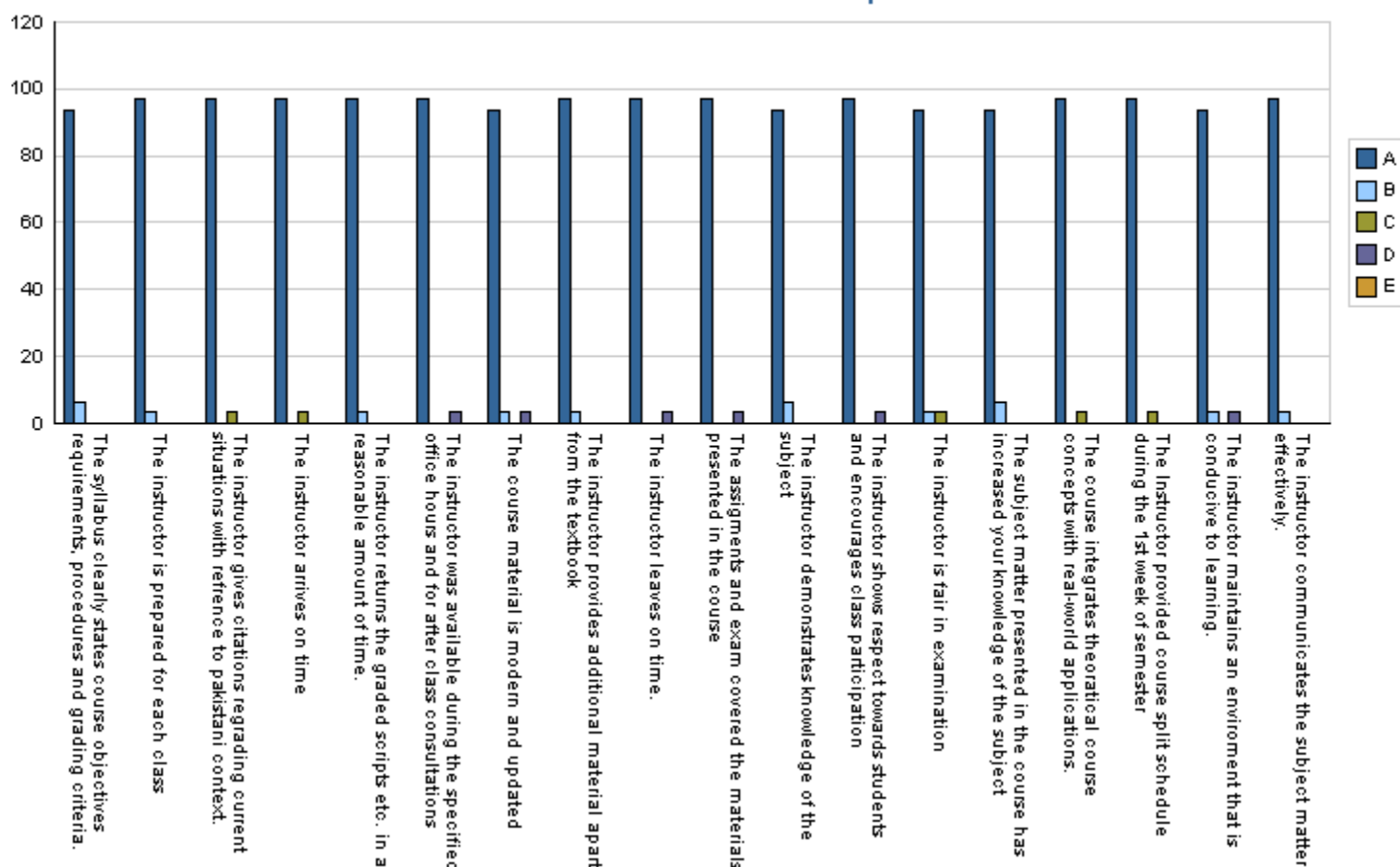
Data is collected from 40 students of M.Sc. mathematics. About 94% were strongly agree and 6% were agree that the syllabus clearly states course objectives requirements, procedures and grading criteria. 97% were strongly agree and 3%% were agree that the instructor is prepared for each class. 97% were strongly agree and 3%% were disagree that the instructor leaves on time.94% were strongly agree 3% were agree 3% were uncertain that the instructor is fair in examination.94% were strongly agree and 6 % were agree that the instructor demonstrates knowledge of the subject. The instructor gives citations regarding current situations with reference to pakistani context in which 97% were strongly agree and 3% were uncertain.

Pir Mehr Ali Shah
Arid Agriculture University

Performa 1

Session Name: FALL-19

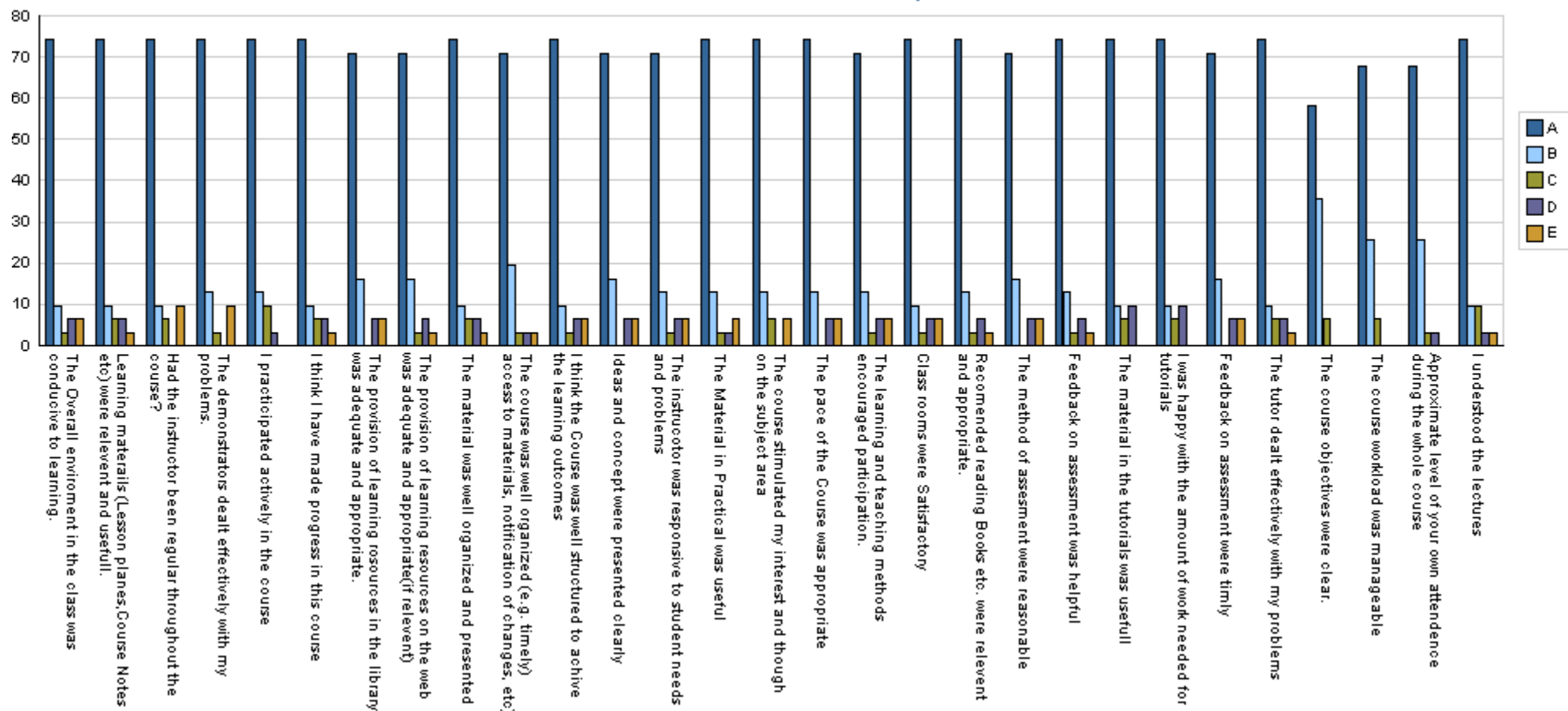**Teacher Name:**   Beenish Shakir

Course Name: Differential Geometry

Section: A   **M/E:** M   **Semester#** 3

Class: M.Sc (Mathematics)

Course Evaluation Graph

Data is collected from 40 students from MSC. Mathematics. About 74% were strongly agree,10% were agree,3% were uncertain ,6% were disagree and 6% were strongly disagree that the overall environment in the class was conducive to learning.74% were strongly agree, 10% were agree,6% were uncertain,6% were disagree and 3% were strongly disagree that the Learning materials (Lesson planes, Course Notes etc.) were relevant and useful.74% were strongly agree,10% were agree,6% were uncertain and 10% were strongly disagree that the instructor had been regular throughout the course.74%were strongly agree,13%were agree,3% were uncertain and 10% were strongly disagree that the demonstrators dealt effectively with my problems. The course was well organized (e.g. timely) access to materials, notification of changes, etc)that the 71% were strongly agree,19%were agree, 3%were uncertain 3%were disagree and 3% were strongly disagree.68% were strongly agree,26% were agree and 6% were uncertain that the course workload was manageable.74% were strongly agree,13% were agree,6%were uncertain and 6%were strongly disagree that the course stimulated my interest and though on the subject area.74% were strongly agree,10% were agree ,10%were uncertain, 3% were disagree and 3% were disagree that the students understood the lectures.74% were strongly agree, 10% were agree, 6% were uncertain,6% were disagree and 3% were strongly disagree that the students have made the progress.

Pir Mehr Ali Shah
Arid Agriculture University
Performa 10

Session Name: **FALL-19**

Teacher Name: **Beenish Shakir**

Course Name: **Differential Geometry**

Section: **A**   **M/E:** **M**   **Semester#:** **3**

Teacher Evaluation Graph
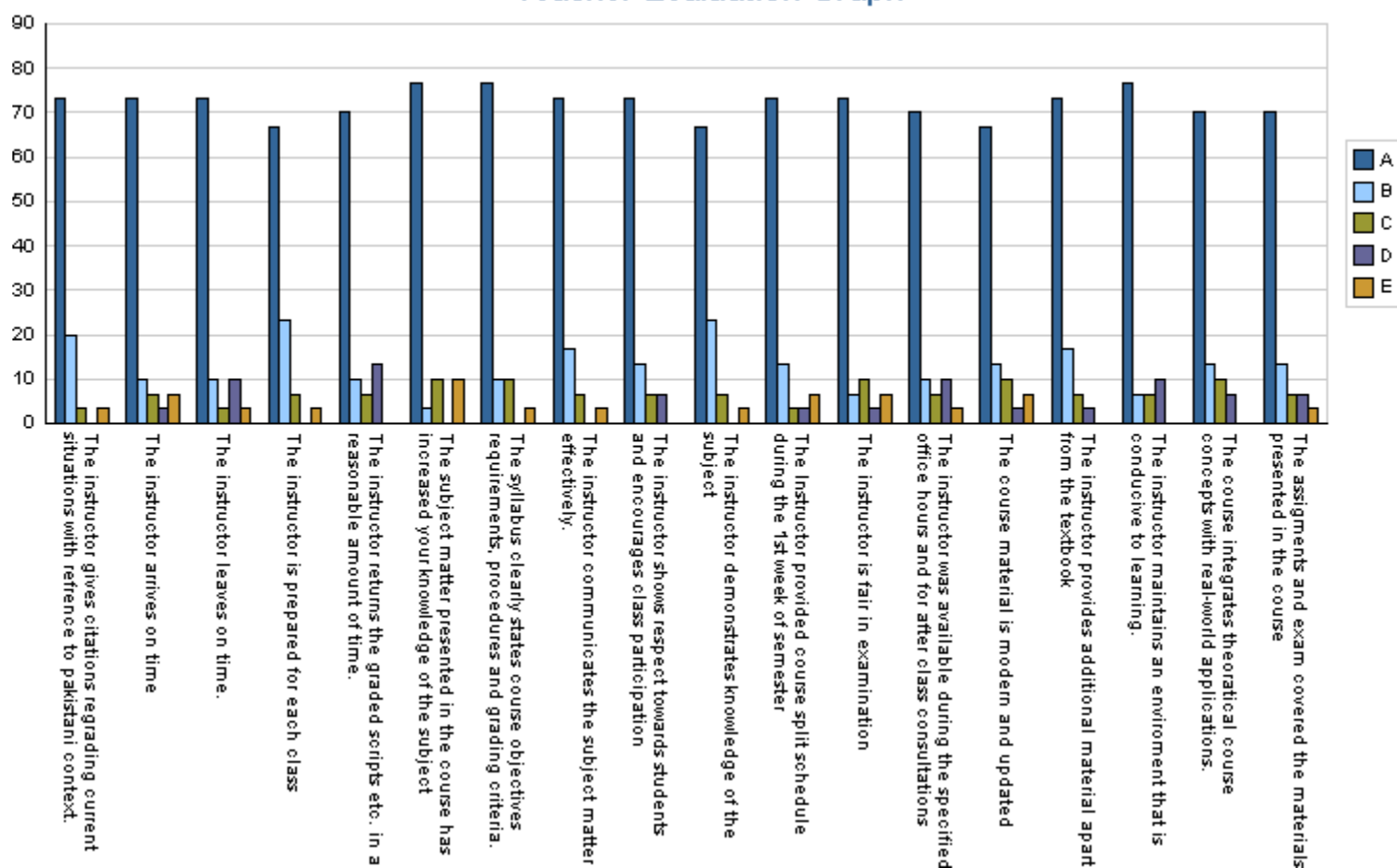
Data is collected from 40 students of M.Sc. Mathematics. About 73% were strongly agree, 20% were agree,3%were uncertain and 3%were strongly disagree that the instructor gives citations regarding current situations with reference to Pakistani context.73% were strongly agree, 10% were agree, 7% were uncertain,3% were disagree and 7% were strongly disagree that the instructor arrives on time. 73% were strongly agree, 10% were agree,3% were uncertain, 10% were disagree and 3% were strongly disagree that the instructor leaves on time.67% were strongly agree, 23% were agree, 7% were uncertain and 3%were strongly disagree that the instructor is prepared for each class.77% were strongly,3%were agree,10% were uncertain and 10%were strongly disagree that the subject matter presented in the course has increased your knowledge of the subject. The instructor shows respect towards students and encourages class participation that the 73% were strongly agree,13% were agree, 7% were uncertain and 7% were disagree.

Spring 2020

According to the Performa 1 and Performa 10, the teachers have been evaluated by the students for the semester Spring 2020.

1) Dr. Saima Mustafa
2) Dr. Muhammad Jamal
3) Ms. Beenish Shakir

Performa 1   titled **Student Course Evaluation.**

Performa 10 titled **Teacher Course Evaluation.**

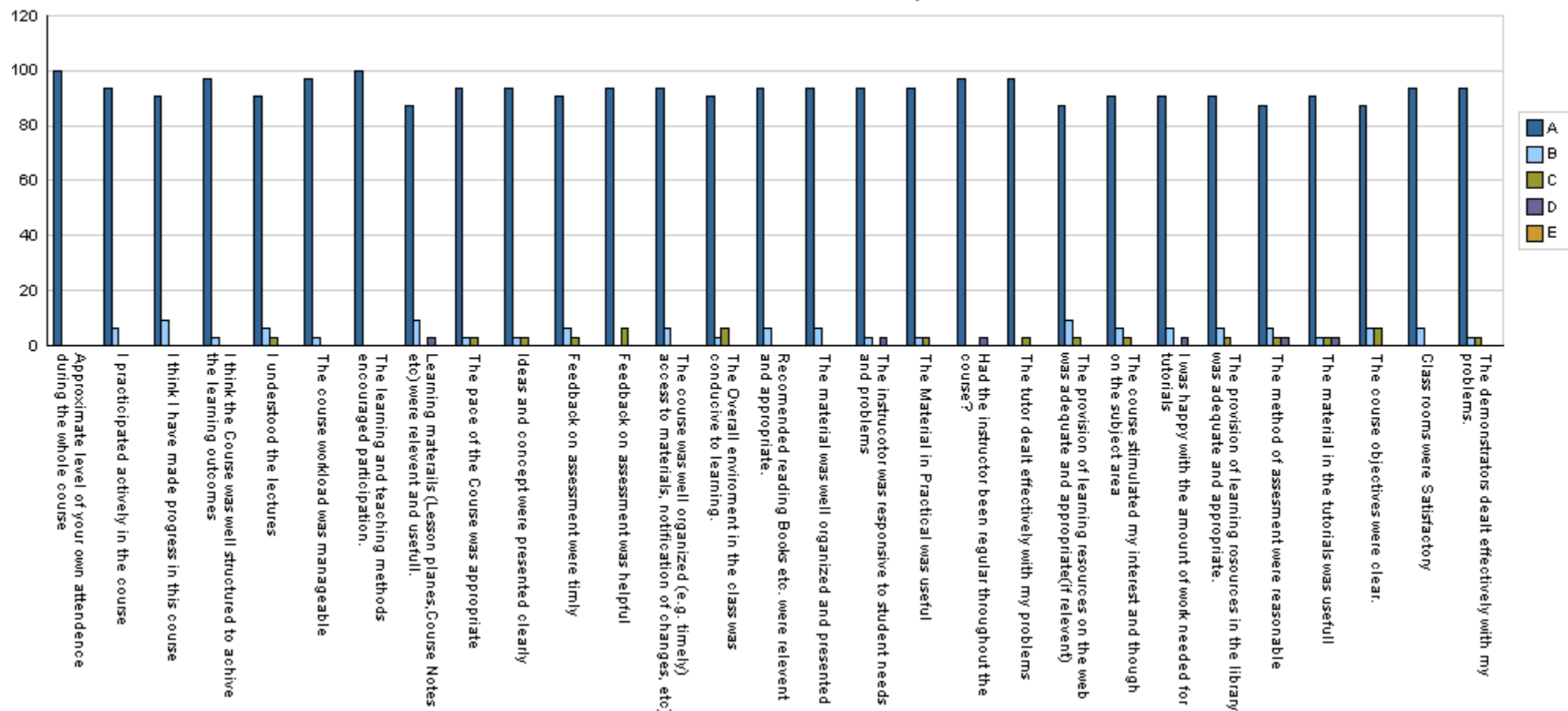Individual statements of the Performa's are also summarized in the following Figures.

Pir Mehr Ali Shah
Arid Agriculture University

Performa 1

Session Name: SPRING-20

Teacher Name: Saima Mustafa

Course Name: Topology

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

Class: M.Sc (Mathematics)

Course Evaluation Graph

Data has been collected from 40 students of M.Sc mathematics (evening) semester 2. Among them 78% strongly agreed, 19 % agreed and 3% disagreed regarding their approximate level of attendance during the whole course. 88% strongly agreed, 9% agreed while 3% were uncertain that classrooms were satisfactory. 94% strongly agreed, 3% agreed and 3% were uncertain that feedback on assessments was helpful. When the students were asked that feedback on assessments was timely then 88% strongly agreed, 9% agreed and 3% were uncertain. 91% of the students strongly agreed, 6% agreed while 3% were uncertain, when they were asked that had the instructor been regular throughout the course. 88% strongly agreed, 9% agreed and 3% were uncertain that they participated actively in the course. The students made progress in the course 88% of the students strongly agreed, 9% agreed and 3 %were uncertain about that. Course was well structured to achieve the learning outcomes and students understood the lectures 84% strongly agreed, 13% agreed and 3% were uncertain on these questions. 88% of the students strongly agreed, 6% agreed, 3% were uncertain while 3% strongly disagreed when they were asked about the amount of work needed for tutorials. 88% strongly agreed, 9% agreed and 3% of the students were uncertain regarding the ideas and concepts were presented clearly. The course objectives were clear, 78% of the students strongly agreed and 22% agreed on this question. 88% strongly agreed, 9% agreed while 3% disagreed when they were asked that the course was well structured.

Pir Mehr Ali Shah
Arid Agriculture University
Performa 10

Session Name:	SPRING-20
Teacher Name:	Saima Mustafa
Course Name:	Topology
Section: A	**M/E:** E **Semester#:** 2

Teacher Evaluation Graph

Data has been collected from 40 students of M.Sc mathematics (evening) semester 2. Among them 85% of the students strongly agreed, 12% agreed and 3% were uncertain that the instructor provided the course split schedule during firs week. 94% strongly agreed and 6% agreed that the exams and assignments covered the material presented in the course. The course material was modern and updated 94% strongly agreed and 6% of the students agreed on it. The instructor arrived on time and instructor communicated the subject matter effectively 975 strongly agreed and 3% of the students agreed on it. 91% strongly agreed and 9% agreed on the questions that the instructor gave citations regarding the current situations with reference to Pakistani context and the instructor demonstrated the knowledge of the subject. The instructor was fair in examination and the instructor was prepared for each class 97% strongly agreed while 3 % of the students agreed on these questions.

