



Special Issue: May 2021 to June 2022

E-NEWSLETTER STATISTICS DEPARTMENT LCWU



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Lahore College for Women University



Special Issue: May 2021 to June 2022

E-NEWSLETTER, STATISTICS DEPARTMENT LCWU

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Vice Chancellor's message

Welcome to Lahore College for Women University, one of the largest and oldest University for women in the country responsible for providing quality higher education and research opportunities in diverse fields. This institute has been actively playing its role in empowering generations of women and has been contributing in the socio-economic development of country since its inception in 1922.

The University offers graduate, postgraduate and doctoral programs of studies in various subjects. The University is educating and training potential women leaders as scientists, engineers, artists, IT professionals, doctors, social scientists, politicians, educationists and a highly competent work force to meet the challenges of the contemporary world.

Greetings to the Statistics department for launching its first E-Newsletter on the eve of 75th celebrations of Independence Day. It is one of the oldest and enlisted among the most progressive departments of LCWU. Department has made a tremendous progress in the past few years. This E-Newsletter is indeed a great opportunity to provide its reader full insight of the activities and accomplishments of the faculty and students of the Department of Statistics

throughout the year. I would specially congratulate department on signing Letter of Intent with university of Colorado boulder, USA.

I look forward to considerable brilliance by Statistics department.



Prof. Dr. Bushra Mirza (T.I.)

Vice Chancellor

Lahore College for Women University, Lahore



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Dean's Message

Greetings and heartiest congratulations to the Department of Statistics for launching its first E-Newsletter. It is an excellent and incredible way of exhibiting departmental activities, progress and achievements. I must adhere to the fact that Statistics Department, LCWU has made a tremendous progress in the past few years and has gigantically boosted image of Statisticians, by facilitating research scholars from other departments of LCWU and by providing them in campus trainings. In addition, the participation of faculty and students in various academic activities is also worth mentioning and adds much more to their contribution.

Hence, it can be mentioned quite profoundly that the Faculty of Statistics Department and students of Statistics Department both have played a vital role as the effective research collaborators at LCWU. I would specially congratulate the department on signing Letter of Intent with University of Colorado Boulder, USA.

Many good wishes for the future endeavors of Statistics Department.



Professor Dr. Muhammad Afzal

Dean, Faculty of Arts & Social Sciences, LCWU

Chairperson's message

It is the moment of immense pleasure for me to launch the first E-Newsletter of Statistics Department. Its first issue is being dedicated to the 100 years celebrations of LCWU and 75th anniversary of Pakistan. Brief history of Statistics Department LCWU and some exciting highlights about the department are presented in the newsletter which cover the period of May, 2021 to June, 2022.

I am highly grateful to worthy Vice Chancellor, Professor Dr. Bushra Mirza (T.I.) for her continuous support to Statistics Department. It is only due to her visionary leadership and patronage that Statistics Department has made remarkable progress. I also want to extend sincere gratitude to Dean FASS, Dr. Muhammad Afzal for his valuable support, persistent guidance and encouragement. This whole achievement seems incomplete without paying appreciation to the faculty of Statistics Department, non-teaching staff, administration and internees of LISA-LCWU for their efforts and support to conduct all activities of the department efficiently and smoothly. Our faculty members and students participated in various national and international conferences in this time period and thirty four papers were presented by them. LISA-LCWU (Laboratory for interdisciplinary Statistical Analysis, LCWU) organized sixteen workshops, four seminars/webinar, poster competition and data analysis consultancy desk. We have recently signed a Letter of Intent (LoI) with the University of Colorado Boulder, USA which will also be a way forward towards growth of the department. I hope Statistics Department will progress at the same pace in the future years.



Dr. Asifa Kamal

Chairperson, Department of Statistics, LCWU



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HISTORY OF STATISTICS DEPARTMENT

The subject of statistics is not only multidisciplinary, it is also multidimensional as it is widely put to use in almost all physical and applied sciences. It provides a better understanding and accurate description of nature's phenomena and helps in proper and efficient planning of a statistical inquiry in any field of study. It not only changes our lifestyle but also helps us to be more efficient and effective in decision making. Statistics is used in analyzing many social and economic phenomena, marketing research, behavioral studies in physical and natural sciences.

