Sarhad University
of Science & Information Technology, Peshawar

4th International Multidisciplinary Research Conference 2018

CONFERENCE ABSTRACT PROCEEDING BOOK

4th International Multidisciplinary Research Conference 2018

On

Global Prosperity through Research & Development
October 09-11, 2018

At

SARHAD UNIVERSITY OF SCIENCE AND INFORMATION TECHNOLOGY, PESHAWAR

FOREWORD

Sarhad University of Science & Information Technology Peshawar and the three partner universities—Benazir Bhutto Women University Peshawar, Abdul Wali Khan University Mardan and University of Haripur, Haripur *are* delighted to publish the Proceedings of ***The 4th International Multi-disciplinary Research Conference (IMRC-2018)–Global Prosperity through Research and Development*** held at Sarhad University of Science and Information Technology Peshawar, Pakistan on October 09-11, 2018. The Conference received a total of 340 abstracts. Out of the total abstracts received 277 abstract were accepted for presentation at the Conference. Nearly 180 got themselves registered within the deadline for registration. While more than 15 made desk registration during the three days of the Conference. Out of all the registered, 125 researchers turned out to present their work during the three days of the Conference. This Abstract Proceeding Book contains only those papers which were presented. This could be accessed by surfing on the University Website (www:suit.edu.pk).

It has to be noted that the presented papers and the ensuing discussion that followed each presentation in the conference is the creative work and thinking of the authors/presenters and experiences of the common audience and experts in the chair in their respective field of research and interest. On behalf of the Organizing Committee and as the Editor of this Conference, I would like to express my thorough thanks for those who made the Conference and Proceedings possible. The researchers contributed the most recent scientific knowledge known in the field of their respective disciplines. This Abstract Proceeding Book will work as a reference book for the research community across the world. I am confident that this will work as an impetus to stimulate further study and research in their respective fields.

Conducting a research is not an easy task. It requires a lot of inputs to make the event success. And this has been the 4th Conference that Sarhad University has conducted with the collaboration of the three other public sector universities. This conference reflects the unflinching efforts in the field of research. In this journey, the supporting and encouraging environment provided by the University Management of all the universities is worthy appreciation. I am thankful to Higher Education Commission Islamabad. Finally, I must also thank all members of different Organizing Committees, Registrar Office, Session Chairs, and all those who helped us in making this event a success. On behalf of the Organizing Committee ***THANK YOU ALL***!

Dr. Wali Rahman
Editor—4th IMRC-2018

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Introduction

Research at Sarhad University of Science & Information Technology Peshawar Pakistan is highly valued and is part and parcel of it's a vision and mission. The university has been motivating its faculty and students to excel in research by producing research papers and participating in the national and international research conference within or outside the country. It has been financing research endeavours of its faculty and students since long and also awards cash prices to those who are successful in producing world class research.

True to its vision and mission the university has four research journals in the field of applied sciences, sport sciences, social sciences and management sciences. In order to further boost/promote the research culture and allow scholars both at National and International level to present their research work, the University has taken upon itself the responsibility of conducted international conferences and the current conference (4th International Multidisciplinary Research Conference) is the fourth conference in its series of conference.

These basic motive behind this series it the promotion of research in the fields of global significance. Therefore, submission of original research work, case studies and practices for presentation in the conference is called for.

In the current Conference, researchers from different disciplines and regions participated in the Conference. In this way the University provided a research platform to the scholars to share their views and research findings with one another thereby got enriched from this conference on the one hand and added their respective contribution in their respective domain to leave a rich knowledge legacy to the generation to come on the other hand.

Sarhad University of Science and IT, Peshawar

Sarhad University of Science & Information Technology (SUIT), Peshawar, is a renowned name in the educational circles of Pakistan and abroad. It was established in 2001 through an Ordinance of the Government of Khyber Pakhtunkhwa and is duly recognized by the Higher Education Commission. Since its inception, the University has made commendable achievements in disseminating quality education and, in a short span of time; it has become a leading institution of higher education in Pakistan. The University offers a wide range of programs from bachelor to doctoral level. These programs are executed through highly qualified and professionally groomed faculty holding PhD degrees from renowned institutions of Pakistan and abroad.

The University is dedicated to imparting high quality education with emphasis on demand-oriented skill-development and training under excellent conditions of learning. Its educational programs are designed to enable the students and servicemen to Develop skills and competence in their respective areas of specialization. Obtain broad-based, cross-functional education with due emphasis on developing critical, analytical and logical thinking, and knowledge of societal matters. The education is cost-based, but affordable. The University is devoted to students' welfare and intends to provide all support and guidance in their pursuit of successful careers and jobs.