Pir Mehr Ali Shah
Arid Agriculture University

Performa 1

Session Name: SPRING-20

Teacher Name: Saima Mustafa

Course Name: Topology

Section: A   M/E: M   Semester#   2

Class: M.Sc (Mathematics)

Course Evaluation Graph

Legend: A, B, C, D, E
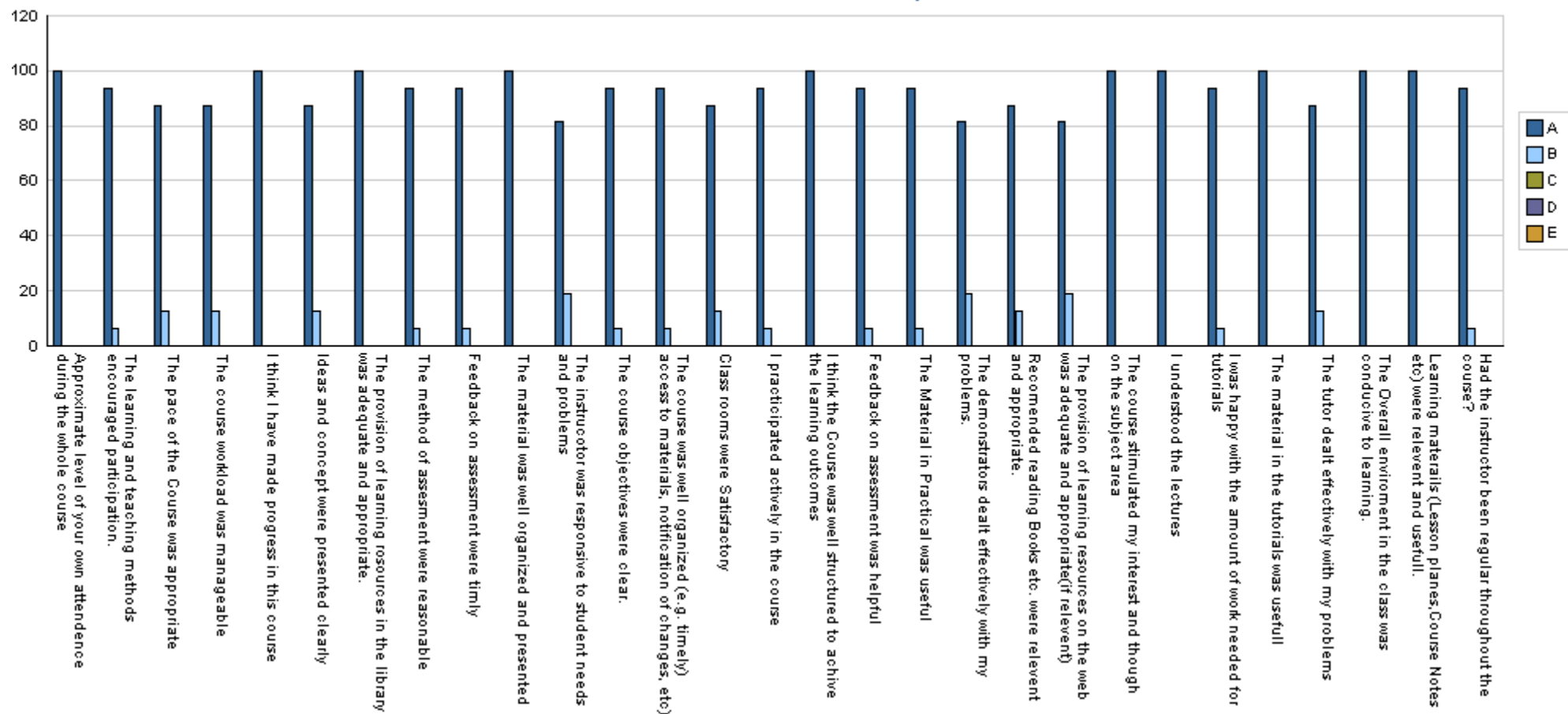
Data has been collected from 40 students of M.Sc mathematics (morning) semester 2. Among them 85% of the students strongly agreed, 12% agreed and 3% were uncertain that the instructor provided the course split schedule during firs week. 94% strongly agreed and 6% agreed that the exams and assignments covered the material presented in the course. The course material was modern and updated 94% strongly agreed and 6% of the students agreed on it. The instructor arrived on time and instructor communicated the subject matter effectively 97% strongly agreed and 3% of the students agreed on it. 91% strongly agreed and 9% agreed on the questions that the instructor gave citations regarding the current situations with reference to Pakistani context and the instructor demonstrated the knowledge of the subject. The instructor was fair in examination and the instructor was prepared for each class 97% strongly agreed while 3 % of the students agreed on these questions. Instructor maintained an environment that was conductive to learning 91 % strongly agreed, 6% agreed and 3% were uncertain. the instructor showed respect towards the students and encouraged class participation 94% strongly agreed and 6% agreed on this question.

Pir Mehr Ali Shah
Arid Agriculture University
Performa 10

Session Name: SPRING-20
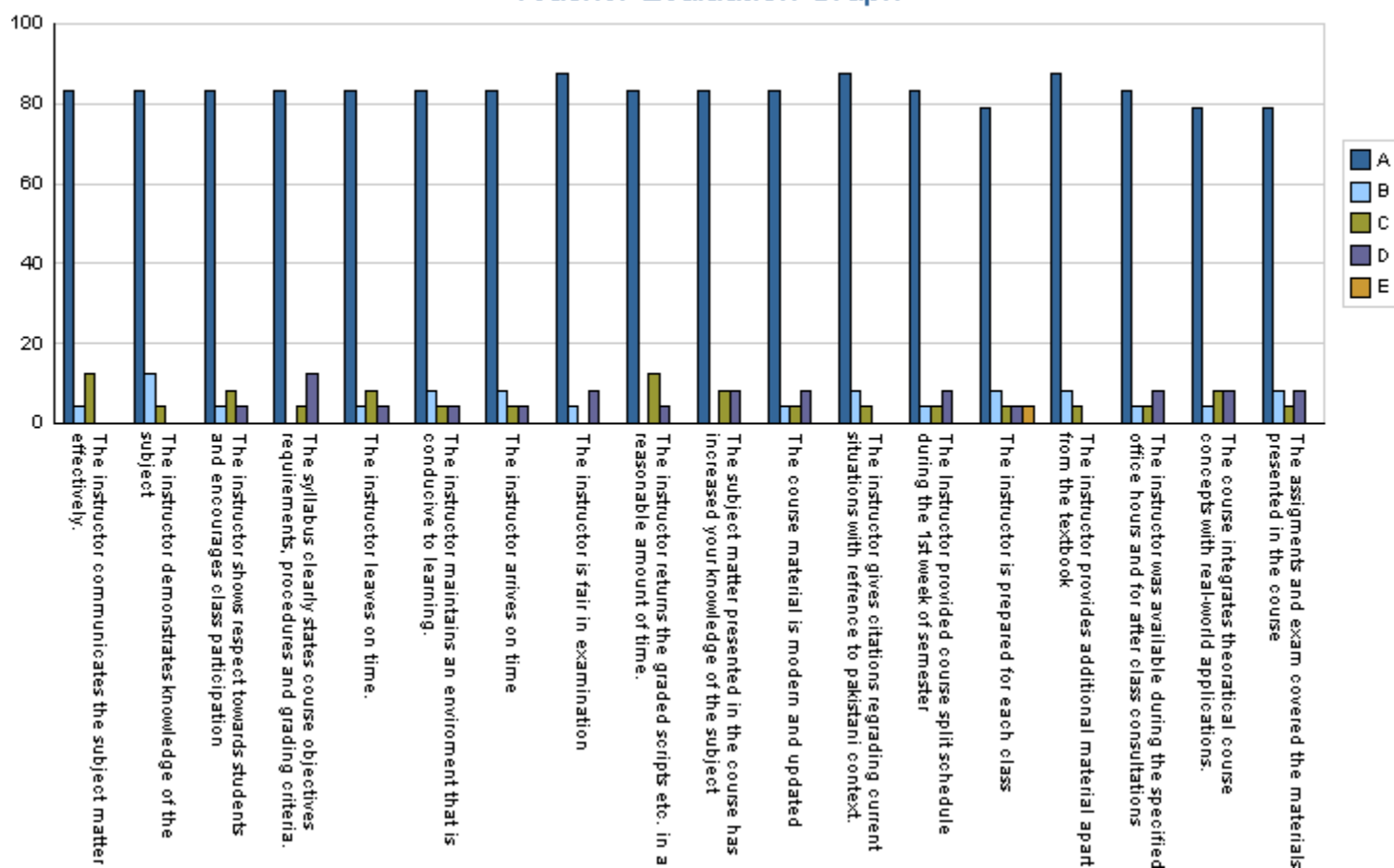
Teacher Name: Saima Mustafa

Course Name: Topology

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

Teacher Evaluation Graph

Data has been collected from 40 students of M.Sc mathematics semester 2. Among them 85% of the students strongly agreed, 12% agreed and 3% were uncertain that the instructor provided the course split schedule during firs week. 94% strongly agreed and 6% agreed that the exams and assignments covered the material presented in the course. The course material was modern and updated 94% strongly agreed and 6% of the students agreed on it. The instructor arrived on time and instructor communicated the subject matter effectively 97% strongly agreed and 3% of the students agreed on it. 91% strongly agreed and 9% agreed on the questions that the instructor gave citations regarding the current situations with reference to Pakistani context and the instructor demonstrated the knowledge of the subject. The instructor was fair in examination and the instructor was prepared for each class 97% strongly agreed while 3 % of the students agreed on these questions. Instructor maintained an environment that was conductive to learning 91 % strongly agreed, 6% agreed and 3% were uncertain. the instructor showed respect towards the students and encouraged class participation 94% strongly agreed and 6% agreed on this question.

Pir Mehr Ali Shah
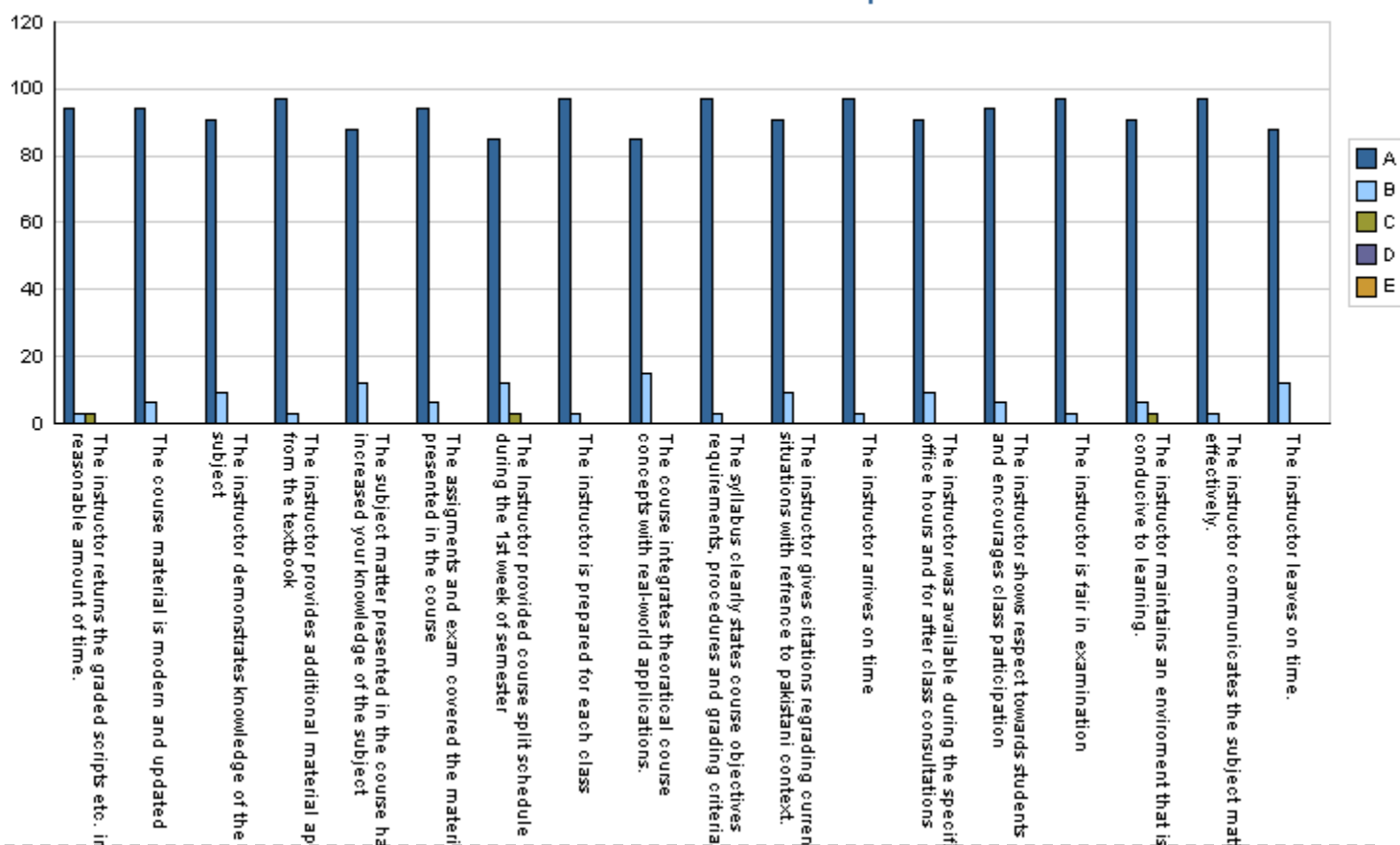# Arid Agriculture University

Performa 1

Session Name: SPRING-20

Teacher Name: Saima Mustafa

Course Name: Rings and Fields

Section: A   M/E: M   Semester# 4

Class: M.Sc (Mathematics)

Course Evaluation Graph

Legend: A, B, C, D, E

Data has been collected from 40 students of M.Sc mathematics (evening) semester 2. Among them the students 88% strongly agreed, 12% agreed when they were asked about their approximate level of attendance during the whole course. 94% strongly agreed and 6% agreed about the satisfaction of the class rooms. Feedback on assessments was helpful 100% of the strongly agreed about that. 94% strongly agreed and 6% agreed when they were asked that feedback on assessments were timely. When the students were asked that had the instructor been regular throughout the course 88% strongly agreed while 13% agreed. 94% strongly agreed and 6% agreed that they participated actively in the course. 88% strongly agreed while 13% agreed that the students thought they have made progress in the course. 88% strongly agreed and 13% agreed according to the students the course was well structured to achieve the learning outcomes. When the students were asked regarding the understanding of the lectures 75% strongly agreed while 25% agreed on this question. 88% strongly agreed, 13% agreed that they were happy with the amount of work needed for tutorials. The material was useful in practical 94% strongly agreed and 6% agreed about that. 94% of the students strongly agreed and 6% agreed that the learning and teaching methods encouraged participation. The method of assessment was reasonable 88% strongly agree, 12% agreed. The material was well organized and presented 100% strongly agreed.

Pir Mehr Ali Shah
Arid Agriculture University
Performa 10

Session Name: SPRING-20

Teacher Name: Saima Mustafa

Course Name: Complex Analysis

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

Teacher Evaluation Graph

Data has been collected from 40 students of M.Sc mathematics (evening) semester 2. Among them the students 88% strongly agreed, 12% agreed when they were asked about their approximate level of attendance during the whole course. 94% strongly agreed and 6% agreed about the satisfaction of the class rooms. Feedback on assessments was helpful 100% of the strongly agreed about that. 94% strongly agreed and 6% agreed when they were asked that feedback on assessments were timely. When the students were asked that had the instructor been regular throughout the course 88% strongly agreed while 13% agreed. 94% strongly agreed and 6% agreed that they participated actively in the course. 88% strongly agreed while 13% agreed that the students thought they have made progress in the course. 88% strongly agreed and 13% agreed according to the students the course was well structured to achieve the learning outcomes. When the students were asked regarding the understanding of the lectures 75% strongly agreed while 25% agreed on this

Pir Mehr Ali Shah
Arid Agriculture University

Performa 1

Session Name: SPRING-20

Teacher Name: Saima Mustafa

Course Name: Rings and Fields

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

Class: M.Sc (Mathematics)

Course Evaluation Graph

Data has been collected from 40 students of M.Sc mathematics (evening) semester 2. Among them the students 78% strongly agreed,19% agreed and 3% disagreed when they were asked about their approximate level of attendance during the whole course. 90% strongly agreed and 7% agreed and 3% were uncertain about the satisfaction of the class rooms. Feedback on assessments was helpful 94% strongly agreed,3% agreed and3% were uncertain about that. 87% strongly agreed , 10% agree and 3% uncertain when they were asked that feedback on assessments were timely. When the students were asked that had the instructor been regular throughout the course 91% strongly agreed ,6% agreed and 3% were uncertain. 90% strongly agreed , 7% agreed and 3% were uncertain that they participated actively in the course. 90% strongly agreed , 7%agreed and 3% were uncertain that the students thought they have made progress in the course. 86% strongly agreed, 10% agreed and 4% were uncertain according to the students the course was well structured to achieve the learning outcomes. When the students were asked regarding the understanding of the lectures 83% strongly agreed while 13% agreed and 4% were uncertain on this question. 90% strongly agreed, 6% agreed and 4% were uncertain that they were happy with the amount of work needed for tutorials.

Pir Mehr Ali Shah
Arid Agriculture University
Performa 10

Session Name: SPRING-20

Teacher Name: Saima Mustafa

Course Name: Rings and Fields

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

Teacher Evaluation Graph
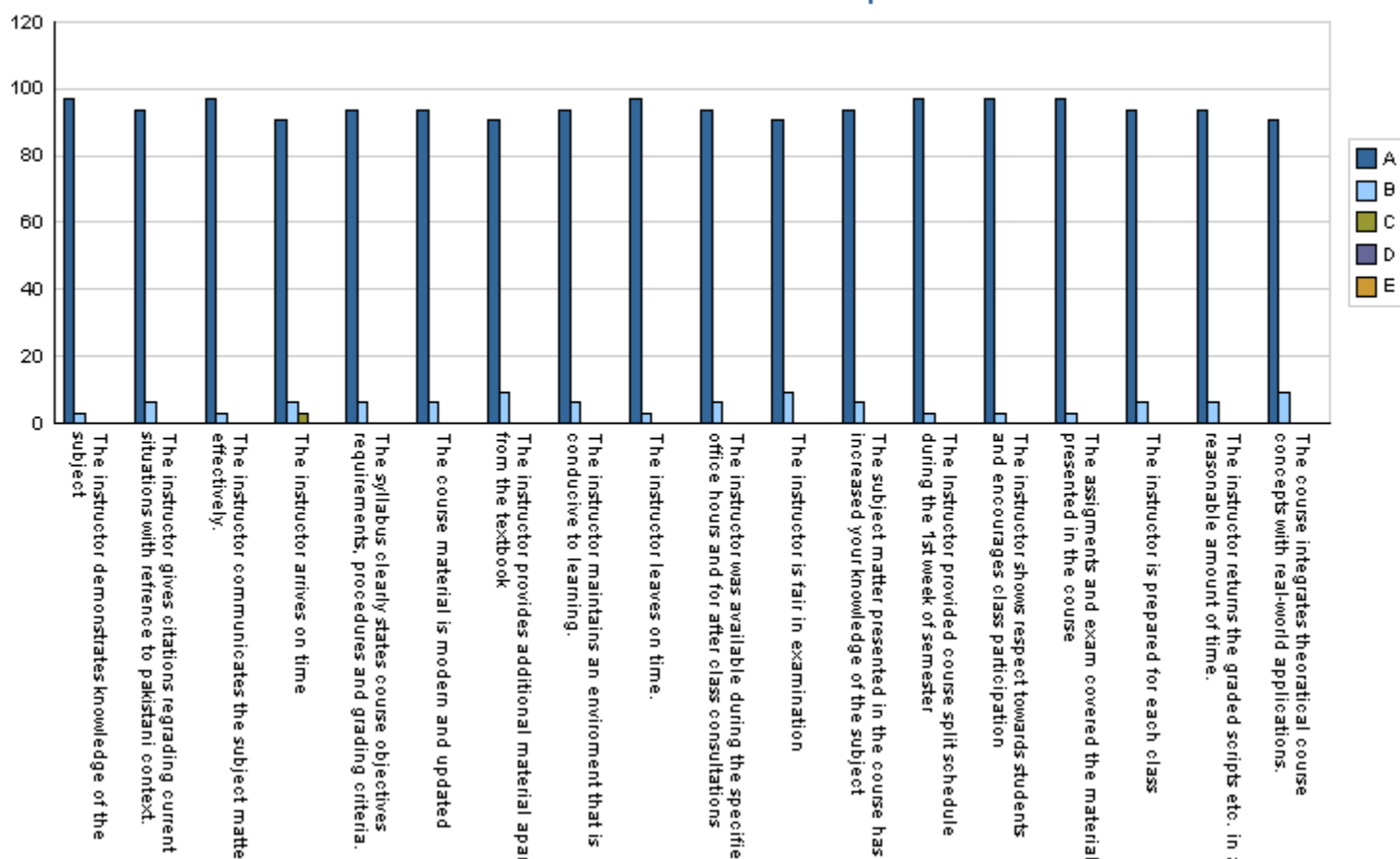
Data has been collected from 40 students of M.Sc mathematics (evening) semester 2. Among 80% of the students strongly agreed, 17% agreed and 3% were uncertain that the instructor provided course split schedule during the first week of semester. The assignments and exams covered the materials presented in the course 87% of the students strongly agreed, 7% agreed and 7% were uncertain. The course material was modern and updated 87% strongly agreed, 10% agreed and 3% were uncertain. The instructor arrived on time 87% strongly agreed, 10% agreed and 3% were uncertain. The instructor demonstrated knowledge of the subject 87% strongly agreed on it, 10% agreed and 3% were uncertain. The instructor was fair in examination 90% strongly agreed, 7% agreed and 3% were uncertain. The instructor returned the graded scripts in reasonable amount of time 93% strongly agreed, 3% agreed on this question and 3% were uncertain. objectives 83% strongly agreed and 13% agreed while 35 were uncertain. The instructor provided additional books apart from text books 91% strongly agreed, 9% agreed. The instructor was prepared for each class 83% strongly agreed, 10% agreed and 75 were uncertain.