In today's world of emerging data science, most of the Data Scientists always invest more in pre-processing of data. This requires a good understanding of statistics, hence making it an important discipline in regulating the work, analyzed in the world of big data.

Statistics was introduced as a subject at Lahore College for Women in 1962, with the first class comprising of 3 students only. Its bachelor's level commenced in 1964 with only 11 students. Currently more than 1000 students of under graduate and graduate level are being benefited by Statistics Department. The number of students opting to study statistics at both intermediate and bachelor level has increased significantly over the years on account of its wide application in various fields. It has become natural choice of students as it provides them with the exposure essentially needed in different fields of study, thus adequately preparing them for the job market. Over the years the interest in the subject has increased significantly. The Department launched its 4 years BS program in 2005 with the aim to impart quality education for developing logical and analytical skills of students to prepare them for future careers. To achieve the aim of developing advanced competencies in research, Statistics Department launched its MS program in 2013 which was designed to produce high quality statisticians by giving the students a research based learning environment. The following chairpersons of the Department of Statistics have contributed towards the development of a well-established department at LCWU:



Mrs. Zubaida Shami



Mrs. Zohra Bashir



Mrs. Khalida Afzal



Ms. Zahra Majid



Dr. Ayesha Roohi



Dr. Naila Amjad



Ms. Mahnaz Makhdom



Dr. Asifa Kamal



STATISTICAL SOCIETY OF LCWU

The Statistical society of LCWU, Lahore was established in early 1990s to promote research activities and trainings to develop an understanding of Statistics methods and applications. The society also aimed at inculcating awareness on the importance of Statistics among the students and researchers linked to both the social and physical sciences. It provides a forum for exchange of ideas among statisticians.

Since its inception the society has been promoting activities beneficial to the students in their academics and application of theory to resolve statistical problems. Further, the society has been holding quizzes and poster competitions and also arranging lectures of eminent statisticians from time to time.

By its sustained activities, the society has been endeavoring to develop the statistical thinking and correct interpretation of statistical outcomes.

LISA-LCWU

LISA-LCWU has been established under the umbrella of Department of Statistics, LCWU in May, 2020. LISA stands for The Laboratory for Interdisciplinary Statistical Analysis (LISA) founded by the University of Colorado Boulder (UCB), USA, under the dynamic leadership of its Director Dr. Eric Vance (Associate Professor Statistics). It aims to build capacity of Statistics and Data Science in developing countries by creating a robust network of laboratories of collaboration called as “stat labs”. This program trains statisticians and supports them to apply statistics to solve real-world problems. It provides research facilities to help researchers, government officials, medical personnel and local industries to apply statistical methods to solve problems and make data driven decisions. It also focuses on conducting short courses and workshops to improve statistical capacity and literacy. There are bright prospects that it will really impact the University’s ranking by projecting the faculty of LCWU positively in the international research community.



E-NEWSLETTER, STATISTICS DEPARTMENT LCWU ACHIEVEMENTS OF THE DEPARTMENT

LETTER OF INTENT: 13TH APR 2022

A Letter of Intent (LOI) was signed between the Department of Statistics LCWU, Pakistan and the Department of Mathematics University of Colorado Boulder, USA on 13th April 2022. The LOI was facilitated by Office of Research, Innovation and Commercialization (ORIC), LCWU. Dr. Asifa Kamal, Chairperson Department of Statistics, LCWU and Dr. Eric Vance, Associate Professor Department of Mathematics UCB, have been designated as coordinators. Major benefits of this program include collaboration in research projects, holding joint conferences, seminars and workshops. Both institutions will work in areas of mutual interest and sharing of academic data, publications and updated information. Another possible outcome of this letter is that the Joint supervision of Masters and Ph.D student's research activities will be provided. It will also be a way forward towards sustainability of LISA-LCWU (Statistical collaboration laboratory in Department of Statistics, LCWU Lahore) to be affiliated with LISA 2020 Program at Mathematics University of Colorado Boulder, USA.