Shaheed Benazir Bhutto Women University, Peshawar

Shaheed Benazir Bhutto Women University Peshawar is a premier women university of Khyber Pakhtunkhwa. It has earned this position by virtue of its futuristic outlook towards higher education, strong emphasis on research and focus on innovation and entrepreneurship. Its academic programs are designed to meet the national needs and challenges of the new millennium. Traditional fields of Social, Biological and Physical Sciences have been updated with emerging trends and new disciplines are being introduced to prepare professionals to manage the ever-growing demands of knowledge economy with requisite degree of expertise. By the grace of Almighty Allah, Shaheed Benazir Bhutto Women University Peshawar has come a long way to develop into a global centre of excellence for imparting higher education. The universities at large have assumed the role of drivers of knowledge inventers and discoveries. Shaheed Benazir Bhutto Women University Peshawar, being a premier educational institution in Khyber Pakhtunkhwa has been keenly building a consortium across the government, business and higher education sectors to actively pursue sustainable growth of a knowledge-based economy.

Abdul Wali Khan University Mardan

The establishment of Abdul Wali Khan University Mardan is an act of historical significance by the Government of Khyber Pakhtunkhwa. Being located at the focal point, the area has witnessed the rise and fall of the famous civilizations that inspired the world with the glorious culture and civilized traditions devoted to learning and scholarship. Unfortunately, with the passage of time and onslaught by the bellicose tribes, the human achievements spanning thousands of years were got buried under the debris of time. The establishment of this university is a bold step forward to resurrect and bring back the same dazzling culture by mobilizing the intellectual resources of young scholars and to deepen their vision about the crying need to join together the human society irrespective of caste, colour or creed.

The University has introduced all the modern departments, teaching basic sciences, social and applied sciences with a credible base of quality education and research to equip the minds of young scholars with worthwhile objectives of life. The University will attract students from all parts of Khyber Pakhtunkhwa, Most of the young students of these areas who have the intellectual capability of receiving higher education can not avail this opportunity due to extreme poverty.

The University would facilitate in bringing their intellectual resources in the useful channels by equipping them with the latest knowledge and research being unfolded in the sphere of higher education. Its establishment is the realization of the cherished dreams of the people of the area. The University will develop the intellectual, moral and physical resources of the youth and would channelize their inherent energies toward useful goals. It would also usefully collaborate with the prestigious universities of the country and abroad to share the latest discoveries and research input in different fields of intellectual endeavour. The message of peace and universal brotherhood as practiced and preached by the founding father (Late) Abdul Ghaffar Khan (Bacha Khan) will be the motto of the University to steer the organization in the years ahead which would induct Pakistan into the comity of respectable nations of the world.

University of Haripur, Haripur

The establishment of University of Haripur (UoH) is an important milestone in the history of higher education in Hazara region of Khyber Pakhtunkhwa, Pakistan; a region which entails the international Karakorum Highway. There was a strong motivation to establish UoH and a significant coherence among the potential stakeholders regarding the direction that such a project should take. The motivation can be supported by (unofficially validated) estimates which suggest that in 2017-18 approximately 8,000-10,000 pupils will be enrolled in the University with the completion of proposed physical and academic infrastructure. Having education at all levels with strong Islamic foundations is important for the nation as a whole and we firmly believe that education should be focused on providing principled, morally motivated leaders to serve the country - a new generation of leaders who understand the need for justice and peace in Pakistan. It is an understood notion that the UoH shall have a globally recognized validation.

Higher Education Commission Islamabad, Pakistan

Higher Education Commission of Pakistan (EC) is an independent, autonomous, and constitutionally established institution of primary funding, overseeing, regulating, and accrediting the higher education efforts in Pakistan.

Preceded by the University Grants Commission (UGC) in 2002 by a constitutional amendment, the universities were formerly accredited by the UGC established in 1947; the institution was revised in 1974 and came into its modern form in 2002 with additional executive reforms granted by the constitution. Under a new and revised reforms agenda, the HEC is made responsible for formulating higher education policy and quality assurance to meet the international standards as well as providing accrediting academic degrees, development of new institutions, and uplift of existing institutions in Pakistan. The HEC also facilitated the development of higher educational system in the country with main purpose of upgrading the universities and colleges in the country to be focal point of the high learning of education, research, and development. Over the several years, the HEC plays an important and leading role towards building a knowledge based economy in Pakistan by giving out hundreds of doctoral scholarships for education abroad every year.