Pir Mehr Ali Shah
Arid Agriculture University

Performa 1

Session Name: SPRING-20

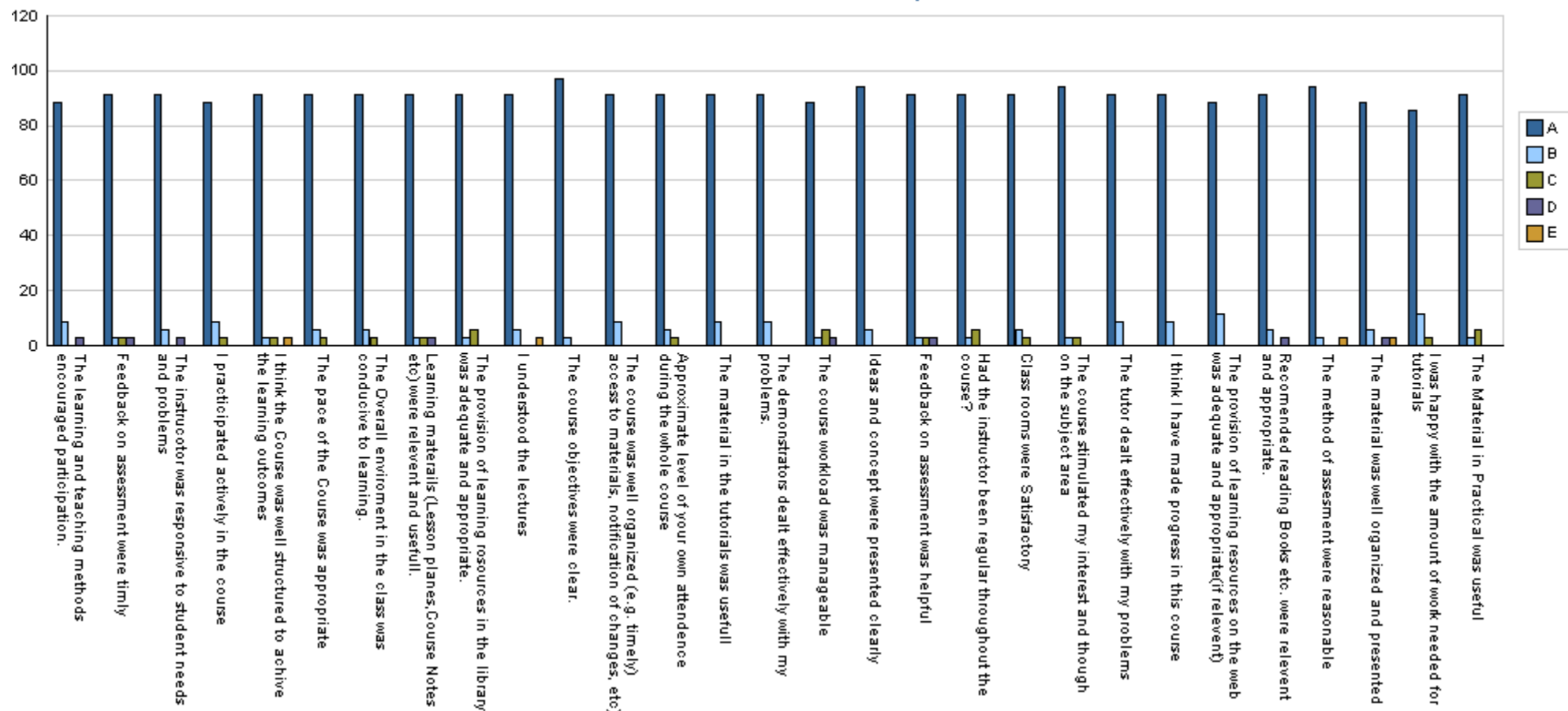**Teacher Name:**   Saima Mustafa

Course Name: Rings and Fields

Section: A   M/E: M   Semester#   4

Class: M.Sc (Mathematics)

Course Evaluation Graph
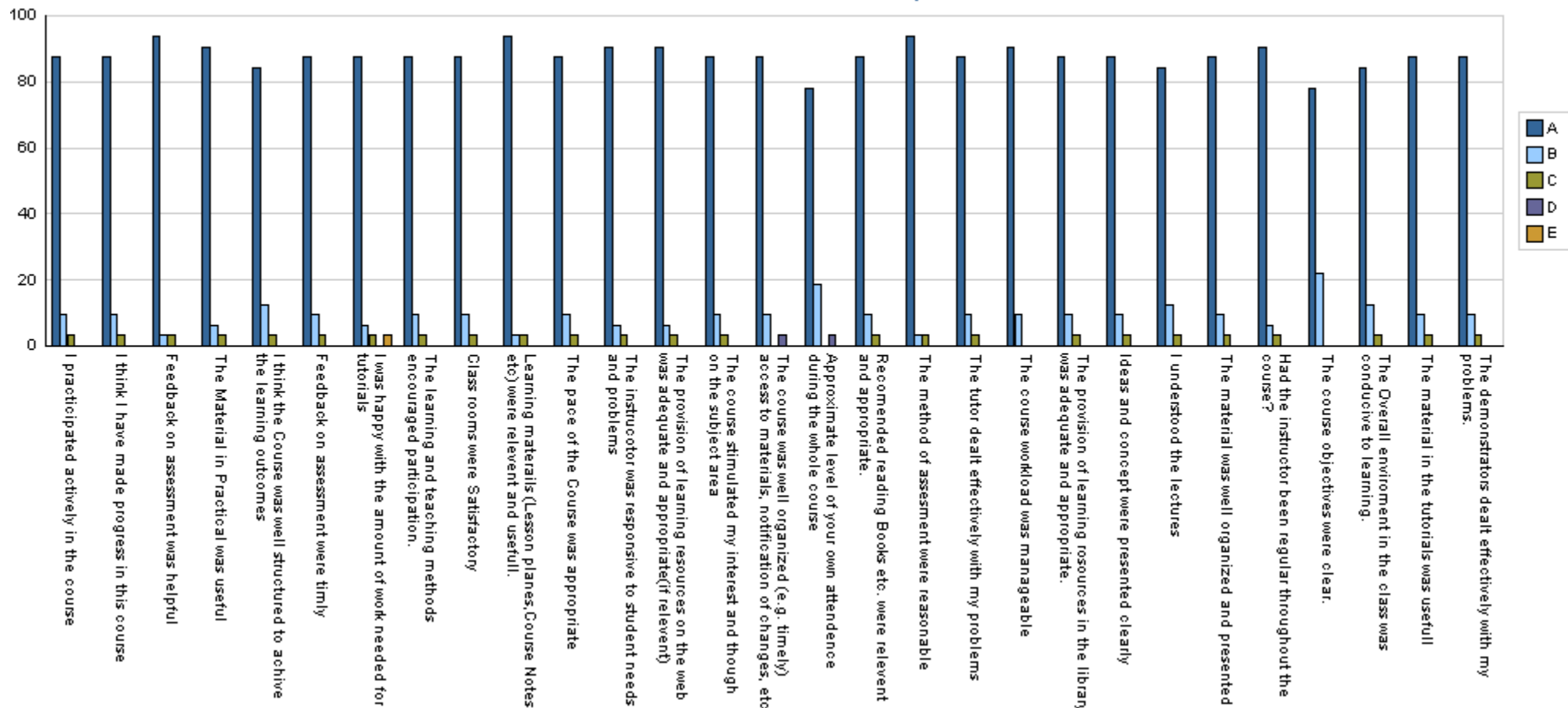
Data has been collected from 40 students of M.Sc mathematics (evening) semester 2. Among 94% of the students strongly agreed, 6% agreed, 4 that the instructor provided course split schedule during the first week of semester. The assignments and exams covered the materials presented in the course 97% of the students strongly agreed, 3% agreed,. The course material was modern and updated 94% strongly agreed, 6% agreed,. The instructor arrived on time 94% strongly agreed, 6% agreed. The instructor demonstrated knowledge of the subject 97% strongly agreed on it, 3% agreed. The instructor was fair in examination 91% strongly agreed, 9% agreed. The instructor returned the graded scripts in reasonable amount of time 97% strongly agreed, 3% agreed on this question. The instructor was available during specified the specified office hours and for after class consultation 97% strongly agreed, 3% agreed. The syllabus clearly stated the course objectives 91% strongly agreed and 9% agreed. The instructor provided additional books apart from text books 91% strongly agreed, 9% agreed. The instructor maintained an environment that was conductive to learning 88% strongly agree and 12% agreed.

Pir Mehr Ali Shah
Arid Agriculture University

Performa 1

Session Name: SPRING-20

Teacher Name: Dr. Muhammad Jamal

Course Name: Discrete Structure

Section: A   **M/E:**   E   **Semester#**   4
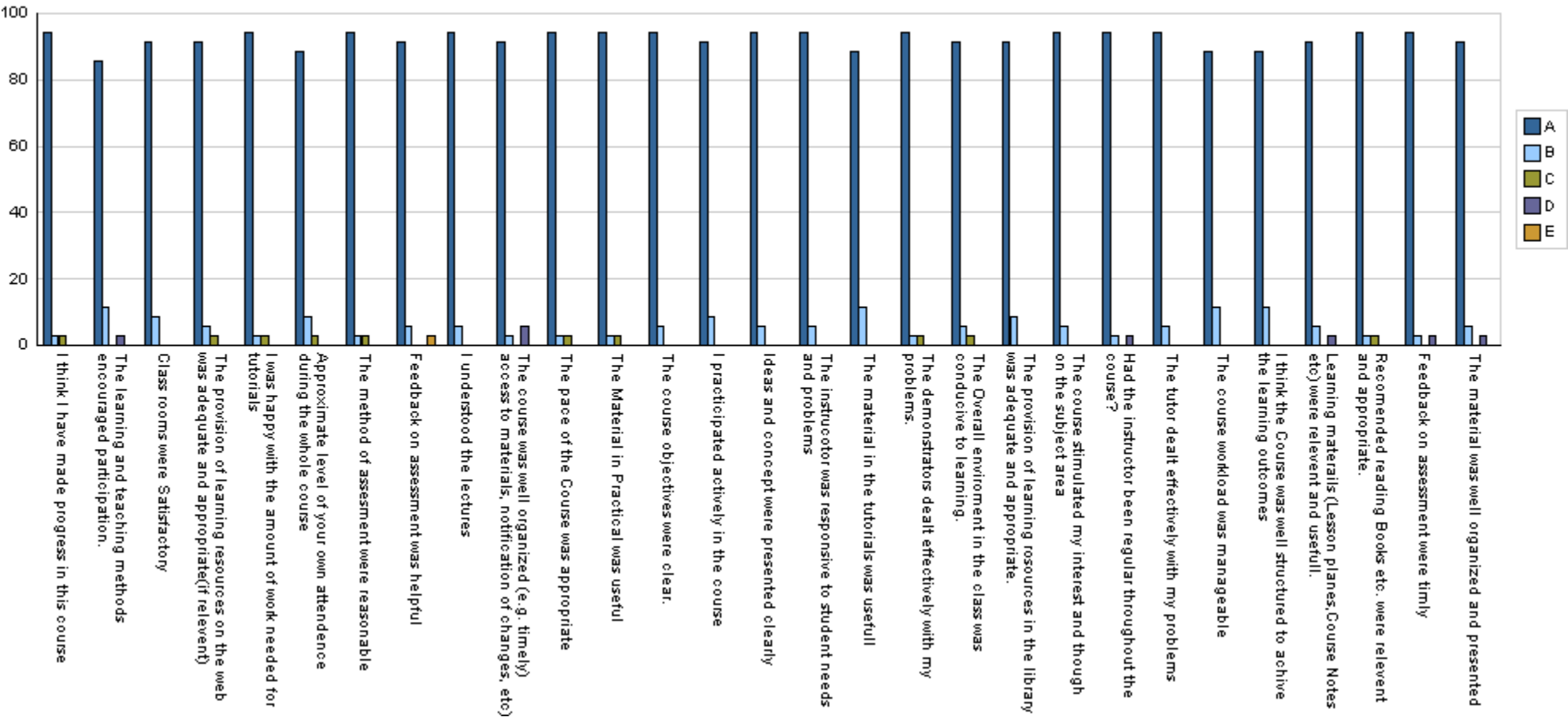
Class: M.Sc (Mathematics)

Course Evaluation Graph

Data collected from 40 student of MSc. Mathematics in which 62% students were agreed strongly ,30% were agreed,3% were uncertain and 8% were Strongly disagree that their attendance at approximate level during the whole class. 70% were agreed strongly,27% were agreed and 3% were uncertain that the Learning material were relevant and useful.68% were agreed strongly,50% were agreed and 3% were uncertain that the pace of course was appropriate and material in the tutorial were useful. Feedback on assessment was helpful among student in which 62% were strongly agree,22% were agree ,3% were uncertain and 3% were disagree. Students that actively participated in the course among which strongly 60% were agreed strongly, 27% were agreed and 3% were uncertain. 76% were agreed strongly,16% were agreed,5% were uncertain and 3% were disagree that concepts and ideas were clearly presented. Class rooms were satisfactory among student in which 40% were agreed strongly,19% were agreed ,8% were uncertain and 3% were disagree.

Pir Mehr Ali Shah
Arid Agriculture University
Performa 10

Session Name: SPRING-20

Teacher Name: Dr. Muhammad Jamal

Course Name: Discrete Structure

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

Teacher Evaluation Graph

Data collected in Performa 10 from 40 student of evening shift from MSc. Mathematics. About 78% students were agreed strongly and 4% student were strongly disagree that the instructor provided course spilt schedule during the first week of semester and maintains an environment that is conductive to learning.100% students were strongly agree that the syllabus clearly states course objectives requirements and grading criteria.100% were agreed strongly that the instructor arrives and leaves on time.90% were agreed strongly that the instructor is prepared for class and also fair in examination.100% were agreed strongly that the course concept integrates with the real world applications and is also updated .Also 100% students were agreed strongly that the instructor communicates the subjects matter effectively .

Pir Mehr Ali Shah
Arid Agriculture University

Performa 1

Session Name: SPRING-20

Teacher Name: Dr. Muhammad Jamal

Course Name: Discrete Structure

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

Class: M.Sc (Mathematics)

Course Evaluation Graph

Data was collected from 40 students of M.Sc Mathematics. First they were asked about the course organization. About 67% students agreed strongly that the course was well organized, 24% agreed only and 3% student were uncertain about it. Further, students were asked their opinion about the adequacy of provision of learning resources. 46% students agreed strongly, 30% agreed only while 8% students were uncertain about it. Students' feedback on assessment was also taken. 62% students agreed strongly,32% agreed and 5% students showed uncertainty. When asked about the attitude of instructor towards students' affairs, 68% students agreed strongly that the instructor was responsive towards students' problems, while 24% agreed and 8% were uncertain . Moreover, 59% agreed strongly,56 agreed and 3% were uncertain about the clarity of course objectives. Also, 76% strongly agreed,16% agreed,3% were uncertain and 5% strongly disagreed that their attendance were at approximate level during the whole class. Students were also asked about the regularity of instructor. 53% agreed strongly,45% just agreed and 3% were uncertain that the instructor had been regular throughout the course. Moreover, 68% agreed strongly, 30% agreed and 3% were uncertain about the feedback on assessment were timely. Students also gave opinion about the presentation of core concepts of the course. 76% agreed strongly,16% just agreed and 8% were uncertain that the ideas about course were clearly presented. As far as students' understanding is concerned, 70% agreed strongly, 16% just agreed and 3% were uncertain that the lectures were easily understood by them. Students were also asked about the tutor. 70% agreed strongly,24% just agreed , while 3% of student category were uncertain and disagreed that the tutor dealt effectively with their problems. About course management, 32% strongly agreed, 32% agreed only and 3% were uncertain that the course was manageable.

Pir Mehr Ali Shah
Arid Agriculture University
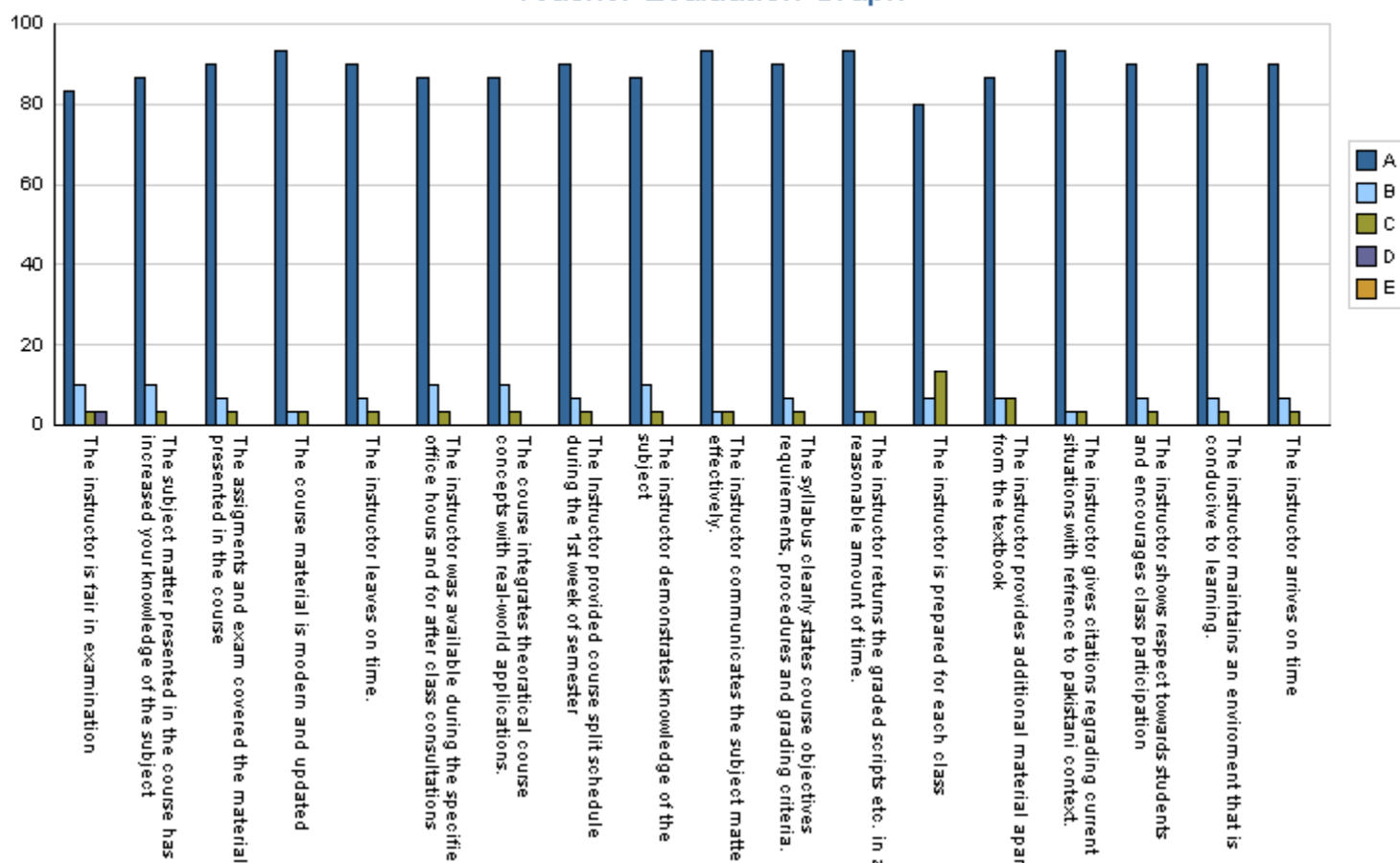## Performa 10

Session Name: SPRING-20

Teacher Name: Dr. Muhammad Jamal

Course Name: Discrete Structure

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

Teacher Evaluation Graph

Data collected in Performa 10 from 40 student of morning shift from MSc. Mathematics. About 97% students were agreed strongly and 3% student were strongly disagree that the instructor provided course spilt schedule during the first week of semester and maintains an environment that is conductive to learning.100% students were strongly agree that the syllabus clearly states course objectives requirements and grading criteria.80% were agreed strongly that the instructor arrives and leaves on time.100% were agreed strongly that the instructor is prepared for class and also fair in examination.100% were agreed strongly that the course concept integrates with the real world applications and is also updated .Also 80% students were agreed strongly that the instructor communicates the subjects matter effectively .