Best Executed Strategy Award of Sustainability Experiment



Dr. Asifa Kamal and her team presented the proposal and preliminary report comprising of experiment results and findings of activities expedited in the Sustainability experiment held at LISA-LCWU in the first quarter of 2022 entitled; **"Can Four Wheels (Webpage, Office, Collaborators and LOI) Drive LISA-LCWU on Sustainable Track?"** and won the **best talk and best executed strategy award** among the participants from all over the world.



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ACHIEVEMENTS OF THE DEPARTMENT

BEST POSTER AWARD

Pakistan Institute of Statistical Training and Research (PISTAR) organized a Virtual conference on Latest Developments in the Theory and Practice of Sample Surveys and Censuses sponsored by International Association of Survey Statisticians. One of our MS students, Abeera Shakeel, under the supervision of Dr. Asifa Kamal presented research poster in the PISTAR competition and won the Best Poster Award along with Prize money 75 euros.

The panel of judges was comprised of International and national personnel including: Professor Dr. Thomas Lumley (New Zealand), Dr. Fulvia Mecatti (Italy), Professor Omer Ozturk (USA), Dr. Alessandra Petrucci (Italy), Dr. Noor-ul-Amin (Pakistan) and Dr. Nadia Mushtaq (Pakistan).

Statistical Data Analysis Consultancy Desk



LISA-LCWU, Statistics department also organized two-day Statistical Data Analysis Consultancy Desk Activity. The aim of this event was to provide collaboration/ consultancy services to the researchers of different areas for better handling of the research data. There were total seven desks including, data entry and descriptive analysis, data visualization, hypothesis testing, data modeling, ANOVA and non-parametric methods. The desks provided statistical analysis guidance to researchers by checking the research objectives and purpose of the research.



LISA-LCWU collaborators conducted it under the mentorship of faculty of the Statistics Department. Researchers from different departments including Biotechnology, Zoology, Economics, Environmental sciences, Education, Home-Economics, English literature etc. got the guidance for statistical analysis. They found Consultancy desk very effective in improving the quality of their research work.

Honorable Vice Chancellor of LCWU graced the event with her presence to encourage and motivate students and faculty of the Statistics Department. She appreciated the Chairperson, Dr. Asifa Kamal, faculty and students of the Statistics Department for taking this initiative. She suggested good tips regarding collaboration between statisticians and domain experts from other discipline to improve quantitative research.





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ACHIEVEMENTS OF THE DEPARTMENT

Conference Participation at GCU, Lahore



Chairperson, Department of Statistics, LCWU, Dr. Asifa Kamal was a keynote speaker of the conference and also chaired a session, titled as “Role of Statistics in Public Health”

The Department of Statistics, Lahore College for Women University participated in the 2nd International Conference on Statistical Sciences on the theme of Applied Statistics & Sustainable Development Goals organized by Government College University Lahore on 9th - 10th March, 2022. Special sessions on topics such as Sustainable Development Goals, Probability and Distribution Theory, Regression and Time Series Analysis, Survey Sampling, Medical and Bio statistics, Applied Statistics, Demographic and Medical Statistics, Quality Control, and Industrial Statistics were held during the conference.



Seventeen researchers from the Statistics Department successfully presented their research work including fourteen undergraduate and three postgraduate level researches.

Conference Participation at University of North Carolina Greensboro, USA

The University of North Carolina Greensboro, USA had organized a three days Virtual International Conference on "Advances in Interdisciplinary Statistics and Combinatorics 2021" on 8th-10th, Oct, 2021. The conference featured special sessions covering a variety of contemporary topics such as Causal Inference, Design of Experiments, Survey Sampling, High Dimensional Data Analysis, Big Data, Data Science/Machine Learning, Deep Learning, Bayesian Statistics, Topological Data Analysis, Functional Data Analysis, Distribution Theory, Survival Analysis, and Statistical Consulting.

The Statistics Department Lahore College for Women University also participated in this conference. Total Thirteen presenters from the faculty as well as the postgraduate students from the Statistics department, LCWU fully participated in this conference and successfully presented their research work. Dr. Naila Amjad, Dr. Maryam Hafeez, Dr. Sadia Khalil and Ms. Naz Saud presented their work. Dr. Asifa kamal also chaired a session on 9th Oct 2021 titled “Analysis of Public Health Data” and Dr. Sadia Khalil, Assistant professor was also appointed to chair a session on “Sampling Methods”. The Organizer, Dr. Sat Gupta congratulated and appreciated Statistics department LCWU for their positive contribution.