VICE CHANCELLOR'S MESSAGE

Prof. Dr. Salim-ur-Rehman
Vice Chancellor,
Sarhad University of Science & IT, Peshawar

It is a matter of immense pleasure that Sarhad University of Science & Information Technology Peshawar in collaboration with Benazir Bhutto Women University Peshawar, Abdul Wali Khan University Mardan and University of Haripur is hosting 4th International Multi-disciplinary Conference–Global Prosperity through Research and Development in Peshawar on October 09-11, 2018.

The first two conferences of its series were solely conducted by Sarhad University, however, keeping the interest of the participants in mind and the willingness of other two public sector universities, i.e. Shaheed Benazir Bhutto Women University Peshawar and University of Haripur, 3rd International Multidisciplinary Conference was conducted in 2016. This time, the addition of the 3rd partner—Abdul Wali Khan University Mardan—widened the qualitative and quantitative scope of the Conference. The credit of managing this mega event goes to the dedicated efforts of the coordinators of the partners. This is a great pleasure for all of us to have a constellation of academics and scholars from around the globe that has further added value to the conference. From the interest of the organizers and the participation of the researchers, I can conclude that this conference has, definitely, provided a platform to all stakeholders in the fields of sciences, social sciences, management, computer science, and arts & humanities.

I am confident that this conference has encouraged management specialists and social scientists to initiate dialogues on contemporary issues. In order to achieve the vision "To be the prime intellectual thrust of the nation" it is imperative to strengthen the research activities in the region. Therefore, it has been our earnest desire to develop a vibrant research culture in Khyber Pakhtunkhwa (KP) and such conferences are means to that end.

I believe that our youth have considerable potential in research and discovery for which we need to provide them an opportunity by arranging such kind of conferences. Organizing an international conference is always a big challenge and I am glad that the organizers did tremendous job to make it happen.

I extend my congratulations to the organizers of the conference, and wish them all success in their future endeavours.

FOREIGN GUEST SPEAKERS

GUEST SPEAKER I

Title: ***Carbon Dioxide-Enrichment (FACE) System***

Dr. Asmida Ismail, Faculty of Applied Sciences,
University Technology MARA, Shah Alam, Malaysia

Abstract

The increasing concentration of CO_2 in the atmosphere has caused significant environmental changes, particularly to the lower plants such as terrestrial algae and lichens that alter species composition, and therefore can contribute to changes in community landscape. A study to understand how increased CO_2 in the atmosphere will affect algal density with minimal adjustment on its natural ecosystem, and the suitability of the algae to be considered as a biomarker, has been conducted. The current work was conducted in the Free-Air-Carbon Dioxide-Enrichment (FACE) system located in Universiti Kebangsaan Malaysia, Bangi, Malaysia. CO_2 was injected through special valves located along the ring surrounding specimen trees where 10×10 cm quadrats were placed. A total of 16 quadrats were randomly placed on the bark of 16 trees located inside the FACE system. This system will allow data collection on the effect of increased CO_2 without interfering or changing other parameters of the surrounding environment such as the wind speed, wind direction, humidity, and temperature. The initial density Trebouxia sp. was pre-determined on 1 March 2015, and the final density was taken slightly over a year later, on 15 March 2016. The exposure period of 380 days shed some light in understanding the effect of CO_2 on these non-complex, short life cycle lower plants. The results from this research work showed that the density of algae is significantly higher after 380 days exposure to the CO2-enriched environment, at 408.5 ± 38.5×104 cells/cm^2, compared to the control site at 176.5 ± 6.9×104 cells/cm^2 (independent t-test, $p < 0.001$). The distance between the trees and the injector valves is negatively correlated. Quadrats located in the center of the circular ring recorded lower algal density compared to the ones closer to the CO_2 injector. Quadrat 16, which was

nearing the end of the CO_2 valve injector, showed an exceptionally high algal density—2-fold higher than the average density at 796 ± 38.5 × 104 cells/cm^2. In contrast, Quadrat 9, which was located in the center of the ring (lower CO_2 concentration), recorded only 277 ± 38.5×104 cells/cm^2, which further supports the previous claim. Based on the data obtained, this study provides useful data in understanding the positive effect of CO_2 on algal density, in a natural environment, and suggests the use of epiphytic terrestrial algae as a biomarker.