Pir Mehr Ali Shah
Arid Agriculture University
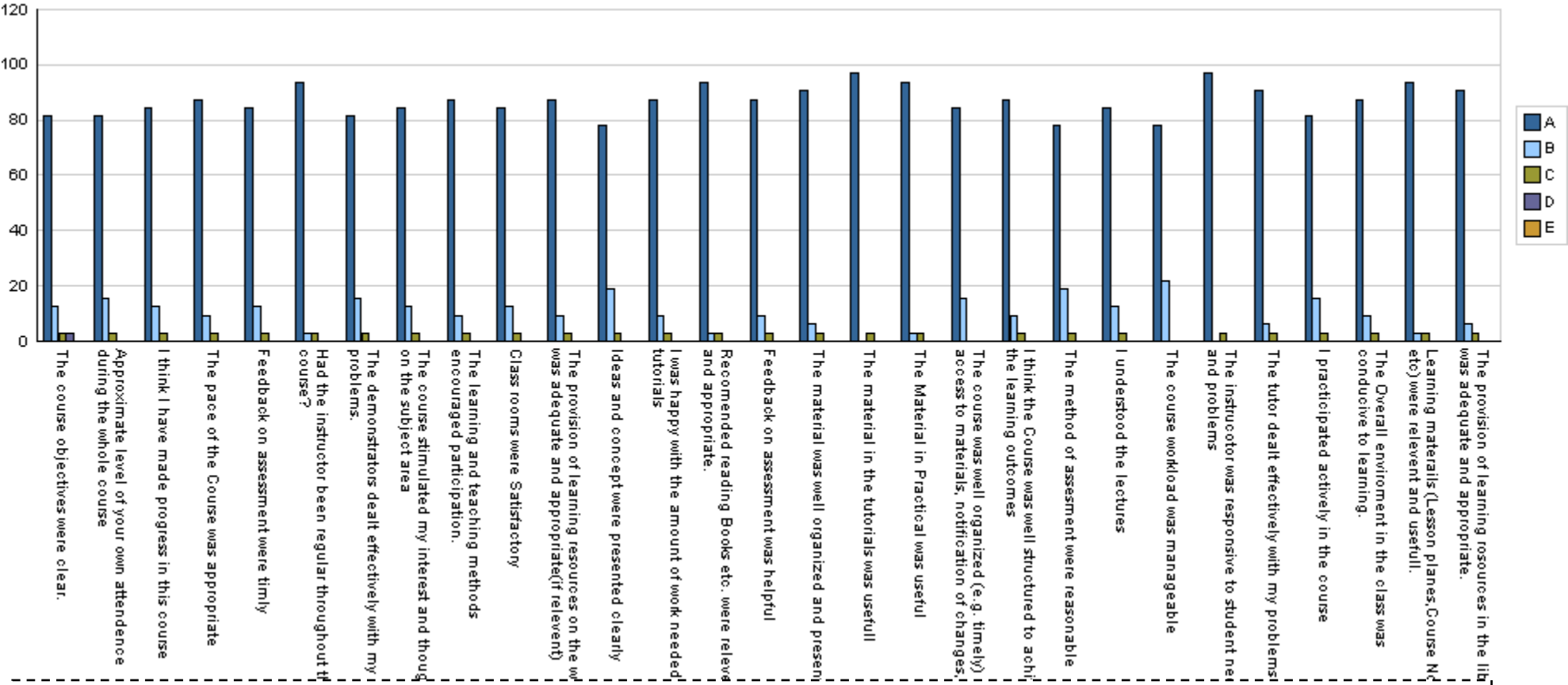
Performa 1

Session Name: SPRING-20

Teacher Name: Dr. Muhammad Jamal

Course Name: Operations Research

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

Class: M.Sc (Mathematics)

Course Evaluation Graph

Data collected from40 student of MSc. Mathematics in which 62% students were agreed strongly ,27% were agreed,3% were uncertain and 8% were Strongly disagree that their attendance at approximate level during the whole class. 70% were agreed strongly,27% were agreed and 3% were uncertain that the Learning material were relevant and useful.68% were agreed strongly,30% were agreed and 3% were uncertain that the pace of course was appropriate and material in the tutorial were useful. Feedback on assessment was helpful among student in which 63% were strongly agree,32% were agree ,3% were uncertain and 3% were disagree. Students that actively participated in the course among which strongly 70% were agreed strongly, 45% were agreed and 3% were uncertain. 76% were agreed strongly,16% were agreed,5% were uncertain and 3% were disagree that concepts and ideas were clearly presented. Class rooms were satisfactory among student in which 70% were agreed strongly,45% were agreed ,8% were uncertain and 3% were disagree.

Pir Mehr Ali Shah
Arid Agriculture University
Performa 10

Session Name: SPRING-20

Teacher Name: Dr. Muhammad Jamal

Course Name: Operations Research

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

Teacher Evaluation Graph
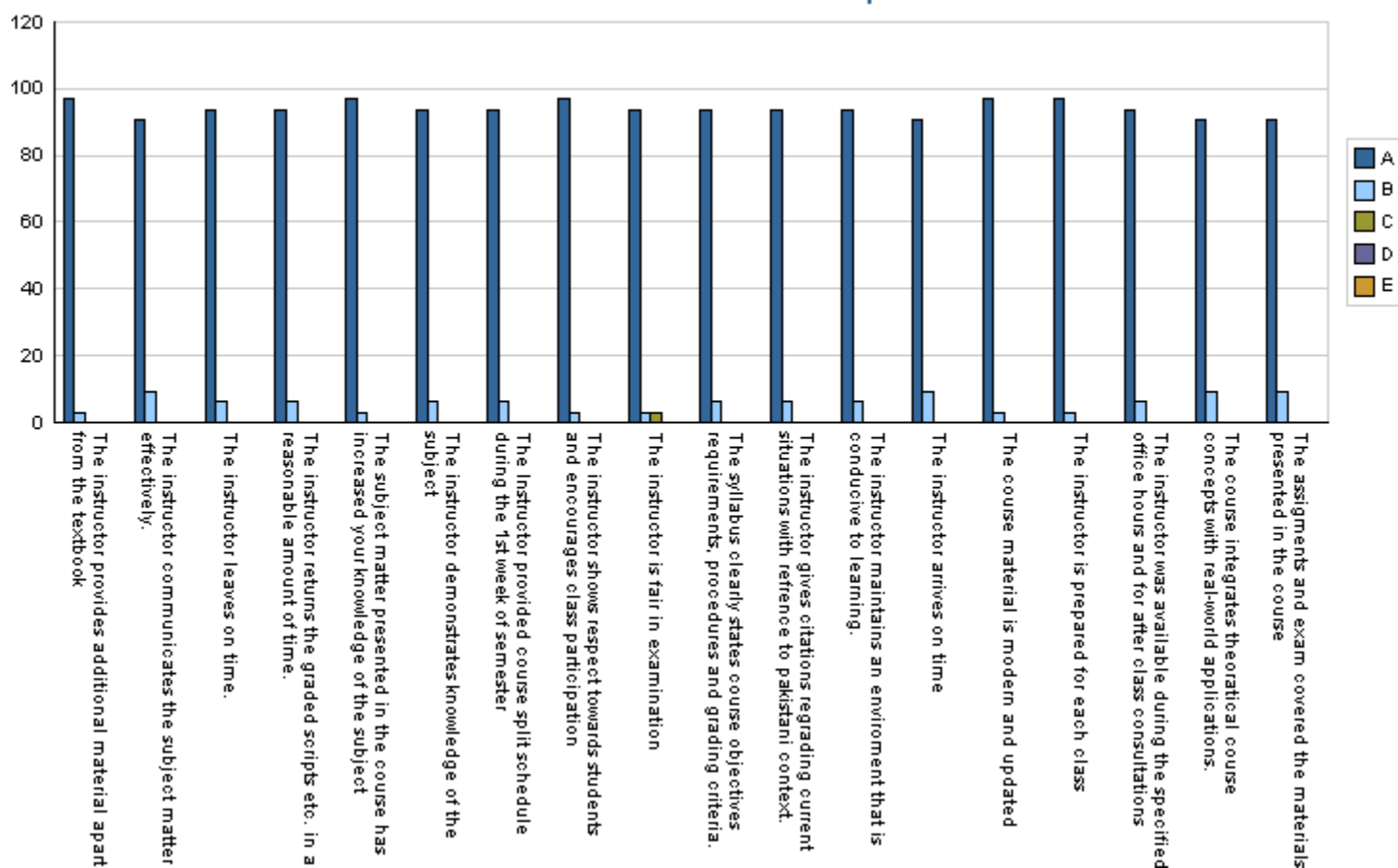
Data collected in Performa 10 from 40 students of evening shift from MSc. Mathematics. About 97% students were agreed strongly and 9% student were strongly disagree that the instructor provided course spilt schedule during the first week of semester and maintains an environment that is conductive to learning.100% students were strongly agree that the syllabus clearly states course objectives requirements and grading criteria.890% were agreed strongly that the instructor arrives and leaves on time.100% were agreed strongly that the instructor is prepared for class and also fair in examination.100% were agreed strongly that the course concept integrates with the real world applications and is also updated .Also 70% students were agreed that the instructor communicates the subjects matter effectively

Pir Mehr Ali Shah
Arid Agriculture University

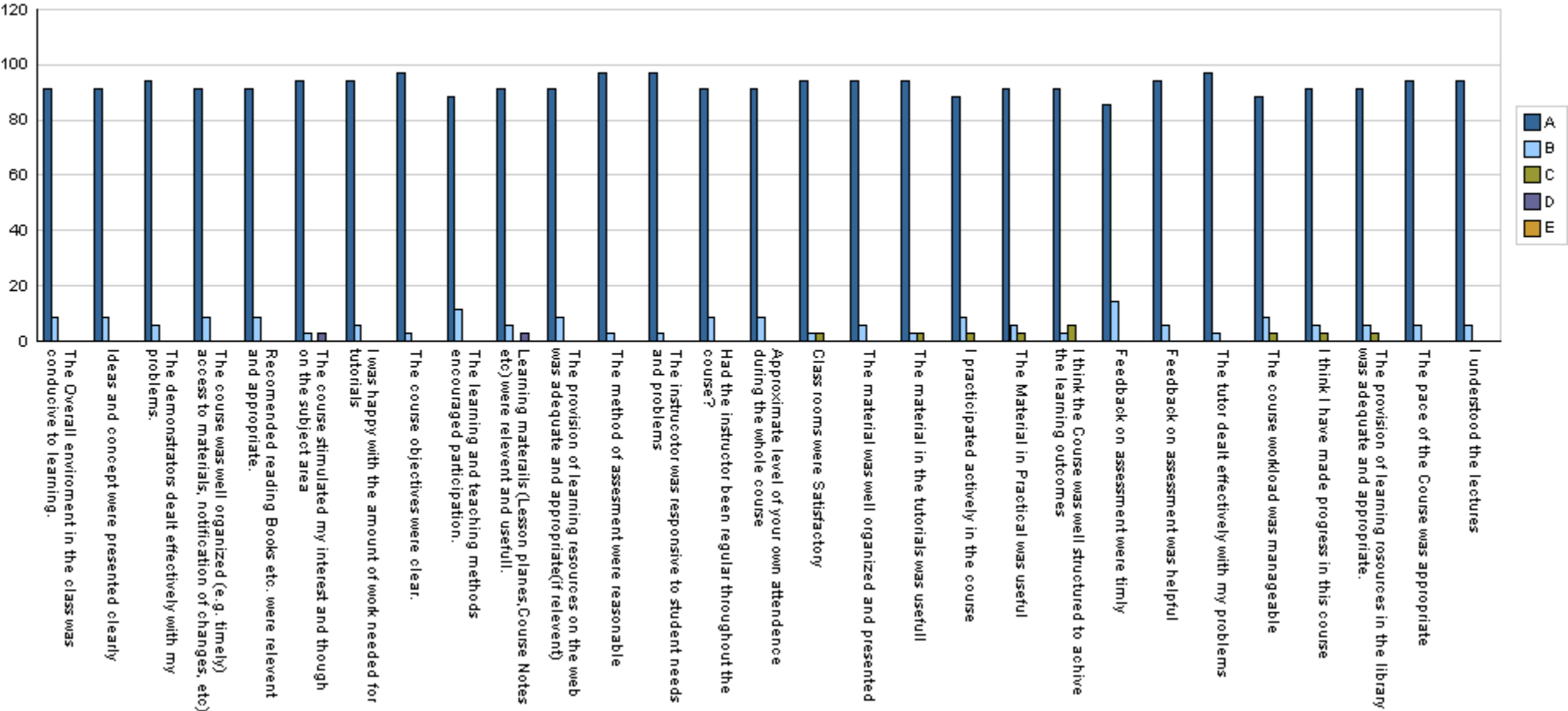## Performa 1

Session Name: SPRING-20

Teacher Name: Dr. Muhammad Jamal

Course Name: Operations Research

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

Class: M.Sc (Mathematics)

Course Evaluation Graph

Data collected from 40 student of MSc. Mathematics in which 62% students were agreed strongly ,27% were agreed,3% were uncertain and 8% were Strongly disagree that their attendance at approximate level during the whole class. 70% were agreed strongly,27% were agreed and 3% were uncertain that the Learning material were relevant and useful.68% were agreed strongly,30% were agreed and 3% were uncertain that the pace of course was appropriate and material in the tutorial were useful. Feedback on assessment was helpful among student in which 62% were strongly agree,32% were agree ,3% were uncertain and 3% were disagree. Students that actively participated in the course among which strongly 70% were agreed strongly, 7% were agreed and 3% were uncertain. 66% were agreed strongly,16% were agreed,5% were uncertain and 3% were disagree that concepts and ideas were clearly presented. Class rooms were satisfactory among student in which 70% were agreed strongly,20% were agreed ,8% were uncertain and 3% were disagree.

Pir Mehr Ali Shah
# Arid Agriculture University
Performa 10

Session Name: SPRING-20

Teacher Name: Dr. Muhammad Jamal

Course Name: Operations Research

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

Teacher Evaluation Graph
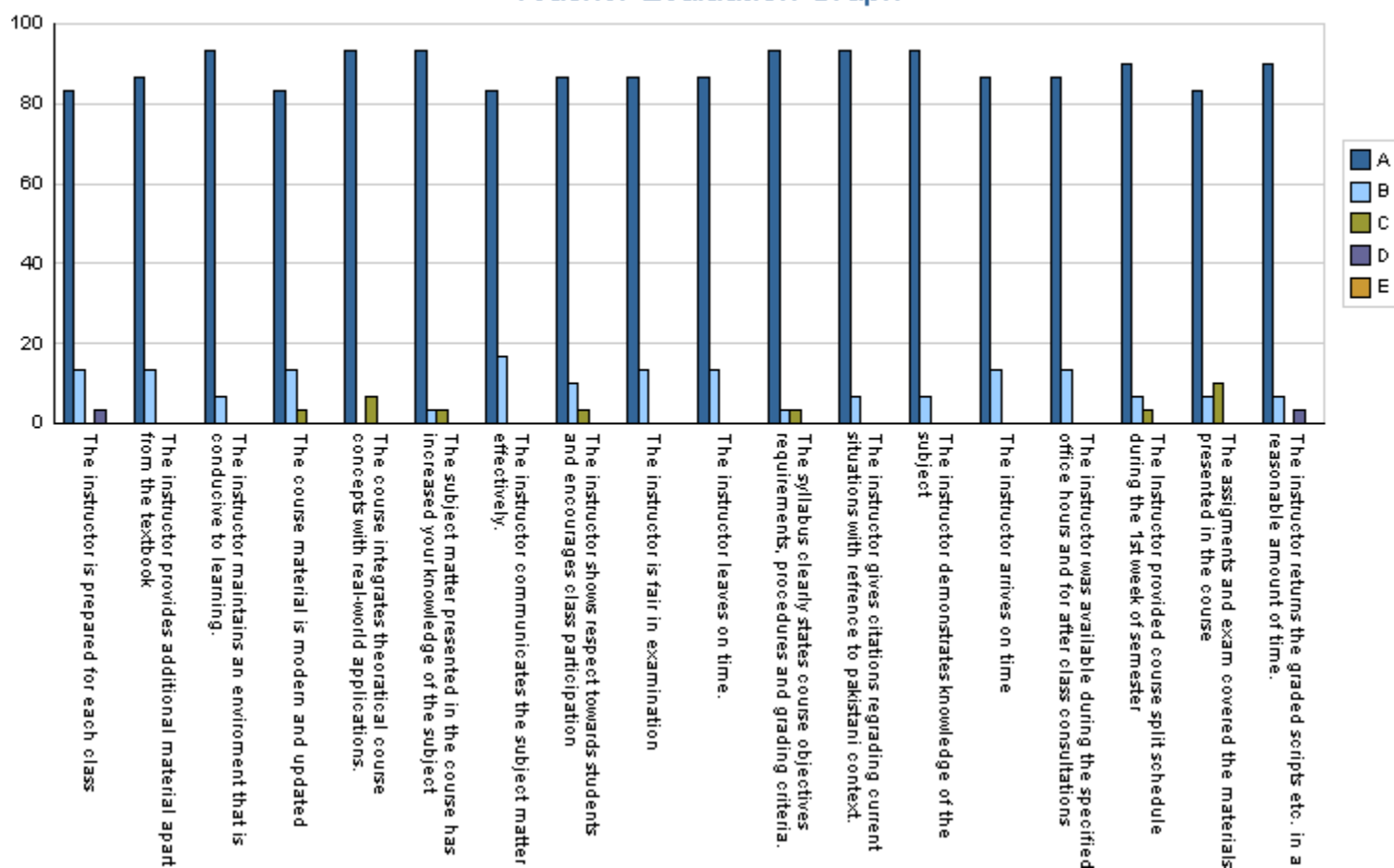
Data collected in Performa 10 from 40 student of morning shift from MSc. Mathematics. Data collected in Performa 10 from 40 student of morning shift from M.Sc. Mathematics. About 97% students were agreed strongly and 5% student were strongly disagree that the instructor provided course spilt schedule during the first week of semester and maintains an environment that is conductive to learning.100% students were strongly agree that the syllabus clearly states course objectives requirements and grading criteria.80% were agreed strongly that the instructor arrives and leaves on time.100% were agreed strongly that the instructor is prepared for class and also fair in examination.100% were agreed strongly that the course concept integrates with the real world applications and is also updated .Also 100% students were agreed strongly that the instructor communicates the subjects matter effectively .

Pir Mehr Ali Shah
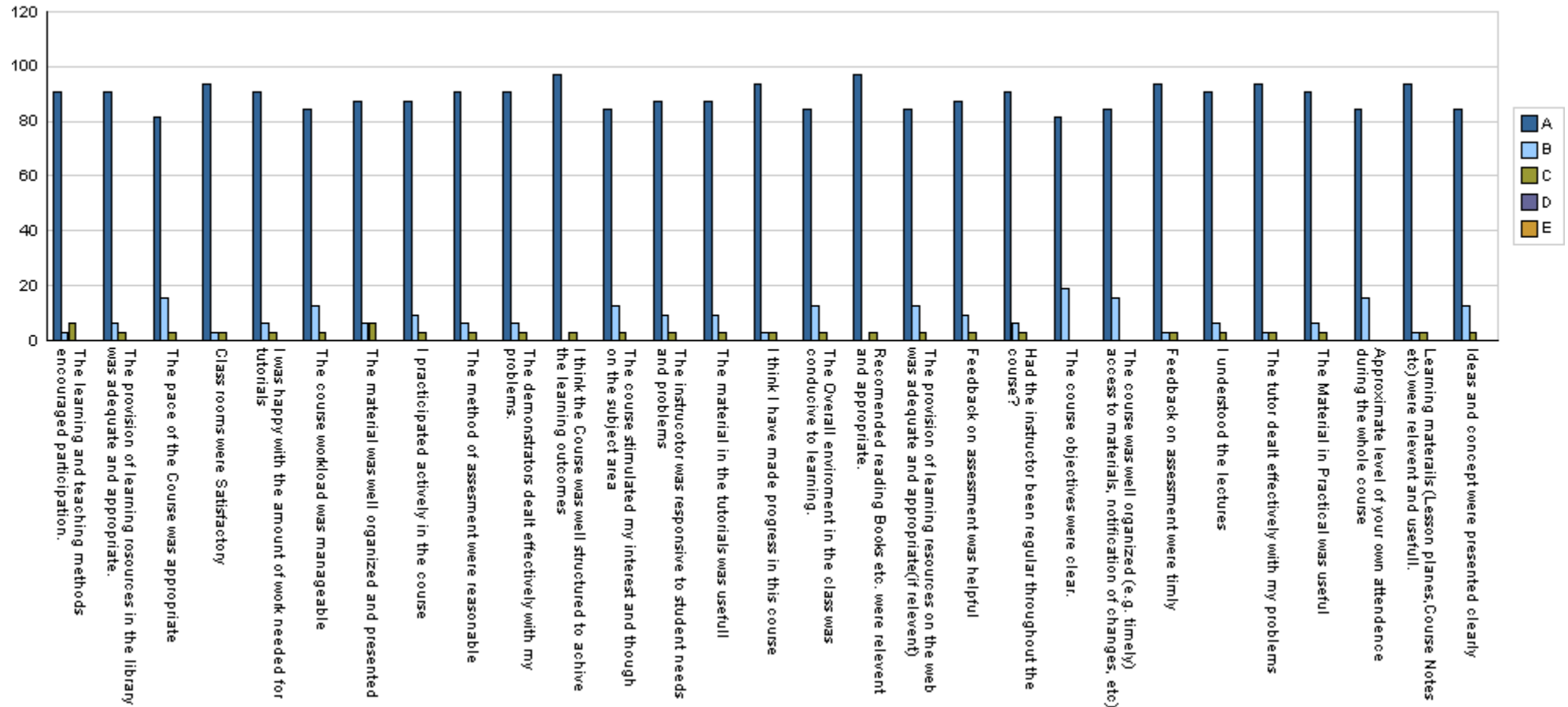# Arid Agriculture University

Performa 1

Session Name:　SPRING-20

Teacher Name:　Dr. Muhammad Jamal

Course Name:　Numerical Analysis

Section:　A　　　　M/E:　E　　　Semester#　2

Class:　M.Sc (Mathematics)

Course Evaluation Graph

Data collected from 40 student of MSc. Mathematics in which 62% students were agreed strongly ,17% were agreed,2% were uncertain and 8% were Strongly disagree that their attendance at approximate level during the whole class. 70% were agreed strongly,27% were agreed and 3% were uncertain that the Learning material were relevant and useful.68% were agreed strongly,30% were agreed and 3% were uncertain that the pace of course was appropriate and material in the tutorial were useful. Feedback on assessment was helpful among student in which 72% were strongly agree,32% were agree ,3% were uncertain and 3% were disagree. Students that actively participated in the course among which strongly 30% were agreed strongly, 27% were agreed and 3% were uncertain. 76% were agreed strongly,16% were agreed,5% were uncertain and 3% were disagree that concepts and ideas were clearly presented. Class rooms were satisfactory among student in which 80% were agreed strongly,19% were agreed ,8% were uncertain and 3% were disagree.