STATISTICAL SOCIETY EVENTS

Conditional Density Estimation Using Population Monte Carlo Based Approximate Bayesian Computation

Statistical Society has organized a lecture on 17th March, 2022, on the topic of “Conditional Density Estimation Using Population Monte Carlo Based Approximate Bayesian Computation” for students of undergraduate and postgraduate programs. Ms. Faiza Afzal, Visiting Faculty, Department of Statistics was the resource person of the seminar.



The lecture was very informative for students as well as faculty members in understanding the Bayesian Computation for complex models under limited simulations. The objective of the proposed technique was to draw inferences and compute complex expectations of model parameters. This lecture was an addition to students' knowledge regarding Bayesian estimation. The resource person also suggested some future recommendations to extend the proposed framework.

Optimal Score Functions for Robust Estimation of Multilevel Models in the Presence of Outliers



Lecture for students of undergraduate and post graduate programs was organized on 21st Feb., 2022. Dr. Sehar Saleem, lecturer, Department of Statistics was the resource person of the lecture. The students as well as faculty members gained knowledge about the Multilevel Models. This seminar also helped students in deciding their future area of research in this field.

How Statistics Specialists Can Help In Medical Research

Lecture on “How Statistics Specialists can help in Medical Research” was organized on 15th July, 2021 to share research knowledge with young statisticians.



The lecture was chaired by Dr. Asifa Kamal and Ex. COD Ms. Mahnaz Makhdom was invited as guest. The resource person was Dr. Abdul Rehman Khawaja (late), HOD Biostatistics and CEO of Medical Statistics Research Academy, Lahore. The Lecture focused on selection of innovative topics, writing of research proposal and to conduct research in the medical field. Dr. Khawaja also guided how to communicate research findings in the form of journal publication.



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STATISTICAL SOCIETY EVENTS

Poster Competition “Let the data speak”

In celebration of 100 years of LCWU, the Statistics Department organized a Poster Competition, titled as “Let the data speak” in collaboration with ORIC. The purpose of the competition was to bring together young researchers and practitioners. The event provided a forum to showcase the research, and to promote interdisciplinary collaborations. The worthy Vice Chancellor Dr. Bushra Mirza, honorable Dean Faculty of Arts and Social Sciences Dr. Muhammad Afzal, Director ORIC, Director DFDI, judges and guests graced the event with their kind presence.



Total 53 posters were presented in this competition under the categories of BS, MS and Ph.D. The other departments also participated in the competition. The posters were evaluated by the honorable judges Prof. Dr. Mian Mohammad Hanif, Prof. Dr. Ayesha Roohi, Dr. Jamal Abdul Nasir, Ms. Mahnaz Makhdom and Dr. Sharqa Hashmi. The Chairperson of Statistics Department, Dr. Asifa Kamal shared her views about the event and highlighted the achievements of the Statistics Department of LCWU on national and international levels. The worthy Vice Chancellor, Dr. Bushra Mirza addressed the gathering and appreciated the participants. Members of the jury valued the presenter's hard work and enthusiasm and then announced the winners among them.

The 1st, 2nd and 3rd positions in other departments category were attained by Nazish (Applied Psychology), Sidra Rasheed (Geography) and Saira Arshad (Economics) respectively. The 1st, 2nd and 3rd positions in the MS Mathematical Statistics category, were achieved by Aqsa Rafique, Mehak Taufiq, Jiya Amir. The positions in MS Applied Statistics category were: obtained by Sadaf Malik, Tanzila Noor & Adan Kamran, and Faiza Ilyas. Similarly, in BS Mathematical Statistics category, 1st position was secured by Neeha Aamer and Aqsa Rafique, the 2nd and 3rd position holders were Aatika Riaz and Fatima Majeed respectively. In BS Applied Statistics category, 1st place was secured by Sana Nazir, Ayesha Mumtaz got 2nd position and 3rd position was secured by Iqsa Waseem & Areej Arshad. In the BS Project category, the 1st, 2nd and 3rd position holders were Afrah Hafeez, Humera Afzal and Ayesha Sadiq respectively.