Brief Bio-data

PhD in Plant Biotechnology, Imperial College of Technology, Science and Medicine, UK Asmida Ismail (Dr.) is a Senior Lecturer in School of Biology, Faculty of Applied Sciences, Universiti Teknologi MARA, Malaysia. She then received a scholarship from Ministry of Higher Education Malaysia and UiTM to pursue a PhD in Environmental and Plant Biology at the Imperial College London, United Kingdom. She has been teaching Biology and Biology-related subjects for the last 14 years. She is the Head of Research Interest Group (Ecology & Ecosystem) in Faculty of Applied Sciences. She is also a Senior Editor for the International Journal of Agricultural and Environmental Research, a Senior Member for International Seaweeds Association and a Committee Member for Air Pollution and Environmental Research (UK). Her research interest revolves around the taxonomy and ecology of marine and freshwater algae. However, in the past few years she has ventured into the work involving terrestrial algae and the effect of atmospheric pollutants to microalgal community. She is currently leading a research project which is looking at the biotic and abiotic factors that affect algal species composition and growth. Her works on environmental biology has been presented in local and international conferences and being published in reputable journals including a Q1 journal. She has more than 15 research publications in national and international research journals of repute.

GUEST SPEAKER II

Title: ***Africa a Technological Leapfrogging***

Engr. Dr. Abid Yahya,
Botswana International University of Science & Technology (BIUST), Botswana

Abstract

The impossible has become achievable in Africa due to the fastest growth in mobile telecommunication industry. Africa, the second biggest mobile market, has sparked a number of digital innovations, with diverse applications in the sector of education, health, ICT, agriculture, governance, finance, energy and tourism. The rapid growth of Tech hubs in Africa gives birth to digital entrepreneurship ecosystem by networking entrepreneurs, designers, developers and prospective investors. The production of cattle in Africa has barriers to it appearing in the form of cattle diseases such as Foot and Mouth (FMD), quarter evil, anthrax, and contagious abortion. Once attacked by these diseases, cattle are usually seen to possess particular signs and symptoms of diseases, showing a more pronounced effect and in such a case it may be late to treat the suffering cattle for such diseases. Vaccines are normally used to prevent infections, but these come at greater costs for the government. The conventional way of telling the health status of a cow involves observation by farmers or guardians of the animals by visual inspection which is the case in Africa in both diagnosis for diseases and observing the cow for heat period. The proposed system is intended for practice in Africa to observe conditions in the life of cattle such as temperature, heart rate, rumen pH which can be used to deliver the health condition of a cow. In addition, the system is autonomous, easy to install, highly scalable and has a relatively high sampling rate which improves the temporal resolution of the monitoring process. The system is aimed at helping farmers in Africa to perform real time diagnosis and detection of diseases and predicting the most suitable times for artificial production of cow off-springs through methods such as artificial insemination.

GUEST SPEAKER III

Title: ***Biodiversity and Conservation of Biological Resources***

Prof. Dr. Asyraf Mansor,
Associate Professor, Universiti Sains Malaysia

Abstract

Forest ownership is considered as vital for sustainable management of forest and its associated biodiversity. In this study variation in biodiversity were measured using community structure of both vascular plants and avifauna species along selected micro environmental variables. Finally implications for conservation were proposed considering the current state of deforestation in private hill forest (PHF). Plant community and avifauna analysis revealed that government hill forest areas (GHF) were more diverse and healthier than PHF, also rich with higher evenness. Species richness between GHF and PHF showed significant difference in plant species ($p < 0.05$) but not for avifauna. Avifauna diversity analysis recorded higher abundance of birds in PHF and finally appeared as buffer service provider for avifauna diversity in GHF reserves. But the current rate of deforestation in PHF is 1.4% annually. Thus any alteration to hill forest cover (land development activities) should be banned immediately with intensive care to the PHF through co-management. Moreover human activities inside the GHF should also be controlled to conserve the remnant species of the island as conspicuous disturbance were also found inside GHF.

Brief Bio-data

Doctor of Philosophy (Biology), University of London & Diploma of Imperial College (2008) Master of Science (Ecology), Universiti Sains Malaysia (2002). Dr. Mansoor field of specialization is plant population dynamic; wetland plant ecology; and invasive plant management. He has three completed projects at his credit and at current he has five on-going projects. He has supervised a number of PhD and MS. Besides, he has authored 2 books and has two chapters in two edited books. He has published 6 research articles in national and international journals.

GUEST SPEAKER IV

Title: ***Importance of structural biopolymers &Chemistry of γ-chitin***

Dr. Murat Kaya,
Department of Biotechnology and Molecular Biology,
Aksaray University, Turkey

Abstract

The biological material, chitin, is present in nature in three allomorphic forms: α, β and γ. Whereas most studies have dealt with α- and β-chitin, only few investigations have focused on γ-chitin, whose structural and physicochemical properties have not been well delineated. Chitin obtained for the first time from the cocoon of the moth (Orgyiadubia) was subjected to extensive physicochemical analyses and examined, in parallel, with α-chitin from exoskeleton of a freshwater crab and β-chitin from cuttlebone of the common cuttlefish. Our results, which are supported by ^{13}C CP-MAS NMR, XRD, FT-IR, Raman spectroscopy, TGA, DSC, SEM, AFM, chitinase digestive test and elemental analysis, verify the authenticity of γ-chitin. Further, quantum chemical calculations were conducted on all three allomorphic forms, and, together with our physicochemical analyses, demonstrate that γ-chitin is distinct, yet closer in structure to α-chitin than β-chitin.