Pir Mehr Ali Shah
# Arid Agriculture University
Performa 10

Session Name: SPRING-20

Teacher Name: Dr. Muhammad Jamal

Course Name: Numerical Analysis

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

Teacher Evaluation Graph

Legend: A, B, C, D, E

X-axis categories:
- The instructor arrives on time
- The instructor was available during the specified office hours and for after class consultations
- The syllabus clearly states course objectives requirements, procedures and grading criteria.
- The subject matter presented in the course has increased your knowledge of the subject
- The course integrates theoratical course concepts with real-world applications.
- The course material is modern and updated
- The instructor is prepared for each class
- The instructor demonstrates knowledge of the subject
- The assigments and exam covered the materials presented in the course
- The instructor shows respect towards students and encourages class participation
- The instructor leaves on time.
- The instructor provides additional material apart from the textbook
- The instructor gives citations regrading current situations with refrence to pakistani context.
- The instructor communicates the subject matter effectively.
- The instructor maintains an enviroment that is conducive to learning.
- The instructor is fair in examination
- The instructor returns the graded scripts etc. in a reasonable amount of time.
- The instructor provided course split schedule during the 1st week of semester

Data collected in Performa 10 from 40 student of evening shift from MSc. Mathematics. About 97% students were agreed strongly and 9% student were strongly disagree that the instructor provided course spilt schedule during the first week of semester and maintains an environment that is conductive to learning.100% students were strongly agree that the syllabus clearly states course objectives requirements and grading criteria.100% were agreed strongly that the instructor arrives and leaves on time.100% were agreed strongly that the instructor is prepared for class and also fair in examination.100% were agreed strongly that the course concept integrates with the real world applications and is also updated .Also 100% students were agreed strongly that the instructor communicates the subjects matter effectively .

Pir Mehr Ali Shah
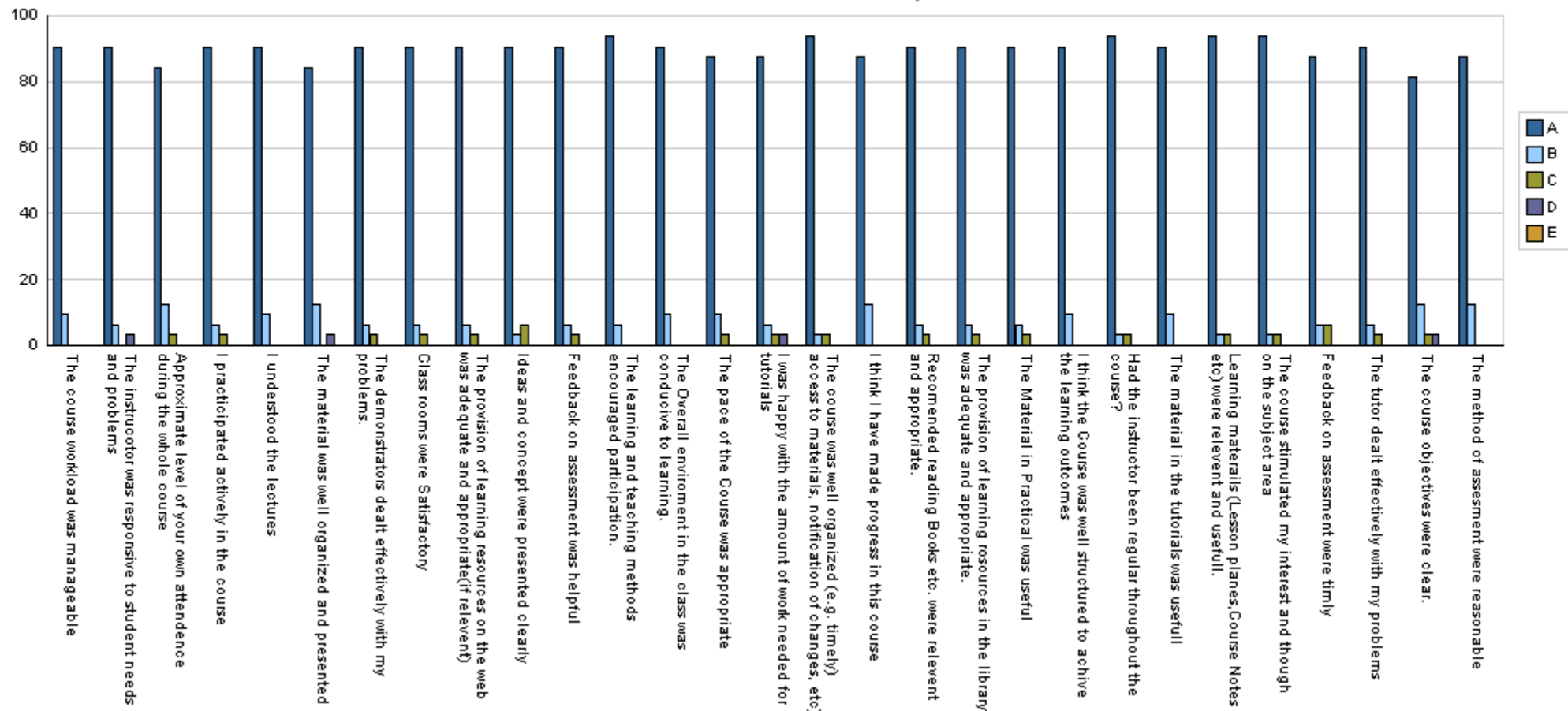# Arid Agriculture University

Performa 1

Session Name: SPRING-20

Teacher Name: Dr. Muhammad Jamal

Course Name: Numerical Analysis

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

Class: M.Sc (Mathematics)

Course Evaluation Graph

Data collected from40 student of MSc. Mathematics in which 52% students were agreed strongly ,67% were agreed,3% were uncertain and 8% were Strongly disagree that their attendance at approximate level during the whole class. 70% were agreed strongly,27% were agreed and 3% were uncertain that the Learning material were relevant and useful.68% were agreed strongly,40% were agreed and 3% were uncertain that the pace of course was appropriate and material in the tutorial were useful. Feedback on assessment was helpful among student in which 82% were strongly agree,32% were agree ,7% were uncertain and 3% were disagree. Students that actively participated in the course among which strongly 70% were agreed strongly, 27% were agreed and 3% were uncertain. 76% were agreed strongly,16% were agreed,5% were uncertain and 3% were disagree that concepts and ideas were clearly presented. Class rooms were satisfactory among student in which 70% were agreed strongly,9% were agreed ,3% were uncertain and 5% were disagreed.

Pir Mehr Ali Shah
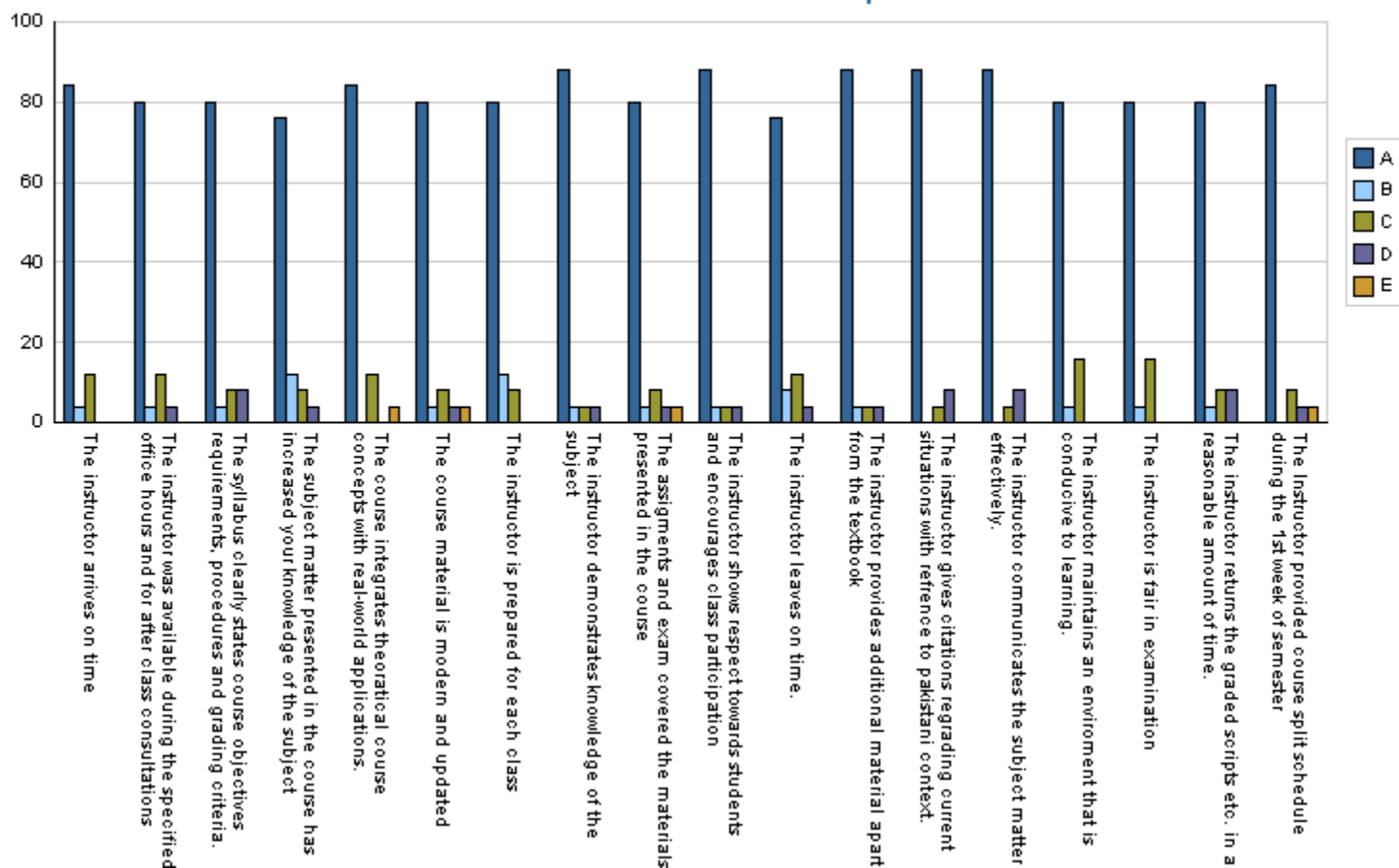# Arid Agriculture University
Performa 10

Session Name: SPRING-20

Teacher Name: Dr. Muhammad Jamal

Course Name: Numerical Analysis

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

Teacher Evaluation Graph

Data collected in Performa 10 from 40 student of morning shift from MSc. Mathematics. About 97% students were agreed strongly and 3% student were strongly disagree that the instructor provided course spilt schedule during the first week of semester and maintains an environment that is conductive to learning.100% students were strongly agree that the syllabus clearly states course objectives requirements and grading criteria.80% were agreed strongly that the instructor arrives and leaves on time.80% were agreed strongly that the instructor is prepared for class and also fair in examination.40% were agreed strongly that the course concept integrates with the real world applications and is also updated .Also 87% students were agreed strongly that the instructor communicates the subjects matter effectively.
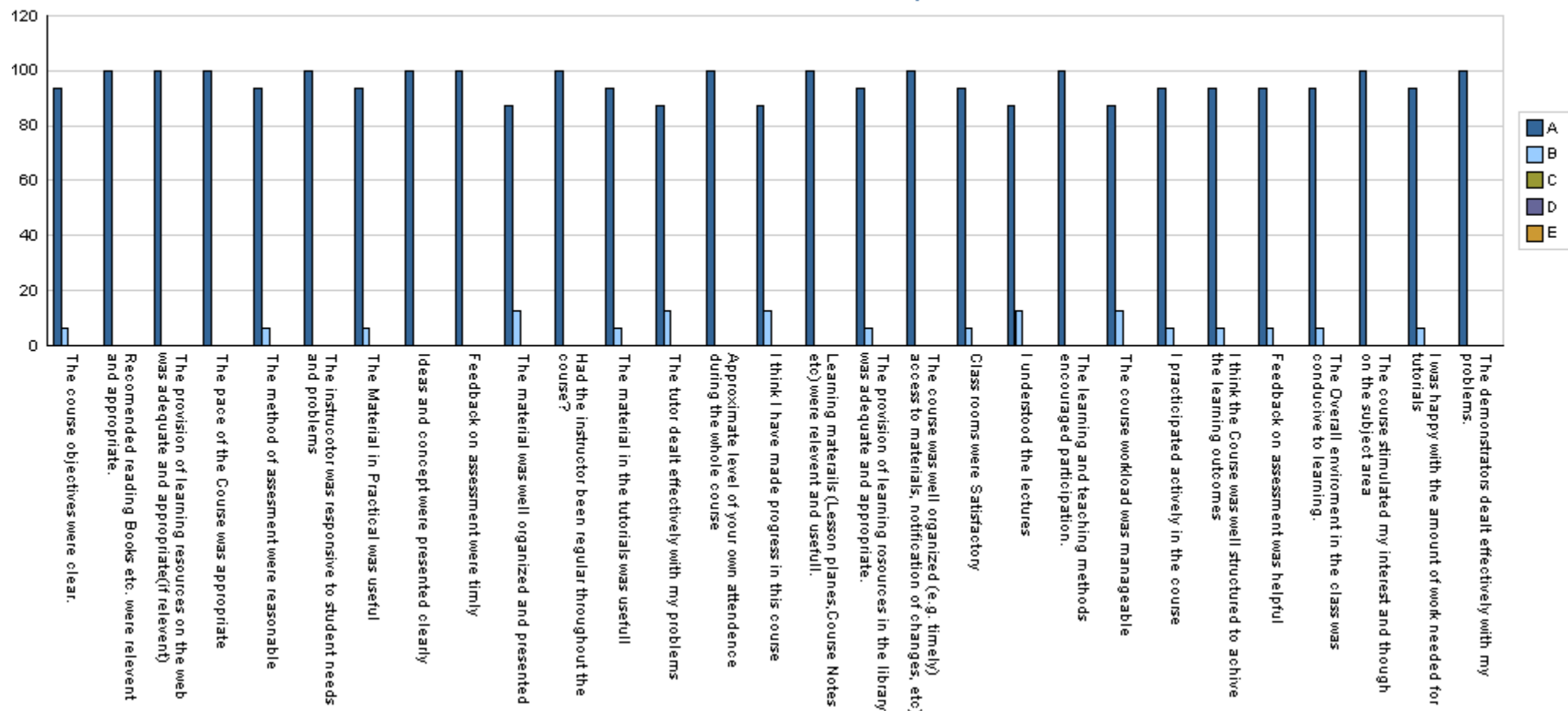
Pir Mehr Ali Shah
Arid Agriculture University

Performa 1

Session Name: SPRING-20

Teacher Name: Dr. Muhammad Jamal

Course Name: Vector and Tensor Analysis

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

Class: M.Sc (Mathematics)

Course Evaluation Graph

Data collected from40 student of MSc. Mathematics in which 62% students were agreed strongly ,27% were agreed,3% were uncertain and 8% were Strongly disagree that their attendance at approximate level during the whole class. 70% were agreed strongly,27% were agreed and 3% were uncertain that the Learning material were relevant and useful.68% were agreed strongly,30% were agreed and 3% were uncertain that the pace of course was appropriate and material in the tutorial were useful. Feedback on assessment was helpful among student in which 62% were strongly agree,32% were agree ,3% were uncertain and 3% were disagree. Students that actively participated in the course among which strongly 70% were agreed strongly, 27% were agreed and 3% were uncertain. 76% were agreed strongly,16% were agreed,5% were uncertain and 3% were disagree that concepts and ideas were clearly presented. Class rooms were satisfactory among student in which 70% were agreed strongly,19% were agreed ,8% were uncertain and 3% were disagreed.

Pir Mehr Ali Shah
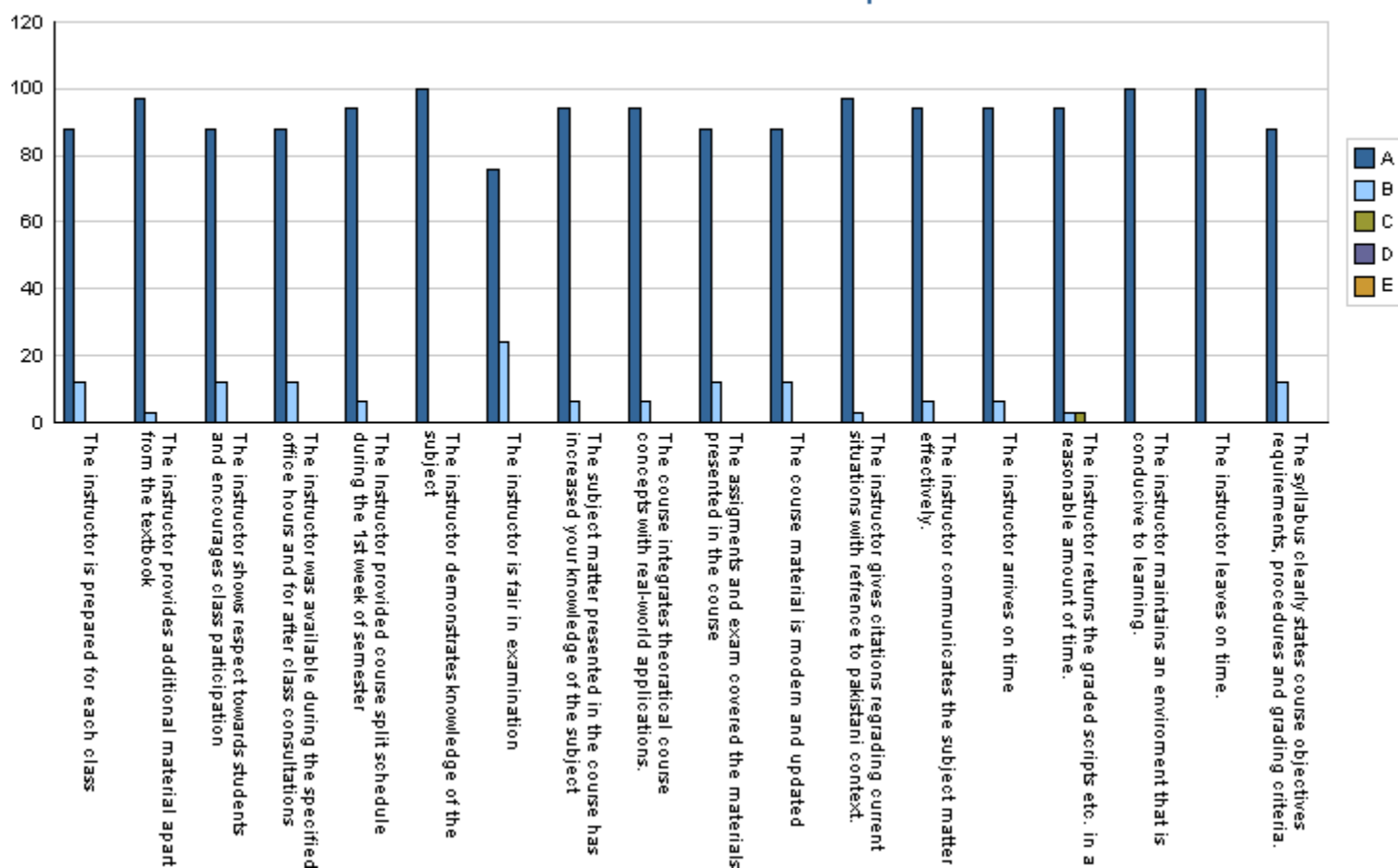## Arid Agriculture University
Performa 10

Session Name:	SPRING-20
Teacher Name:	Dr. Muhammad Jamal
Course Name:	Vector and Tensor Analysis
Section: A	**M/E:** M	**Semester#:** 2

Teacher Evaluation Graph

Data collected in Performa 10 from 40 student of evening shift from MSc. Mathematics. About 97% students were agreed strongly and 13% student were strongly disagree that the instructor provided course spilt schedule during the first week of semester and maintains an environment that is conductive to learning.100% students were strongly agree that the syllabus clearly states course objectives requirements and grading criteria.100% were agreed strongly that the instructor arrives and leaves on time.100% were agreed strongly that the instructor is prepared for class and also fair in examination.100% were agreed strongly that the course concept integrates with the real world applications and is also updated .Also 100% students were agreed strongly that the instructor communicates the subjects matter effectively .
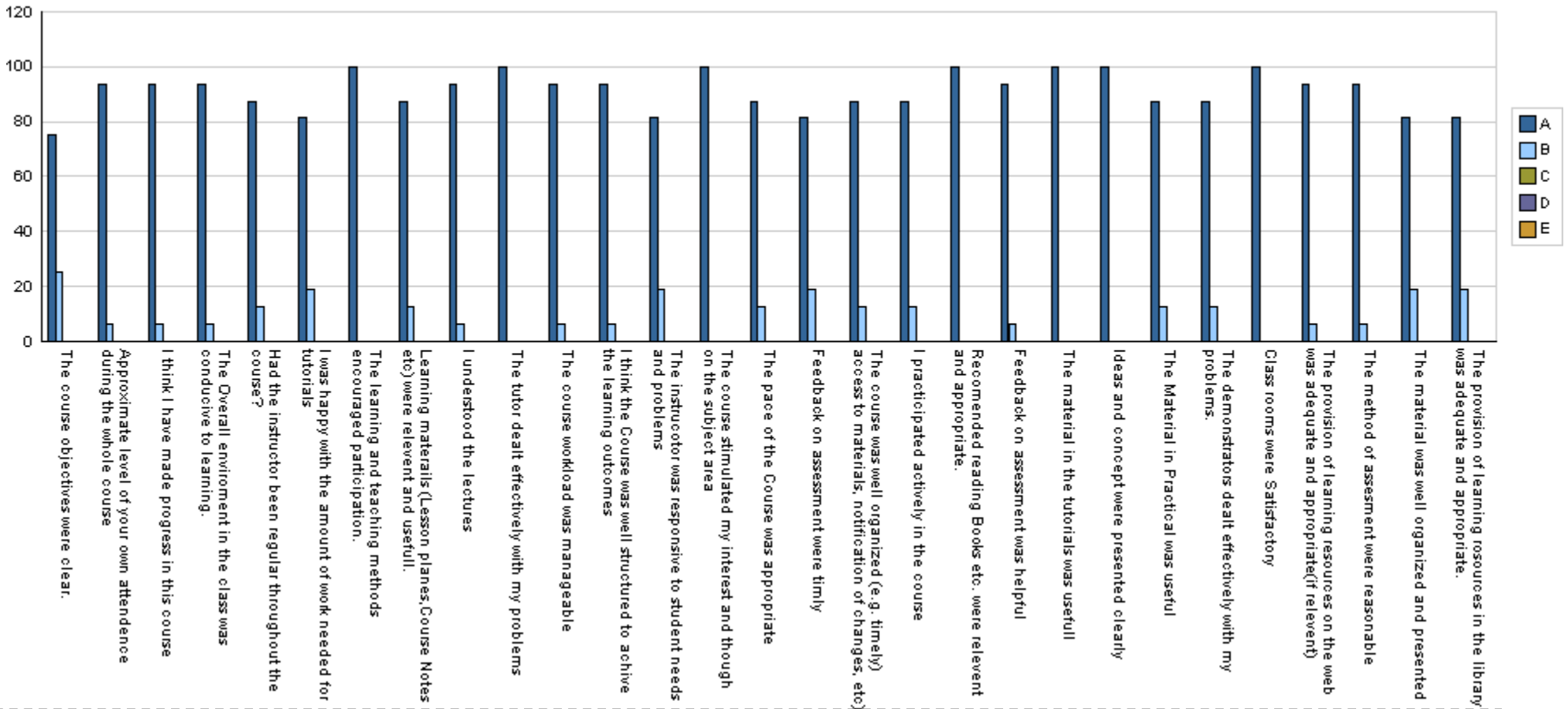
Pir Mehr Ali Shah
Arid Agriculture University

Performa 1

Session Name: SPRING-20

Teacher Name: Beenish Shakir

Course Name: Mathematical Physics

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

Class: M.Sc (Mathematics)

Course Evaluation Graph

Data is collected from 40 students of M.Sc. Mathematics .About 88% were strongly agree and 13% were agree that the learning material((Lesson planes,Course Notes etc) were relevant and useful.94% were strongly agree and 6% were agreed that the course stimulated my interest and though on the subject area. 88% were strongly agree and 13% were agree that the course objective were clear.94% were strongly agree and 6% were agree that thecourse was well organized (e.g. timely) access to materials, notification of changes, etc.).81% were strongly agree and 19% were agree that the instructor had been regular throughout the course. 94% were strongly agreed and 6% were agreed that the students actively participated in the course and also made the progress in the course.94% were strongly agreed and 6% were agreed that the feedback on assessment was helpful and timely.94% were strongly agree and 6% were agree that the demonstrators dealt effectively with my problems. The instructor was responsive to Student needs and problems in which 94% were strongly agreed and 6% were agreed.