ACTIVITIES OF LISA-LCWU

Workshop on Data Analysis using SPSS in collaboration with DFDI

The Directorate of Faculty Development & Internationalization, LCWU organized 6-days training workshop in collaboration with LISA-LCWU on “Data Analysis using SPSS” from 27th Sep -6th Oct 2021. Dr. Asifa Kamal, Chairperson, Department of Statistics was the resource person. More than 40 faculty members and PhD scholars from different Departments of LCWU and from other institutions like Lahore leads University & DMC/Services Hospital participated in these training sessions.

The opening ceremony of the workshop was honored by the worthy Vice Chancellor Professor Dr. Bushra Mirza. Madam Vice Chancellor emphasized faculty of LCWU to equip themselves with skills and knowledge of softwares that help them to analyze data generated through their research projects. The closing ceremony was graced by Dr. Uzma Ashiq Khan, Chairperson of GDS, Dr. Mujahida Butt, Chairperson of Punjabi Department, Dr. Rehana Kausar, Chairperson of Urdu Department, LCWU and Dr. Bisma Ejaz, Head ACP and Director DFDI, LCWU. The chief guest distributed the certificates among the participants, resource persons and organizing committee. Participants highly appreciated the efforts of DFDI for organizing such kind of useful training.

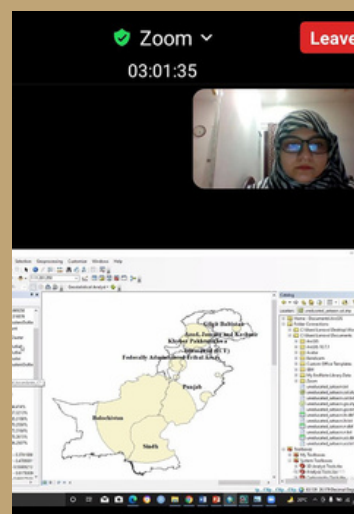
Workshop on Mendeley



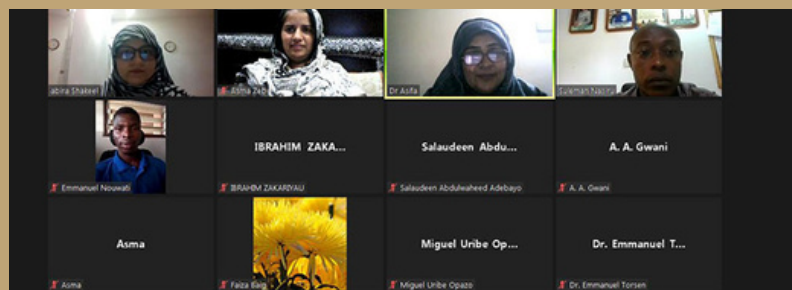
A workshop entitled: “Mendeley” in two phases, Oct 12th and Nov 9th , 2021 was conducted to facilitate the researchers during their research work. The software is used to automatically generate bibliographies and offers a vicinity to interact with one’s peer group. The resource person of the event was Dr. Sehar Saleem Lecturer, Department of Statistics, Lahore College for Women University, Lahore. The event was attended by 80 participants including students, faculty members and researchers from within and outside the University. Dr. Asifa Kamal, COD Department of Statistics also graced the event and extended her note of thanks to the resource person and the attendees of the workshop.

International Virtual Workshop on Spatial Data Analysis in ArcGIS and SaTScan

LISA-LCWU has organized an International virtual workshop titled as: “Spatial Data Analysis in ArcGIS and SaTScan” on Nov 24th, 2021. The ArcGIS software is a geographical information system (GIS) software that allows handling and analyzing geographic information by visualizing



geographical statistics. The resource person of the event was Ms. Abeera Shakeel Visiting Lecturer, Department of Statistics. The participants were students, and faculty members from different countries Brazil, Ghana, Tanzania, Nigeria, and Malaysia.