Brief Biodata

Prof. Dr. Murat Kaya received his master and PhD in Biology from Ankara University, Turkey in 2005 and 2008, respectively. He studies on zooplankton taxonomy, ecology and molecular phylogeny during his master and PhD. Dr. Kaya studied under the Erasmus Program in Gent University, Belgium and the Erasmus Program in Imperial College, London, UK. He has a scholarship from "The Scientific and Technological Research Council of Turkey (TUBITAK 2219)" and he has been in University of California Merced, USA from 1st of June, 2017 (until 1st of April, 2018). Dr. Kaya is interested in zooplankton taxonomy, focusing on rotifers by using morphological and molecular techniques. He has been working on biopolymer

isolation from diverse organisms and characterizing them by using the techniques such as FT-IR, TGA, DSC, XRD, NMR, SEM, TEM, AFM, confocal and different kinds of light microscopies since 2012. Dr. Kaya has nearly 90 research publications in national and international journals and has attended nearly 15 international conferences.

NATIONAL GUEST SPEAKERS

Title: *Industry– Academia Linkages: The Need of the Day*

Prof. Dr. Khurshid Khan,
Vice Chancellor, Abdul Wali Khan University Mardan

Abstract

In this era of competition and strive for rankings particularly in Higher Education sector, it is essential for the HEIs to identify the areas of collaboration, co-ordination and mutual support between the two basic sectors for sustainable national progress i.e. academe and industry. These institutes of higher education cannot function as isolated islands of knowledge and therefore bridges are supposed to be built in order to connect these institutes to the clusters of industries and the other stakeholders. This type of bridging between academics, research and industry has always played an vital role in the development process particularly in the developed countries and even in the developed cities of less developed countries. However, the higher education institutes in less developed parts of the country have been unable to benefit from this. In this connection, it is of utmost importance for the higher education institutes to have fully functional offices as ORIC, Career Development Centre, Incubation Centres and Industrial Liaison Offices. Despite of the fact that these offices do exist in most of the universities of Pakistan, but unfortunately the office bearers are not aware of their duties and responsibilities. In most of the cases, the university's top management takes it for granted and focus more on starting new programs and increasing the student intake. Thus establishing Industry-Academia linkages and commercializing university's research is the need of the day. All the universities whether in private or public sector must think seriously in this regard and the universities having good repute with particular reference to industry-academia linkages & fully functional active offices (mentioned above) should play the role of mentor for the new universities. HEC's support and thorough monitoring in this regard will play an important role in this regard to make sure that the universities who are taking these issues for granted must take it seriously.

Title: *Ensuring Food Security through Modern Technologies*

Prof. Dr. Abid Farid
Vice Chancellor, University of Haripur, Haripur, KPK

Abstract

Replacement of traditional agriculture with Green revolution led to a big boom in agricultural production but at a huge environmental cost along with overexploitation of natural resources. The world is in need of another sustainable revolution in agriculture to meet the increasing demand of food with growing population and shrinking arable land. Modern technologies that can increase yields on existing land without posing unbearable environmental cost seem to be the only solution for attaining global food security in the years to come. Amazing technological advancement in the modern era has provided us with the tools that can be integrated into our farming system to increase agricultural productivity. We will discuss some of the modern technologies that can ensure food security in a sustainable way.

Brief Bio-data

Professor Dr. Abid Farid has his PhD in Biological Sciences from University of Idaho USA, 1996 and Postdoc. from FAFU, P.R. China in 2005. He has to his credit a number of distinctions like Merit Scholarship for High technology (for postdoc) by Islamic Development Bank, Jeddah (2004), Honorary certificate of Gamma Sigma Delta, an agricultural, An agricultural honorary comprising of top 15% of the colleges of Agriculture of USA. (1994), etc. and a number of professional honors like NIFA Performance Gold Medal, 2010, Editor Journal of Entomology and Zoology Studies, etc. Dr. Farid has developed a number of products like developing of effective slow-acting toxicant bait for the elimination of underground colonies of subterranean termites, bio control technology for effective control of maize stem borer, windows-based software "Abid's Trackmove" for monitoring arthropods' behavior, etc.

Dr. Farid has more than 50 research publications in national and international journals with near 10 in publication processes. He has also attended national and international research conference around the globe.