Pir Mehr Ali Shah
Arid Agriculture University
Performa 10

Session Name:	SPRING-20
Teacher Name:	Beenish Shakir
Course Name:	Mathematical Physics
Section: A	**M/E:** M **Semester#:** 2

Teacher Evaluation Graph
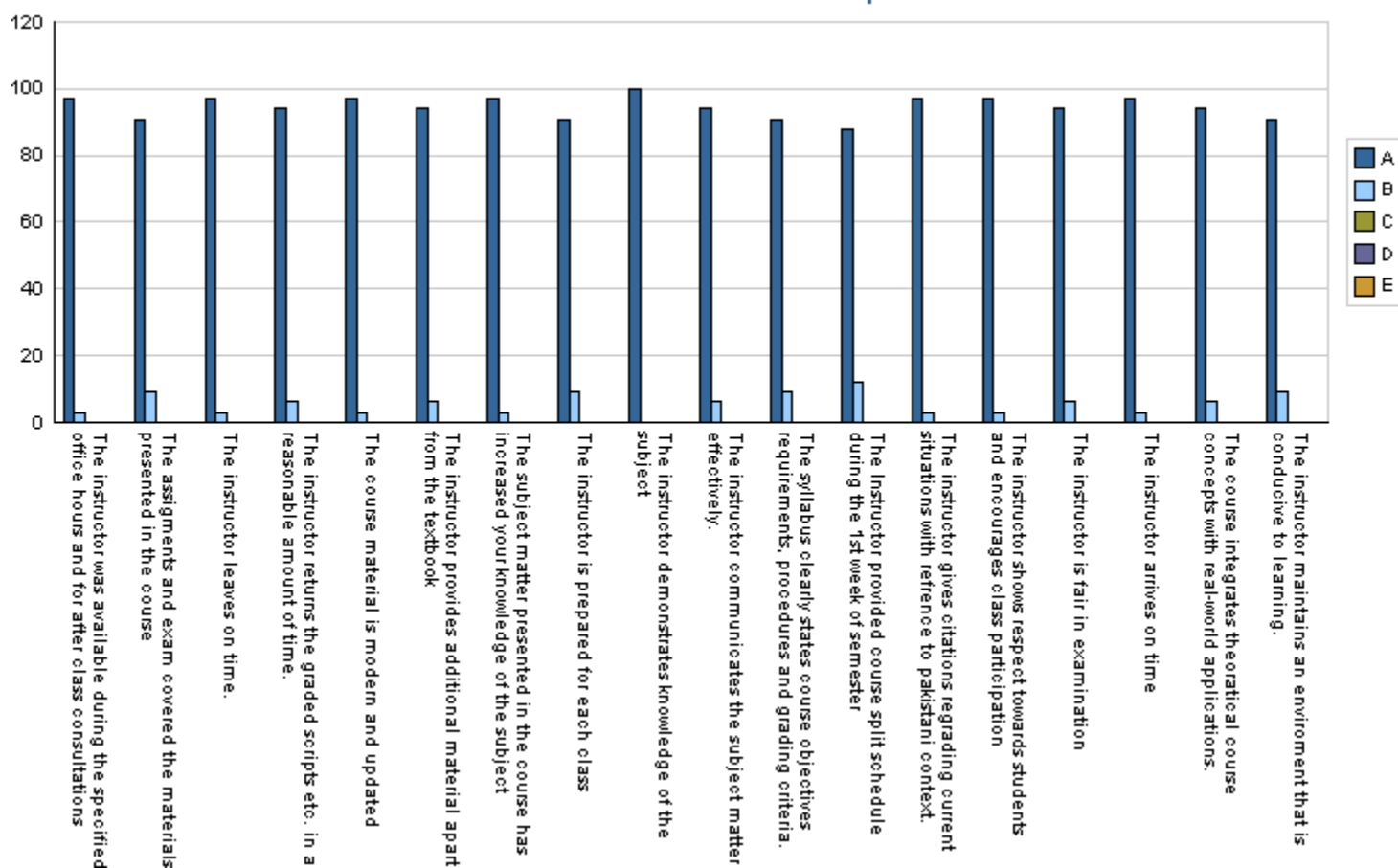
Data is collected from 40 students of M.Sc. Mathematics. About 97% were strongly agree and 3% were agree that the instructor was available during the specified office hours and for after class consultations and also shows respect towards students and encourages class participation.91% were strongly agree and 9% were agree that the assignments and exam covered the materials presented in the course.97% were strongly agree and 3% were agree that the instructor arrives and leaves on time.94% were strongly agree and 6% were agree that the instructor returns the graded scripts etc. in a reasonable amount of time.97were strongly agree and 3% were agree that the course material is modern and updated.94% were strongly agree and 6% were agree that the course integrates theoretical course concepts with real-world applications. 91% were strongly agree and 9% were agree that the instructor is prepared for each class. 94% were strongly agree and 6% were agree that the instructor is fair in examination.100% were strongly agree that the instructor demonstrates knowledge of the subject.

Pir Mehr Ali Shah
Arid Agriculture University

Performa 1

Session Name: SPRING-20

Teacher Name: Beenish Shakir

Course Name: Fluid Mechanics

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

Class: M.Sc (Mathematics)

Course Evaluation Graph
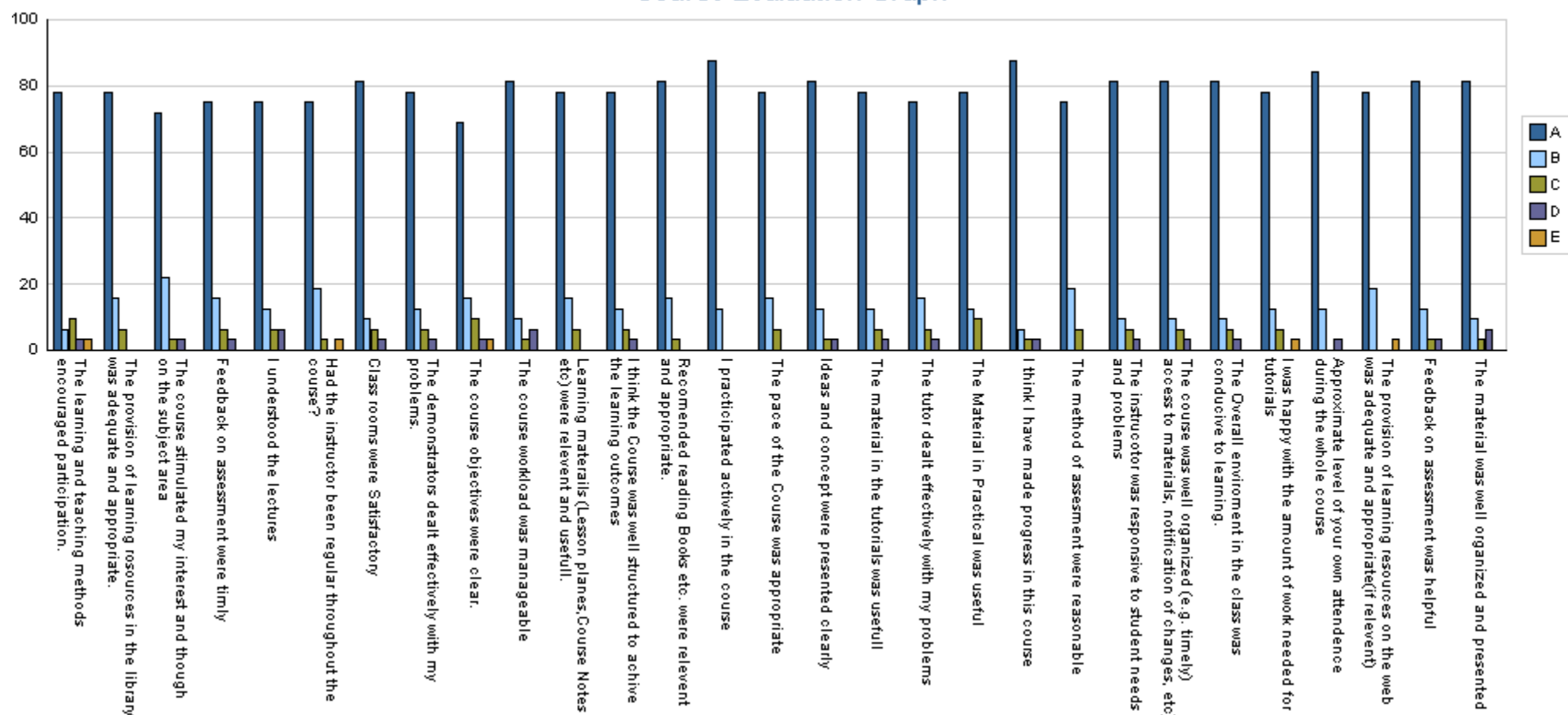
Data is collected from 40 students of M.Sc. Mathematics. About 78% were strongly agree,6% were agree,9 were uncertain,3% were disagree and 3% were strongly disagree that the learning and teaching methods encouraged participation.78% were strongly agree, 16% were agree and 6% were uncertain that the provision of learning resources in the library was adequate and appropriate.72% were strongly agree, 22% were agree, 3% were uncertain and 3% were disagree that the course stimulated my interest and though on the subject area.75% were strongly agree, 16% were agree, 6% were uncertain and 3% were disagree that the feedback on assessment were timely.75% were strongly agree,13% were agree,6% were uncertain and 6% were disagree that the student understood the lecture.78% were strongly agree, 13% were agree,6% were uncertain and 3% were disagree that the demonstrators dealt effectively with my problems.69% were strongly agree,16% were agree,9% were uncertain ,3% were disagree and 3% were strongly disagree that the course objectives were clear. Ideas and concept were presented clearly in which 81% were strongly agree,13% were agree, 3% were uncertain and 3% were disagree.

Pir Mehr Ali Shah
Arid Agriculture University
Performa 10

Session Name: SPRING-20

Teacher Name: Beenish Shakir

Course Name: Fluid Mechanics

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

Teacher Evaluation Graph
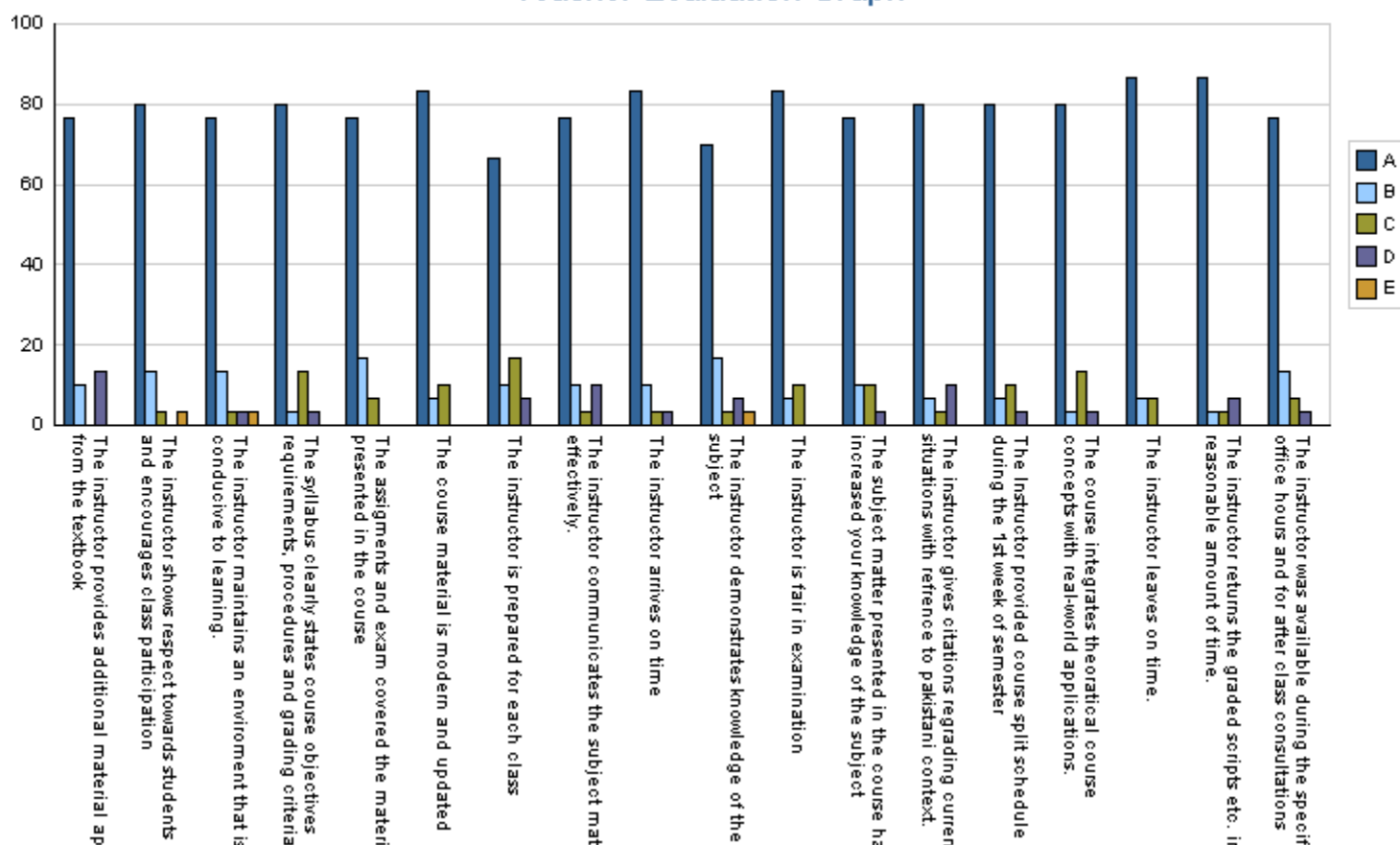
Data is collected from the 40 students of M.Sc. Mathematics. About 77% were strongly agree, 10% were agree and 13% were disagree that the instructor provides additional material apart from the textbook.80% were strongly agree, 13% were agree, 3% were uncertain and 3% were strongly disagree that the instructor shows respect towards students and encourages class participation.80% were strongly agree, 3% were agree, 13% were uncertain and 3% were disagree that the syllabus clearly states course objectives requirements, procedures and grading criteria.67 % were strongly agree, 10% were agree, 17% were uncertain and 7% were disagree that the instructor is prepared for each class.87% were strongly agree,7% were agree and 7% were uncertain that the instructor leaves on time.80 % were strongly agree,7% were agree, 10% were uncertain and 3% were disagree that theInstructor provided course split schedule during the 1st week of semester.83% were strongly agree,7% were agree,10% were uncertain that the course material is modern and updated. 74 of 103

Pir Mehr Ali Shah
Arid Agriculture University

Performa 1

Session Name: SPRING-20

Teacher Name: Beenish Shakir

Course Name: Fluid Mechanics

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

Class: M.Sc (Mathematics)

Course Evaluation Graph
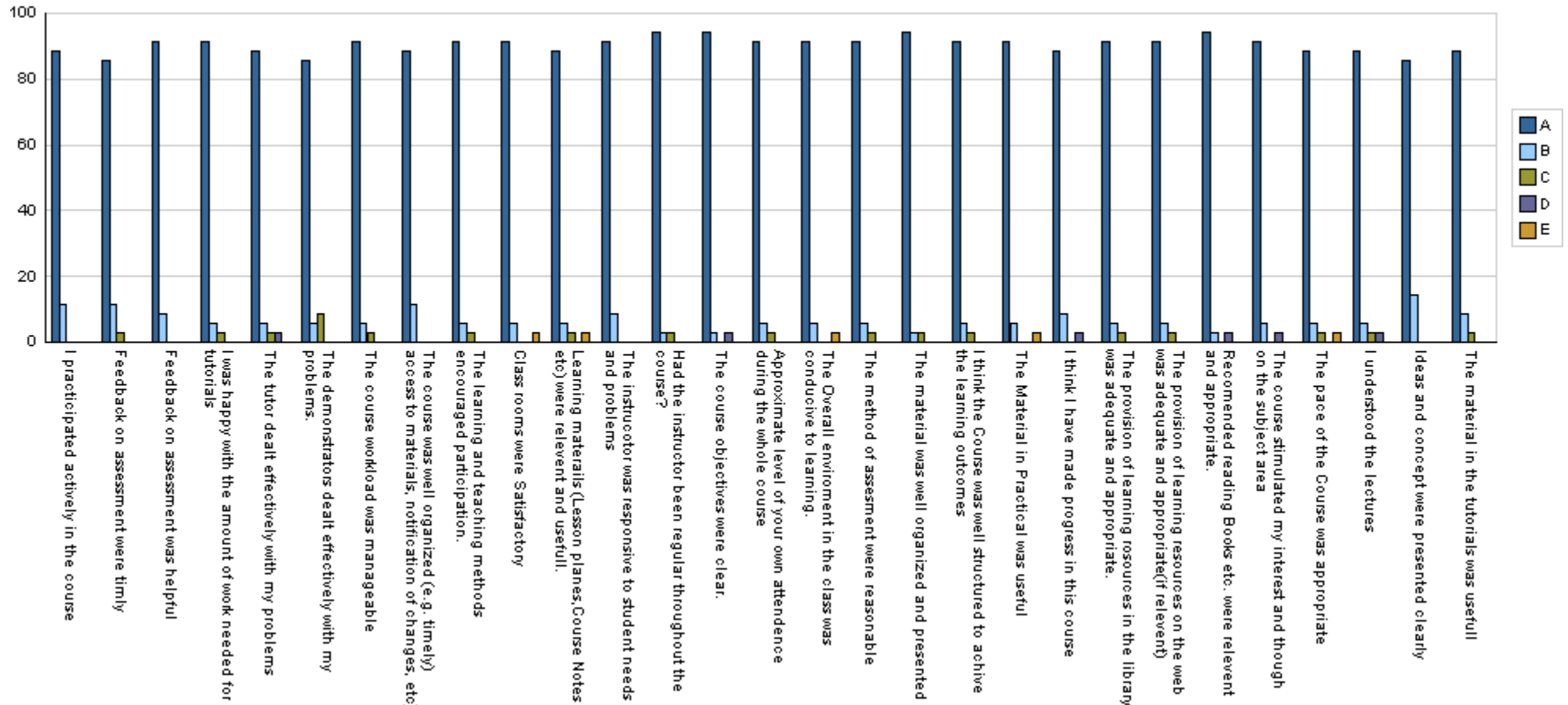
Data is collected from 40 students of M.Sc. Mathematics. About 89% were strongly agree and 11% were agree that the student actively participated in the course.91% were strongly agree and 9% were agree that the feedback on assessment was helpful.86% were strongly agree, 11% were agree and 3% were uncertain that the feedback on assessment was timely.89% were strongly agree,9% were agree and 3% were disagree that the student made the progress in the course.89% were strongly agree,6% were agree,3% were uncertain and 3% were disagree that the tutor dealt effectively with myproblems.91% were strongly agree, 6% were agree and 3% were uncertain that the learning and teaching methods encouraged participation.94% were strongly agree,3% were agree and 3% were disagree that the course objective were clear. The Overall environment in the class was conducive to learning in which 91% were strongly agree,6% were agree and 3% were strongly disagree .86% were strongly agree and 14% were agree that the ideas and concept were presented clearly.