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ACTIVITIES OF LISA-LCWU

Four-Day Workshop on LaTeX

A four-days workshop on LaTeX was organized by LISA-LCWU on 26th - 31st January, 2022. It was arranged for the faculty members and the emerging researchers. LaTeX is a tool for writing research articles and thesis professionally. It is the requirement of many journals for publishing the research articles. The objective of the LaTeX workshop was to provide knowledge and

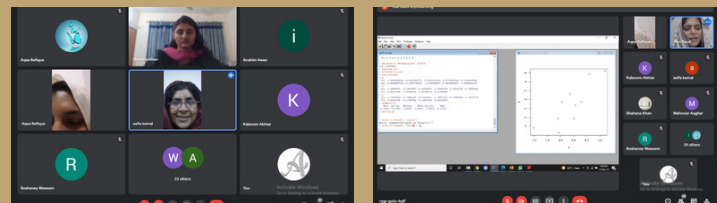
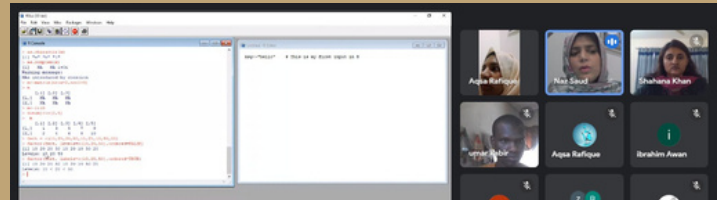


practice session about documentation on open source tool and to develop basic understanding of LaTeX tools. Ms. Naz Saud, Assistant Professor, Department of Statistics provided her services as resource person. Prof. Dr. Muhammad Afzal, Dean, faculty of Arts and Social Sciences, attended the closing ceremony of the event as chief guest.

One-Day Workshop on Biostatistics

One day workshop was organized by Department of Medical Education, Sheikh Zayed Medical Complex, Lahore on 18th May, 2022. LISA-LCWU coordinator, Dr. Asifa Kamal was invited as a resource person. The workshop was a part of a certificate course in health professions education. It facilitated the participants to learn the basics of biostatistics. Participants were from the different departments of hospital and had a hands-on practice session on SPSS. The workshop was very well appreciated by the organizer and expressed to continue the collaborations in research with Statistics Department, LCWU.

International Online Workshop on Simulations in R



An online one day workshop on 2nd March 2022, themed on "Simulations in R" was organized. Ms. Naz Saud, Assistant Professor Department of Statistics and Ms. Aqsa Rafique, Research Student, Department of Statistics, delivered on the subject. The workshop was attended by international and national audience. Dr. Asifa Kamal, COD of the Statistics Department delivered her note of thanks to the resource persons and the LISA team members.





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ACTIVITIES OF LISA-LCWU

One-Day on demand Workshop on Hypothesis Testing

Dr. Asifa Kamal, Associate Professor Department of Statistics, conducted a workshop on "Hypothesis testing in SPSS" for the research students of Management Sciences department, LCWU. Hypothesis testing is one of the most important processes for measuring



the validity and reliability of the outcome variable in any systematic investigation. The objective of the workshop was to make students familiar with the statistical techniques used for hypothesis testing. Participants were able to have hands-on practice session on SPSS.

Categorical Data Analysis Workshop

Under the banner of LISA-LCWU a workshop on Categorical data analysis was arranged. Multiple aspects of categorical data were explained well and participants were able to practise them on SPSS and Minitab software's. Research students and faculty members from different departments including Statistics Department, Social Sciences department, Economics Department, and Environmental Sciences



Department participated in workshop. Dr. Mariyam Hafeez and Dr. Sadia Khalil, faculty members of the Department of Statistics were the resource persons of this workshop. The workshop ended by paying thanks to Dr. Mariyam Hafeez and Dr. Sadia Khalil for presenting very well.





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E-NEWSLETTER, STATISTICS DEPARTMENT LCWU CONVOCATION AWARDS

MS



Mehak Taufiq
Gold medalist
Session 2017-2019



Jiya Amir
Gold medalist & Roll of Honor
Session 2019-2021

BS



Jiya Amir
Gold medalist and Roll of Honor
Session 2015-2019



Muqadas Shoukat
Gold medalist and Roll of Honor
Session 2016-2020



Ayesha Sadiq
Gold medalist
Session 2017-2021