Title: *Emerging Research Trends in Social Sciences*

Prof. Dr. Razia Sultana
Vice Chancellor,
Shaheed Benazir Bhutto Women University, Peshawar

The world we are living in today is witnessing a great deal of technological and scientific innovations and discoveries. This development in the fields of Science and technology has brought with it associated packages of new social and political dynamics. As we all know Social Sciences takes in its scope of study and research of the entire social and scientific phenomenon that directly or indirectly affect the course of social evolution. There are various trends making their way to change or sometimes alter the previously held theories and social laws in the society. Apart from various other trends following are the most important emerging research trends that are taking place in the field of Social Sciences. In the recent past, one notices a major shift in research in education from basic (or fundamental) research to applied (and empirical) research. Both have their own significance and utility. Both complement each other. Many 'fundamental' research contributions have not been noted in the recent past. In contrast, empirical research bulged rather in geometric progression. It is obvious that fundamental research cannot progress at the same rate of growth as of empirical research. Otherwise perhaps fundamental research contributions do not remain 'fundamental'.

Further, the emphasis has been on policy relevant research, as against what is characterized as 'abstract' research. Researchers are asked repeatedly to highlight the policy relevance (use) of their research proposals, and to highlight policy implications of their concluded studies. Thus prescriptive research is more valued than analytical research. The prescriptions, however, tend to be more generalized, non-controversial, than location/ region specific. As the phenomenon of policy use dominates the whole research scene, it is not surprising to find condemnation of 'other' research as 'academic' research, or 'professional' research, if not as 'irrelevant' research. A strong tendency in research has been a shift from data analysis to collection and compilation

of data. The funding agencies or consulting firms, particularly international consulting firms who do not know even the basic information about a country or a given region, seem to be more interested in information rather than the analysis.

Brief Bio-data

Professor Dr. Razia Sultana has her PhD in History from Area Study Center, University of Peshawar in 1999. She has two gold medals at her credit. Dr. Sultana has won Fulbright Post Doc Scholarship during 2002-03. She has been a member of 14 professional bodies, like Vice President Council of Social Sciences; Member, National Plagiarism Committee, HEC, etc. She has remained editor of two HEC recognized journals.

Prof. Sultana has a vast administrative experience of more than 25 years. She has served on various key posts and delivered successfully throughout her career. She has taught a number of courses to graduate and post-graduates students, supervised 27 M.Phil and 08 PhD scholars. She has been conducting research projects independently and in collaboration as well. Dr. Sultana has 35 research articles published in various journals, participated in more 40 international and 20 national research conferences.

CONFERENCE ORGANIZATION

Prof. Dr. Salim-ur-Rehman,
Vice Chancellor, Sarhad University of Science & IT, Peshawar

Prof. Dr. Khurshid Khan
Vice Chancellor, Abdul Wali Khan University Mardan

Prof. Dr. Razia Sultana
Vice Chancellor, Shaheed Benazir Bhutto Women University Peshawar

Prof. Dr. Abid Farid
Vice Chancellor, University of Haripur

Conference Organizing Secretary
Prof. Dr. Habib-ur-Rahman
Registrar, Sarhad University of Science & Information Technology, Peshawar

Conference Coordinators

Dr. Wali Rahman,
Associate Professor, Department of Business Administration, SUIT

Dr. Syed Gohar Abbas,
Associate Professor, Department of Business Administration, SUIT

Dr. Sudair Abbas,
Associate Professor, Department of Pharmacy, SUIT

Dr. Muhammad Tariq Khan,
Professor, Department of Management Sciences, University of Haripur

Dr. Asma Gul,
Manager ORIC, Shaheed Benazir Bhutto Women University Peshawar

Dr. Asad Ali,
Director ORIC, Abdul Wali Khan University Mardan

Dr. Adil Hussain,
Assistant Professor, Abdul Wali Khan University Mardan

CONFERENCE COMMITTEES

1. **Administrative Committee**
   Dr. Gohar Abbas, Assistant Professor (Convener),
   Department of Business Administration, SUIT, Peshawar

2. **Coordination & Public Relation Committee**
   Mr. Ali Akbar Shinwari, Deputy Director Admission (Convener),
   Sarhad University of Science & IT, Peshawar

3. **Boarding & Lodging Committee**
   Mr. Syed Arif Ali Shah, Lecturer (Convener),
   Lecturer, Department of Library & Information Science, SUIT

4. **Security and Safety Committee**
   Mr. Iftekhar Ahmad (Convener),
   Additional Registrar (Establishment), SUIT, Peshawar

5. **Academic Committee**
   Dr. Wali Rahman, Assistant Professor Additional Registrar
   Department of Business Administration, SUIT, Peshawar