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

Session Name: SPRING-20

Teacher Name: Beenish Shakir

Course Name: Fluid Mechanics

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

Teacher Evaluation Graph
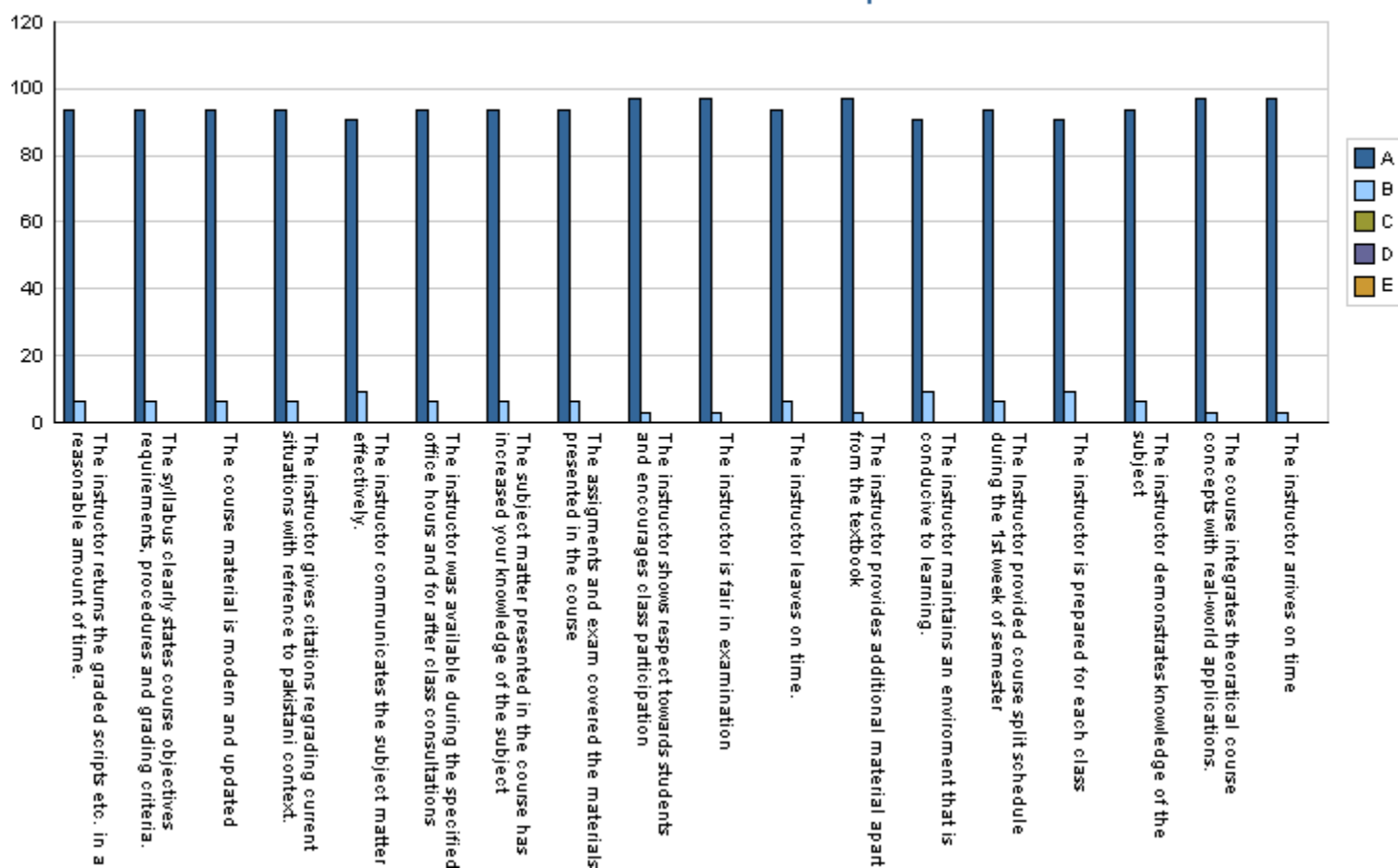
Data is collected from 40 students of M.Sc. Mathematics. About 94% were strongly agree and 6% were agree that the instructor returns the graded scripts etc. in a reasonable amount of time. 94% were strongly agree and 6% were agree that the syllabus clearly states course objectives requirements, procedures and grading criteria.97% were strongly agree and 3% were agree that the instructor is fair in examination.91% were strongly agree and 9% were agree that the instructor is prepared for each class. 94% were strongly agree and 6% were agree that the instructor was available during the specified office hours and for after class consultations. 97% were strongly agree and 3% were agree that the instructor arrives on time.94% were strongly agree and 6% were agree that the instructor demonstrates knowledge of the subject.94% were strongly agree and 6% were agree that the Instructor provided course split schedule during the 1st week of semester.

FACULTY PERFORMA 2

S. No	Course Code	Title	Teacher Name	Semester	Credit Hours	No. of Students	comments on curriculum	Any changes for future in course	%Grade				
									A	B	C	D	F
1.	MATH-700(M)	Real Analysis	Dr. Saima Mustafa	Fall-2018-19	3(3-0)	36	Well and updated as per HEC criteria	No	3	27	6	-	-
2.	MATH-702)(M)	Group Theory	Dr. Saima Mustafa	Fall-2018-19	3(3-0)	37	Well and updated as per HEC criteria	No	1	17	19	-	-
3.	MATH-703)(M)	Linear Algebra	Dr. Saima Mustafa	Fall-2018-19	3(3-0)	37	Well and updated as per HEC criteria	No	7	23	7	-	-
4.	MATH-702)(E)	Group Theory	Dr. Saima Mustafa	Fall-2018-19	3(3-0)	39	Well and updated as per HEC criteria	No	0	20	18		
5.	MATH-713)(M)	Topology	Dr. Saima Mustafa	Spring-19	3(3-0)	38	Well and updated as per HEC criteria	No	2	27	9		
6.	MATH-714)(M)	Complex Analysis	Dr. Saima Mustafa	Spring-19	3(3-0)	64	Well and updated as per HEC criteria	No	3	25	8		
7.	MATH-	Topology	Dr. Saima	Spring-19	3(3-0)	37	Well and	No	-	28	9		

No.	Course Code	Course Title	Instructor	Semester	Credit Hours	Enrollment	Status	Updated	G1	G2	G3	G4	G5
	713)(E)		Mustafa				updated as per HEC criteria						
8.	MATH-712)(M)	Numerical Analysis	Ms. Beenish Shakir	Spring-19	3(3-0)	36	Well and updated as per HEC criteria	No	25	9	2		
9.	MATH-715 (M)	Mathematical Physics	Ms. Beenish Shakir	Spring -19	3(3-0)	36	Well and updated as per HEC criteria	No	13	20	2	1	
10.	MATH-722)(M)	Partial Differential Equation	Ms. Beenish Shakir	Spring -19	3(3-0)	36	Well and updated as per HEC criteria	No	24	9	3		
11.	MATH-700(M)	Real Analysis	Dr. Saima Mustafa	Fall-2019-20	3(3-0)	39	Well and updated as per HEC criteria	No	4	10	20	1	
12.	MATH-702)(M)	Group Theory	Dr. Saima Mustafa	Fall-2019-20	3(3-0)	35	Well and updated as per HEC criteria	No	2	17	14	2	1
13.	MATH-702)(E)	Group Theory	Dr. Saima Mustafa	Fall-2019-20	3(3-0)	40	Well and updated as per HEC criteria	No	0	12	26	2	
14.	MATH-721(M)	Functional Analysis	Dr. Saima Mustafa	Fall-2019-20	3(3-0)	36	Well and updated as per HEC criteria	No	4	18	14	-	
15.	MATH-703)(M)	Linear Algebra	Ms . Beenish Shakir	Fall-2019-20	3(3-0)	36	Well and updated as per HEC criteria	No	12	17	5	1	1
16.	MATH-730	Differential Geometry	Ms . Beenish Shakir	Fall-2019-20	3(3-0)	36	Well and updated as per HEC criteria	No	19	13	4	0	
17.	STAT-700	Elements of Statistics and Biometry	Dr Saadia Masood	Fall-2019-20	3(3-0)	38	Well and updated as per HEC criteria	No	8	10	13	4	3
18.	MATH-713)(M)	Topology	Dr. Saima Mustafa	Spring-20	3(3-0)	34	Well and updated as per HEC criteria	No	4	14	16	-	

No.	Course Code	Course Title	Instructor	Semester	Credit	Enrolled	Content						
19.	MATH-714)(M)	Complex Analysis	Dr. Saima Mustafa	Spring-20	3(3-0)	34	Well and updated as per HEC criteria	No	5	13	13	3	
20.	MATH-713)(E)	Topology	Dr. Saima Mustafa	Spring-20	3(3-0)	33	Well and updated as per HEC criteria	No	5	20	8		
21.	MATH-723(M)	Rings and field	Dr. Saima Mustafa	Spring-20	3(3-0)	36	Well and updated as per HEC criteria	No	6	20	9	1	
22.	MATH-723(E)	Rings and field	Dr. Saima Mustafa	Spring-20	3(3-0)	36	Well and updated as per HEC criteria	No	0	15	19	2	
23.	MATH-712(M)	Numerical Analysis	Dr. Muhammad Jamal	Spring-20	3(3-0)	34	Well and updated as per HEC criteria	No	24	10	0	0	
24.	MATH-725(M)	Vector and Tensor Analysis	Dr. Muhammad Jamal	Spring-20	3(3-0)	34	Well and updated as per HEC criteria	No	21	10	3	0	
25.	CS-708(M)	Discrete Structure	Dr. Muhammad Jamal	Spring-20	3(3-0)	36	Well and updated as per HEC criteria	No	32	4	0	0	
26.	MATH-705(M)	Operations Research	Dr. Muhammad Jamal	Spring-2020	3(3-0)	36	Well and updated as per HEC criteria	No	10	22	4	0	
27.	MATH-712(E)	Numerical Analysis	Dr. Muhammad Jamal	Spring-2020	3(3-0)	37	Well and updated as per HEC criteria	No	25	9	3	0	
28.	CS-708(E)	Discrete Structure	Dr. Muhammad Jamal	Spring-2020	3(3-0)	36	Well and updated as per HEC criteria	No	36	0	0	0	
29.	MATH-705(E)	Operations Research	Dr. Muhammad Jamal	Spring-2020	3(3-0)	36	Well and updated as per HEC criteria	No	22	11	3	0	
30.	STAT-	Mathematical	Dr. Saadia	Spring-2020	3(3-0)	35	Well and	No	0	9	14	9	3

#	Course Code	Course Title	Teacher	Semester	Credit Hours	Contact Hours	Course Contents						
	725(M)	Statistics	Masood				updated as per HEC criteria						
31.	MATH-715 (M)	Mathematical Physics	Ms. Beenish Shakir	Spring-2020	3(3-0)	36	Well and updated as per HEC criteria	No		13	20	2	1
32.	MATH-727	Fluid Mechanics	Ms. Beenish Shakir	Spring-2020	3(3-0)	36	Well and updated as per HEC criteria	No	13		17	5	0	1

Performa 3
Survey of Graduating Students

Data were collected from 43 students. The objective of this survey was to obtain the input on the quality of education they received in their program and level of preparation they had at the university. The results were shown as follows.
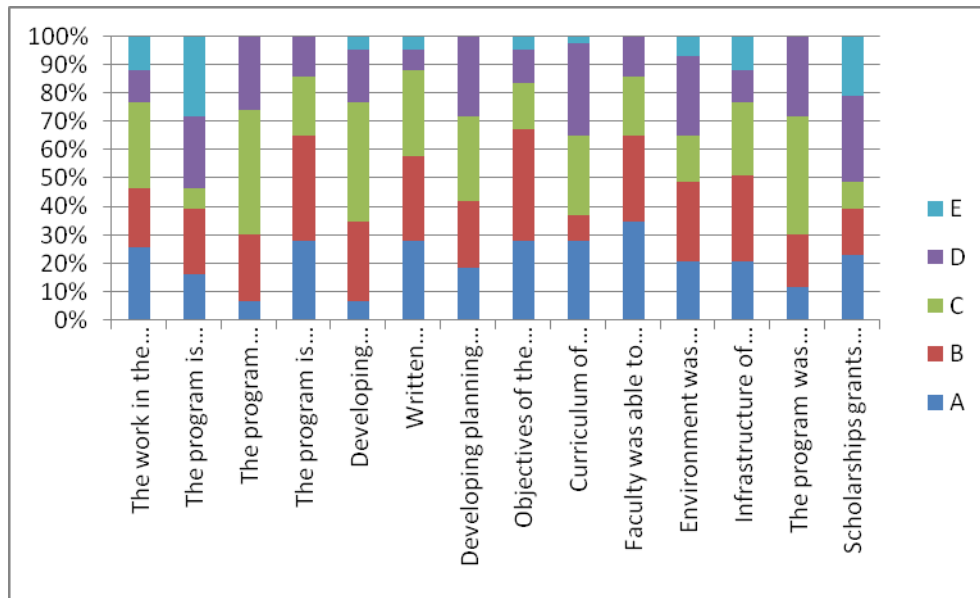
The chart shows that 30% of the students were very satisfied that the program was compromised of curriculum and extracurricular activities, 20% were answered that environment in the university was conductive to learning and 30% were certain about this. 10% were satisfied that program has developed analytical and problem solving skills. It is observed that majority of the graduating students have shown positive response in the current program, infrastructure and environment.

Performa 5: Faculty Survey Report

Brief summary of   Results of Faculty Survey Report

The data were collected from seven faculty members who answered the following responses regarding the different questionnaires. As concerned to job satisfaction level and promotion aspects, the faculty members responded that 75% of faculty members were very satisfied and 25% were not very satisfied with their job clarity about promotion process. Most of the faculty members were satisfied with the cooperation received from their colleague, job security and departmental environment. 30% faculty members are not very satisfied from administrative support from the department and their promotion and progress through ranks. As it has already been mention, that there is limited number of faculty so more work load was on current teachers and availability of more teachers are required in this regard.

Performa 7: Alumni Survey

The purpose of this survey was to obtain alumni input on the quality of education, knowledge and communication and Interpersonal skills they received and the level of preparation they had at University. The total of 38 students provided the data. The survey results were shown as follows.
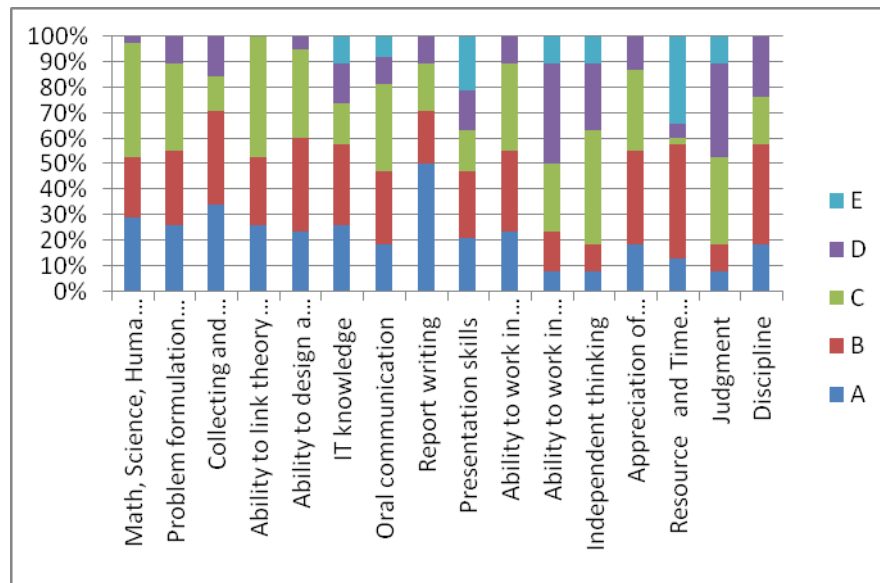
It has been observed that 25% responded excellent regarding their abilities to problem formulation work. About 7% has reported excellent on Independent thinking and judgment skills. 25% answered good regarding their abilities to work in team and 20% agreed that department has improved their presentation skills. 50% has shown that their written skills such as report writing are improved /good but 20% responded poor about their oral communication skills.

Performa 8: Employer Survey

The objective of this survey was to obtain employers input on the quality of education, the department is providing and to assess the quality of the academic program. The survey included University graduates employed in different organizations. A total of 35 employers provided the data. The results were shown as follows.
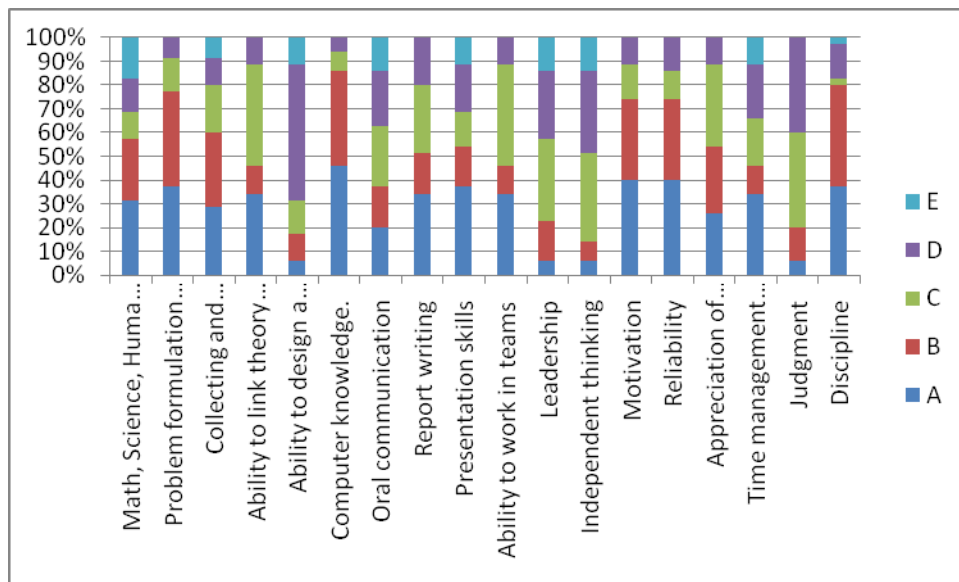
The above chart shows the responses of the employers interest in Math, Science, Humanities and professional discipline are as 30% excellent, 10% responded very good . 10% were answered excellent on their independent thinking 5% were agreed on the improvement of leadership qualities. 30% were responded excellent on interpersonal skills and time management skills.

CRITERION 2: CURRICULUM DESIGN AND ORGANIZATION:

Degree Title: M.Sc. Mathematics

Intent: All the courses for the degree program were accredited by the Higher Education Commission, prepared by a committee consists of experts and qualified subject specialists from the different universities and research organizations from Pakistan. First curriculum is approved at department level from Board of studies comprising of all faculty members, that are responsible for updating the curriculum. The Chairperson is the convener of this body. The courses are then sent to the Board of Faculty for approval. The Dean of the Faculty, who is also the convener, conducts the meeting. As per University Rules, after the approval of courses from the Faculty Board, these are placed before the University Academic Council for their approval.

Definition of Credit Hour

A student must complete a definite number of credit hours as per university policy for the specific degree. One credit hour is one theory lecture or two hours (practical work/weeks). One credit hour carries 20 marks. The semester consists of 18 weeks.

Degree Plan

Presently, the program M.Sc.(Mathematics) is a two academic years or a minimum of four and maximum of six semester's duration program after bachelor's degree.

M. Sc (Mathematics)

Two years M.Sc degree program comprising of 04 semesters, a student has to take a total load of 60 credit hours out of which 40 credit hours for major subjects, 18 credit hours for minor subjects, one credit hour for special problem and one credit hour for seminar.

Examination and grading policy

For each course, the student evaluation is done by midterm examination, assignment/quizzes and final examination. A scholar who misses the mid-term examination is just not allowed a make-up examination and is awarded zero marks in that examination. In case a student does now not appear in the final examination, he/she will likely be deemed to have failed in that examination. The grading policy of each course is prescribed as follows

    Mid Examination   30%
    Assignments   10%
    Final Examination 60%

Grade point Average.

The maximum grade point average is 4.00 and minimum grade point average for obtaining the degree is 2.5. The student may enroll in the next semester if he/she must fulfill the following CGPA criteria in each semester.

Semester CGPA

1st   1.50
2nd   1.75
3rd   2.00
4th   2.50

Eligibility Criteria for Examination

In each course, the minimum 75% attendance is required to sit in the examination.

Scheme of Studies for M.Sc Mathematics.