6. **Food Committee**
   Akif Shah (Convener),
   Additional Registrar (Students Affairs, Sarhad University)

7. **Health Committee**
   Mr. Naseemullah Khattak (Convener),
   Coordinator, Department of Pharmacy, SUIT, Peshawar

8. **Transport Committee**
   Mr. Abid Khan (Convener),
   Transport Incharge, Sarhad University of Science & IT, Peshawar

PAPERS PRESENTED IN CONFERENCE

LIFE SCIENCES ABSTRACTS

ABSTRACT No. IMRC-LS-02

SELF-PROTECTION OF *ARABIDOPSIS* CYTOSOLIC MALATE DEHYDROGENASE AGAINST OXIDATIVE STRESS

J. Huang, Niazi, A. K., D. Young, L. Rosado, N. Bodra, I.V. Molle, K. Wahni, D. Vertommen, F. V. Breusegem, J. Messens, J. P. Reichheld. 2017. Email: adnan1753@yahoo.com

Plant malate dehydrogenase (MDH) isoforms are found in different cell compartments and function in key metabolic pathways. It is well known that the chloroplastic NADP-dependent MDH activity are strictly redox regulated and controlled by light. However, redox-dependence of other NAD-dependent MDH isoforms have been less studied. Here, we show by in vitro biochemical characterization that the major cytosolic MDH isoform (cytMDH 1) is sensitive to H2O2 through sulfur oxidation of cysteines and methionines. CytMDH1 oxidation affects the kinetics, secondary structure, and thermodynamic stability of cytMDH1. Moreover, mass-spectrometry analyses and comparison of crystal structures between the reduced and H2O2-treated cytMDH1 further show that a Trx-reversible homodimerization of cytMDH1 through Cys330 disulfide formation protects the protein from overoxidation. Consistently, we found that cytosolic thioredoxins interact specifically with cytosolic MDH in a yeast two-hybrid system. Importantly, we also show that cytosolic and chloroplastic, but not mitochondrial NAD-MDH activities are sensitive to H2O2 stress in Arabidopsis. NAD-MDH activities are decreased both in a catalase2 (cat2) mutant and a NADP thioredoxin reductase mutant (ntrantrb), emphasizing the importance of the thioredoxin reducing system to protect MDH from oxidation in vivo. We propose that the redox switch of MDH activity contributes to adapt the cell metabolism to environmental constraints.

ABSTRACT No. IMRC-LS-03

THE SIRNA SUPPRESSOR RTL1 IS REDOX-REGULATED THROUGH GLUTATHIONYLATION OF A CONSERVED CYSTEINE IN THE DOUBLE-STRANDED-RNA-BINDING DOMAIN

Cyril Charbonnel, Adnan K. Niazi, Emilie Elvira-MatelotElżbieta Nowak Matthias Zytnicki Anne de Bures Edouard Jobet Alisson Opsomer Nahid Shamandi Marcin Nowotny.
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RNase III enzymes cleave double stranded (ds)RNA. This is an essential step for regulating the processing of mRNA, rRNA, snoRNA and other small RNAs, including siRNA and miRNA. Arabidopsis thaliana encodes nine RNase III: four DICER-LIKE (DCL) and five RNASE THREE LIKE (RTL). To better understand the molecular functions of RNase III in plants we developed a biochemical assay using RTL1 as a model. We show that RTL1 does not degrade dsRNA randomly, but recognizes specific duplex sequences to direct accurate cleavage. Furthermore, we demonstrate that RNase III and dsRNA

binding domains (dsRBD) are both required for dsRNA cleavage. Interestingly, the four DCL and the three RTL that carry dsRBD share a conserved cysteine (C230 in Arabidopsis RTL1) in their dsRBD. C230 is essential for RTL1 and DCL1 activities and is subjected to post-transcriptional modification. Indeed, under oxidizing conditions, glutathionylation of C230 inhibits RTL1 cleavage activity in a reversible manner involving glutaredoxins. We conclude that the redox state of the dsRBD ensures a fine-tune regulation of dsRNA processing by plant RNase III.