S.No	Course Code	Subjects	Credit hours
1.	MATH-700	Real Analysis	3(3-0)
2.	MATH-702	Group Theory	3(3-0)
3.	MATH-703	Linear Algebra	3(3-0)
4.	MATH-705	Operations Research	3(3-0)
5.	MATH-711	Ordinary Differential Equations	3(3-0)
6.	MATH-709	Computer Programming	3(3-0)
7.	MATH-711	Ordinary Differential Equations	3(3-0)
8.	MATH-712	Numerical Analysis	3(3-0)
9.	MATH-713	Topology	3(3-0)
10.	MATH-714	Complex Analysis	3(3-0)
11.	MATH-715	Mathematical Physics	3(3-0)
12.	MATH-716	Combinatorics	3(3-0)
13.	MATH-717	Special functions	3(3-0)
14.	MATH-718	Modeling and Simulation	3(2-2)

15.	MATH-719	Special Problem	1(1-0)
16.	MATH-720	Seminar	1(1-0)
17.	MATH-721	Functional Analysis	3(3-0)
18.	MATH-722	Partial Differential Equations	3(3-0)
19.	MATH-723	Rings and Fields	3(3-0)
20.	MATH-724	Optimization	3(3-0)
21.	MATH-725	Vector and Tensor Analysis	3(3-0)
22.	MATH-726	Integral Equations and Variational Calculus	3(3-0)
23.	MATH-727	Fluid Mechanics	3(3-0)
24.	MATH-728	Analytical Dynamics	3(3-0)
25.	MATH-729	Quantum Mechanics	3(3-0)
26.	MATH-730	Differential Geometry	3(3-0)
27.	MATH-731	Special Relativity	3(3-0)
28.	MATH-732	Galois Theory	3(3-0)
29.	MATH-733	Measure Theory	3(3-0)

Standard 2-1: The curriculum must be consistent and support the Program's documented objectives.

The curriculum is designed according to HEC criteria. The Curriculum also fulfilled the general requirements of the degree, it is well updated .

Standard 2-2: The curriculum supports the programs documented Objectives

The curriculum fits very well and satisfies the core requirements for the program's documented objectives.

Standard 2-3: Theoretical backgrounds, problem analysis and solution design must be stressed within the program's core material

Currently, the department is only offering the masters degree. The requirements for the degree are briefly discussed.

Table 6: Statistics Courses versus Program Outcome

	Elements		
	Theoretical Background	**Problem Analysis**	**Solution Design**
Courses	MATH-700, MATH-702, MATH-713, MATH -714, MATH -717, MATH -721, MATH -723, MATH -728, MATH-730, MATH -731, MATH-732, MATH-733, STAT-725, STAT-726, STAT-700, STAT-701.	MATH -703, MATH -705, MATH -709, MATH -711, MATH -712, MATH -715, MATH -716, MATH -718, MATH -719, MATH -722, MATH -723, MATH-724, MATH-725, MATH-726, MATH-727, MATH-728, MATH-729, MATH-712, STAT-713, STAT-716.	MATH -700, MATH -702, MATH -705, MATH -709, MATH -711, MATH -712, MATH -713, MATH -714, MATH-715, MATH -716, MATH -718, MATH -719, MATH -720, MATH -721, MATH -722, MATH -723, MATH-724, MATH-725, MATH-726, MATH-727, MATH-728 MATH-729, MATH-712, STAT-713, STAT-716, STAT-725, STAT-726,

Standard 2-4: The curriculum satisfied the core requirement laid down by accreditation bodies

Not Applicable

Standard 2-5: The curriculum satisfied the major requirement laid down by HEC.

The curriculum satisfies the major requirement laid down by HEC.

Standard 2-6: The curriculum satisfied the general education, arts and Professional and other discipline requirement as laid by HEC

The important courses that indicate this component are included in the curriculum and are being carried out in all the current disciplines successfully and are being taught by technically qualified teachers. These courses include:

- STAT-725   Mathematical Statistics   3(3-0)

- STAT-726   Stochastic Processes   3(3-0)
- STAT-700   Elements of Statistics and Biometry   3(3-0)
- STAT-701   Experimental Statistics   3(3-0)
- STAT-712   Multivariate Analysis   3(3-0)
- STAT-713   Statistical Quality Control and Reliability   3(2-2)
- STAT-716   Survey and Research Report   4(2-4)
- CS-708   Discrete Mathematics   3(3-0)

Standard 2-7: Information technology component of the curriculum must be integrated throughout the program.

The Practical oriented information technology courses are included in the curriculum. Highly qualified teachers teach these courses and help the students to improve their computer and communication skills.

- MATH-709   Computer Programming   3(2-2)
- MATH-718   Modeling and Simulation   3(2-2)
- MATH-719   Special Problem   1(1-0)
- MATH-720   Seminar   1(1-0)

These courses are practical oriented and help the students to do research not in their major subjects longer but also make them capable to do social research, communicate with the society and describe the issues faced by the people and resolve their issues.

CRITERION 3: LABORATORIES AND COMPUTING FACILITIES

There is just one personal Laboratory with 10 computer systems. Computer Laboratory is used for practical purposes and demonstration to postgraduate students in their introductory major and practical oriented courses. Therefore advance research is nearly inconceivable with out suitable research facilities like high tech lab, access to international publications and research resources and other computer accessories. Updated software's are required.

Shortcomings in Lab infrastructure

- Software Manuals of each subject are not available.
- Lab Technician is required

Location and Area:

Faculty of Sciences, Department of Mathematics and Statistics, 1ˢᵗ floor, New Academic Block.

Adequacy for instruction:

Instruction tools like one multimedia is available in the department which does not fulfill the requirement of the department as the two multimedias are still required for two class rooms.

Standard-3.2: There must be support personal for instruction and maintaining the laboratories

Laboratories are maintained by only two Laboratory Attendant. No technical assistance is available. The Laboratory Attendant does not have a relevant knowledge and training.

Standard-3.3: The University computing infrastructure and facilities must be adequate to support program's objectives

➢ **Computing Facilities Support:** Available to all Faculty members but this computing facilities is not available to the post graduate students.

➢ **Safety arrangements:** There is no proper safety arrangement and no security plans are in the case of emergency. This program is being taught in class rooms that are located on the 1st floor; there is no emergency exit for the lab and classroom. No fire extinguishers have been installed in any laboratory. No first aid kits/ facilities provided in the laboratory.

CRITERION 4: STUDENT SUPPORT AND ADVISING

The supportive and cooperative faculty for the program of mathematics has always been providing future and career guidelines to the students.

Standard-4.1: Courses must be offered with sufficient frequency and number for students to complete the program in a timely manner

- The courses offered are specifically designed to fulfill the requirements of public and private sector industries or institutions.
- At postgraduate level Course subjects are offered as per scheme of study provided by HEC.
- Elective courses are offered as per strategy of HEC and the university. The courses from outside the department are also offered as per scheme of study provided by HEC.
- For post graduate Programs, a variety of courses are offered according to demand of the profession.

Standard-4.2: Courses in the major area of study must be structured to ensure effective interaction between students, faculty and teaching assistants.

- In the Mathematics program, normally for the courses consisting of theory as well as practical, same instructor is employed so that the problems can be minimized.

- To be certain effective interaction between students, faculty and teaching assistants at the time of course formulation both theoretical and practical aspects are targeted.

- Theoretical problems with applications are also explained and different assignment is also given to the students whereas practical are carried out in the lab.

- Mathematics is a very broad subject so the emphasis is always given on its practical aspects in different field of science.

Standard-4.3: Guidance on how to complete the program must be available to all students and access to qualified advising must be available to make course decisions and career choices.
Several steps have been taken to provide students guidance such as:

- Many scholar aid programs regarding admission, scholarship schemes, and many others are provided by university.
- The teachers prove to be a gigantic parental help for the students and are always trying to solve student problems.

- The teachers prove to be a big parental support for the students and are helpful in solving students' problems, however currently there is no parent teacher association.

- Students are informed about the program requirement through the office of the Chairman.
- Director, Student Affairs are appointed by university who is ready to help the students for tutorial and counseling for extracurricular activities. However there is no counseling cell.
- Realizing the need for exploring job opportunities for the university graduates, Directorate of placement bureau has been established.

Weaknesses:

- Student advisory committee should be formed at this level.

- There is no such arrangement of job festivals, seminars and other communication skills for scholars to engage with the worldwide world.

CRITERION 5: PROCESS CONTROL

The program exercises quality control in the entire techniques where in predominant capabilities are delivered. As the scholar becomes the responsibility right after the admission, the process begins from his admission and registration leading in the direction of the end of the academic years and even after that. It's the responsibility to maintain fine control in each process of the education life of the scholar for which some necessities must be met:

Standard-5.1: The process by which students are admitted to the program must be based on quantitative and qualitative criteria

- The applications of the candidates are permitted within the due date of admission announced by the institution in an advertisement in the newspapers and on the university web site.

- Number of seats available in the discipline is approved by the Academic council.

- The candidate looking for admission need to be resident of Punjab Barani areas except the children of university employees. Depending upon the availability of seats, the candidates from the areas external from the Barani areas are additionally eligible.

- The student seeking admission to the degree of master of mathematics must have passed the bachelor degree examination with 2nd division at least in a field of study relating to the subject. The process of admission is a reputable process and is followed as per rules and criteria set by the university. For this purpose an advertisement is given in the national newspapers and on the university website by the Registrar office which announces the date of the merit lists.

- The lists are displayed right after the completion of whole processes. The selected students are offered register their names after paying the fee dues.

Standard-5.2: The process by which students are admitted to the program must be clearly documented. This process must be periodically evaluated to ensure that it is meeting its objectives

- After the submission of fee, the student names, after completion of the admission process, are forwarded to the registrar office for suitable registration in the prescribed discipline and registration numbers are issued to the scholars.

- Scholars are evaluated through Mid, final and useful practical oriented test and through assignments and exclusive research proposals. Subject Quizzes are also helpful for the evaluation of capabilities of scholars.

- Evaluation is done through the result of each semester, if the students fulfill criteria of the university; they are promoted to the next semester.

Standard-5.3: The process by which students are registered in the program and monitoring of students progress to ensure timely completion of the program must be documented. This process must be periodically evaluated to ensure that it **is meeting its objectives**

- Recruitment policy followed the university is recommended by HEC induction of all posts is done as per rule. Vacant and newly created posts are advertised in the national newspapers and on the university website; 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 by the university.

- The candidates are interviewed by the university selection board. The candidates having any previous experience, publications or any additional qualification are entertained. Principal and alternate candidate are selected on merit.

- Appointment letter has been given to employees after the Syndicate approval.

- Induction of new candidates depends upon the number of approved vacancies.

- Standard set by HEC are considered.

- At present, no procedure exists for retaining highly qualified faculty members, however, the revised pay scales of structures is quite attractive.

- HEC also supports appointment of highly qualified members as National Professors and deputes them in various departments of the university.

Standard-5.4: This process must be periodically evaluated to ensure that it is meeting its objectives.

- As it has already been mentioned that the department of mathematics has limited no of teachers but due this they have performed well and achieved the good and maximum goal with the minimum number of time.

- The teachers teach in a friendly way and revise and update the curriculum as required.

- Although the subject books form the authentic authors are hardly available in the library but their cheap Asian editions are available in the markets. Teachers also provide the students with photo state copies of some important books, documents and notes.

- Teachers organize their lectures from the books and from internet and provide them to scholars. Students are additionally given small study assignments, which, the teachers know that they can go through with the support of literature and web facility available in the university library..

- Seminars are also being conducted at small level so that to motivate and guide the students to do research.

Standard-5.5: The process of recruiting and retaining highly qualified faculty members must be in place and clearly documented.

- The evaluation of the students' capabilities is a continuous process which carries on throughout the academic years. The evaluation procedure consists of quizzes, mid and final examinations, practical formulas, assignments and reports, oral and technical presentations.

- At the end of the academic years, the final examinations are held after which, the result is notified. The exams are taken to assess the capabilities of students by asking applied questions and problems about the different dimensions of the subject which help the students to be completely evaluated. Only the students passing this exam are awarded the degree.

- Candidates who secure 80% or more are awarded a gold medal are awarded to the students on the annual convocation that is held late every year.

CRITERION 6: FACULTY

Standard 6-1: There must be enough full time faculty who are committed to the program to provide adequate coverage of the program areas/courses with continuity and stability

Table 7: Faculty Distribution by Faculty Specialization

S. No.	Name	Position	Qualification	Specialization
1	Dr. Muhammad Hanif	Professor	Ph.D	Probability and Stochastic Analysis.
2	Dr. Saima Mustafa	Associate Assistant Professor	Ph.D	Complex Analysis. Geometric Function Theory
3	Dr. Muhammad Jamal	Associate Professor	Ph.D	Mathematical Modeling & Simulation, Analytical Dynamical Systems.
4	Mr. Nasir Jamal	Assistant Professor	M.Phil	Statistical Methods, Survey Sampling.
5	Mr. Nasir Ali	Lecturer	M.Phil	Sampling Techniques, Time Series Analysis.

6	Ms Beenish Shakir	Lecturer	M.Phil	Numerical Analysis

The faculty currently consists of one Associate Professor, three Assistant Professors and two Lecturers. However, the department is in short of teaching faculty as there are two Phd for teaching major subjects.

Standard 6-2: The interests and qualifications of all faculty members must be sufficient to teach all courses, plan, modify and update courses and curricula.

As mentioned earlier, there is limited number of the faculty members for this program. The program is initiated in 2014 and since then only one faculty member in the year 2016 is appointed. As it has been mentioned earlier that department has received highly positive response from the public within a limited number of time, so highly qualified faculty is required so the program productivity can be enhanced by introducing the M.Phil and Phd programs as per HEC rules. Professional training and availability of adequate research and academic facilities are required to the faculty members.

Standard 6-3: All faculty members must have a level of competence that would normally be obtained through graduate work in the discipline. The majority of the faculty must hold a Ph.D in the discipline

Meanwhile, three regular faculty members for Mathematics and four faculty members for statistics are working in the program. The program activities are being carried out with the help of visiting faculty. As mentioned earlier, any faculty member if interested in any research or education improving program is fully and immediately supported. There is healthy working environment for the faculty members. There is complete cooperation amongst them. Teachers of the program are actively engaged in imparting quality education. So far, the faculty members of the Mathematics program have cooperated in every step taken by the university to obtain the program objectives. They are always interested in improving the quality of education.

CRITERION 7: INSTITUTIONAL FACILITIES

The university has one central library which is facilitated with books and literature about the subject.

Standard- 7.1: The institution must have the infrastructure to support new trends in learning such as e-learning

The subject of mathematics has wide applications in many field of sciences such as in fields of statistics, economics, agriculture and computer science, so the subject needs a constant

update of knowledge. To be updated in the different theories and methodologies, the facility of internet is an essential component.

The faculty members of the mathematics department are always prepared to be innovative and practical oriented in their subject. They should have access to new and authentic software which are helpful in studying theories and concepts of subject e.g., MATLAB, Maple and Mathematica and R language etc.

Weaknesses:

- Recommended books of the Mathematics program are not available to the students in the main library. There should be mini Library in the department.
- Allocation of separate budget is required for books and other stationery.

Standard- 7.2: The library must possess an up-to-date technical collection relevant to the program and must be adequately staffed with professional personnel

- The library has a computer lab consisting of minimum number of personal computers. The lab has been facilitated with the internet facility. There is the need of separate library for the program.

- The access to various web sites of prestigious research journals and publications e.g. Jstor, and science direct provided by HEC is also available in the lab. Electronic library books and journals are available for learning purpose via Higher Education Commission.

Standard- 7.3: Class-rooms must be adequately equipped and offices must **be adequate to enable faculty to carry out their responsibilities**

- There is one class room and one room is being shared up with program. As mentioned earlier, there is one computer lab is equipped with 10 personal computers.

- The faculty offices are also not sufficient to accomplish the requirements of all the faculty members.

Weaknesses:

- Insufficient classrooms available because of which we have to use the computer lab instead of classroom.

- Class rooms must be adequately equipped and offices must be adequate to enable faculty to carry out their responsibility. There should be proper facility of multimedia in each classroom.

CRITERION 8: INSTITUTIONAL SUPPORT

Although the institute is fully supportive and cooperative but the financial resources in this respect are insufficient. Let us study the standards to meet this aspect.

Standard 8.1: There must be sufficient support and financial resources to attract and retain high quality faculty and provide the means for them to maintain competence as faculty and scholars

- The university is almost trying to provide every facility available to the faculty individuals to improve their qualifications and upsurge their careers.
- The environment is extremely friendly and comfortable. All the faculty members move with complete harmony and are very accommodative with each other. The courses are assigned with the total consent of the teacher.

Weaknesses:

- There is a need of PhD qualified teachers and scholars.
- Insufficient secretarial support, technical staff and office equipment.
- There should be separate computer assistant for the program.
- The number of faculty members is insufficient for the program.
- Separate class rooms are required. Due to unavailability of class rooms, classes are taken in the labs.

Standard 8.2: There must be an adequate number of high quality graduate students, research assistants and PhD students.

The number of graduates in the last two years is 160 in M.Sc program and one batch consisting of 80 students has been passed out.

Standard- 8.3: Financial resources must be provided to acquire and maintain Library holdings, laboratories and computing.

There is the combined budget for department of Mathematics and Statistics for the year 2014-16 is almost 50,000. There is no separate budget for this program. The said budget includes the financial resources for stationary, the maintenance of the computer laboratory and purchase of consumable items and books.

SUMMARY

The Self Assessment report of M. SC Mathematics from the year 2014-16 gives an overview of the program objectives an also highlights the shortcomings of the program that need to be overcome in order to run the program effectively. The initiation of the said program was in 2014 and since then this discipline has become an active program in PMAS University. The said program got the positive and fruitful progress from the public within a very short period of time. In this SAR, the program mission and objectives are prescribed and outcome is assessed on the basis of said objectives. Program outcomes are to be more satisfactory within a very short period of time. The outcome of the said program brought remarkable progress among the students; most of them got good jobs in the different organizations. Besides, highly administrative qualities and good communication skills, self confidence, has also groomed their personalities and moral character. The curriculum reflects satisfactory standards as it has been designed as per HEC criteria. Different strategic plans have also been prescribed for the enhancement and development of the program. The Self Assessment results evaluated through Performa1 and Performa 10 are satisfactory and students are highly satisfied on quality of education and on teaching methods of the faculty. They have shown the positive response on teachers' punctuality and fairness of examination. They also highlighted the problem of restricted no of classroom, deficiency of personal computer laboratory and the said infrastructure should be up to date by using latest computers and the softwares. The program needs a separate representation as per HEC criteria and highly qualified faculty is required for futher initiation of M.Phil and Phd program. Presently there are only three faculty members for teaching the major subjects of the said discipline and this thing needs to be improved. However the faculty member needs motivation and funds for the latest research. However the faculty members are satisfied from their jobs but their efficiency has been decreased due to a major workload problem. According to employer survey Performa, the said program has produced good mathematician as most of students got good jobs and admitted in M.Phil program in different universities. The institutional facilities are measured by criteria at the department needs the mini library, class rooms and faculty offices and all these shortcomings are highlighted in this SAR. The financial resources are measured by criteria 8, the program should have a separate budget for the further enhancement and development of the program. If the said problems have been resolved then this program can bring a fruitful results for the betterment of university.

Performa 9:

FACULTY RESUME

Name:	Dr. Muhammad Hanif
Personal:	Father Name: Siraj Din Marital Status: Married Nationality: Pakistani National ID: 35404-5292007-3 Email: hanif@uaar.edu.pk mhpuno@hotmail.com Phone: +92-51-9290016
Experience:	12 year
Honors and Awards	Chinese Govt Scholarship
Memberships	No
Graduate Students Postdocs Undergraduate Students Honor Students	Yes
Service Activity	Teaching, Research
Brief Statement of Research Interest	Limit theory in probability and large sample theory in statistics. Statistical Inference for Stochastic Processes
Publications	7
Research Grants and Contracts	No
Other Research or Creative Accomplishments	No
Selected Professional Presentations	No

FACULTY RESUME

Name:	Dr. Saima Mustafa
Personal:	saimamustafa28@gmail.com 0333-5249362
Experience:	16 years
Honors and Awards	COMSATS Scholarship in PhD
Memberships	Board of Faculty (Sciences) Board of Study Department of statistics Admission Committee ,Department of Statistics Comprehensive Committee, Department of statistics
Graduate Students Postdocs Undergraduate Students Honor Students	M.phil Statistics Supervision = 29 students Co-supervision =24 .
Service Activity	Teaching
Brief Statement of Research Interest	➢ Geometric Function Theory ➢ Complex Analysis ➢ Optimization Theory ➢ Numerical Analysis ➢ Operations Research
Publications	8
Research Grants and Contracts	-
Other Research or Creative Accomplishments	As described above
Selected Professional Presentations	Workshops, seminars

FACULTY RESUME

Name:	Dr. Muhammad Jamal
Personal:	Department of Mathematics & Statistics, Pir Mehr Ali Shah Arid Agriculture University, Rawalpindi, Pakistan. jamal@uaar.edu.pk Contact: +92-51-9062777
Experience:	12 years
Honors and Awards	Chinese Government Scholarship in PhD.
Memberships	- Admission Committee, Department of Mathematics & Statistics. - Quality Enhancement Cell (QEC) team member, Department of Mathematics & Statistics.
Graduate Students Postdocs Undergraduate Students Honor Students	M.Phil Statistics Supervision = 5 students
Service Activity	Teaching.
Brief Statement of Research Interest	- Mathematical Modeling & Simulation. - Mathematical Biology. - Analytical Dynamical Systems.
Publications	5
Research Grants and Contracts	-
Other Research or Creative Accomplishments	As described above
Selected Professional Presentations	-

FACULTY RESUME

Name:	Miss Beenish Shakir
Personal:	Department of Statistics & Mathematics, Pir Mehr Ali Shah Mehr Ali Shah Arid Agriculture, University Rawalpindi, Pakistan. beenishshakir@yahoo.com 0331-7240865
Experience:	3 years
Honors and Awards	Nil
Memberships	Admission Committee ,Department of Statistics and Mathematics, QEC member, Department of statistics
Graduate Students Postdocs Undergraduate Students Honor Students	Nil
Service Activity	Teaching
Brief Statement of Research Interest	➢ Numerical Analysis ➢ Analytic Dynamics ➢ Differential Equations
Publications	Nil
Research Grants and Contracts	-
Other Research or Creative Accomplishments	As described above
Selected Professional Presentations	-