ABSTRACT No. IMRC-LS-04

HISTOPATHOLOGICAL CHANGES IN TISSUES AFTER SUBLAYPROLENE VS PROLENE-VICRYLMESH IMPLANTATION IN DOGS

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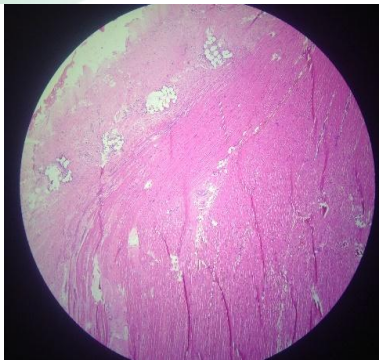
The efficacy of two hernioplasty mesh implants (viz. Prolene vs Prolene-Vicryl composite mesh) was assessed after experimental incisional hernia induction and subsequent sublay implantation of the mesh in dogs. Twelve healthy mongrel dogs were selected and randomly divided into three groups, A, B and C (n=4). In all groups, after an experimental laparotomy, a defect of 5x5 cm was created in the rectus muscle belly and anterior rectus sheath. For sublay hernioplasty, the mesh (Prolene mesh in group A; Prolene-Vicryl Composite mesh in group B), was implanted over the posterior rectus sheath. In group C, only a herniorrhaphy was performed to close the laparotomy. Evaluation parameters included wound healing, seroma/hematoma formation and histopathological changes, 12 weeks' post-operatively. Wound healing was found superior and seroma formation was minimal for the composite mesh Group B ($P<0.028$). Histologically, the Prolene-Vicryl Composite Mesh proved superior since orientation of muscle fibres remained intact and normal, and no foreign body tissue reaction was noted; hence inflammatory cell inclusion was minimal at the mesh implantation site. Contrarily, the Prolene mesh implantation site was covered with thick fibrous adhesions and histologically featured by the presence of leucocytes and areas of necrosis. Conclusively, the composite mesh with 50% decrease in non-absorbable content, serves as an adequate choice for ventral hernioplasty since it is not painful and does not cause long-term follow-up complications.



Group B, Prolene-Vicryl Mesh: Organized muscle fibre alignment and minimal inflammatory reaction.

Group B, Prolene-Vicryl Mesh: Thin, flimsy adhesions.

Group B, Prolene-Vicryl Mesh: Sonogram showing a small seroma formation in one dog.

ABSTRACT No. IMRC-LS-05

FLORA OF GRAVEYARD OF DISTRICT BANNU, PAKISTAN AND ITS ROLE IN PLANTS CONSERVATION: A MULTIVARIATE STATISTICAL APPROACH

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Graveyards are places of natural vegetation protected by spiritual believers due to their sacred beliefs and indigenous culture. Graveyards study was conducted to find out plant communities of graveyard vegetation, its associated indicators, plant species composition, distribution pattern and role of graveyards in plants conservation of the District Bannu, Pakistan via Multivariate statistical approach. It was hypothesized that variations in age of Graveyards give rise to diverse plant communities under the impact of various edaphic and climatic factors and has an important role in plant species conservation and its assessment. Quadrate quantitative ecological techniques were used to find out various Phytosociological attributes. Size of the quadrat for trees was taken 30 x 30 m2, shrubs 5 x 5 m2 and herbs 1 x 1 m2. All the collected data was put in MS Excel for analysis in PCORD and CANOCO software's to find out different plants communities, its indicators and distribution pattern using Cluster Analysis (CA), Two Way Cluster Analysis (TWCA), Indicator Species Analysis (ISA) and Canonical Correspondence Analysis (CCA). CA and TWCA through Sorenson Distance Measurements give rise to 5 major Graveyards communities. These communities were 1) *Ficus-Bougainvillea-Chenopodium* graveyard community, 2) *Acacia-Datura-Convolvulus* graveyard community, 3) *Ziziphus-Vitex-Abutilon* graveyard community, 4) *Acacia-Lantana-Salso*la graveyard community and 5) *Melia-Rhazya-Peganum* graveyard

community. Regarding Graveyards conservation role, *Capparis decidua, Herniaria hirsute, Salvadoraoliedes* and *Populuseuphratica* were plant species only present inside graveyard ecosystem rather than outside in the region. It is concluded that higher Chlorine concentration, age of Graveyards, low Electrical Conductivity (E.C), low anthropogenic pressure, higher Nitrogen, Calcium and Magnesium concentration and sandy soil state were strong environmental variables that play a significant role in plant species distribution, communities' formation and its associated indicators. This phenomenon could further be used in identification of indicator species and conservation/ management practices of any region.e

ABSTRACT No. IMRC-LS-06

CRESS SEED MUCILAGE*:* A POTENTIAL SOURCE OF BIOACTIVE COMPOUND(S) WITH ALLELOPATHIC POTENTIAL

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Lepidimoide is a naturally occurring disaccharide reported to be an oligosaccharin, i.e. to exhibit 'hormone-like' biological activity. It was found in cress (*Lepidium sativum* L.) root exudates and exerts apparently allelopathic effects on neighbouring *Amaranthus's* seedlings. Quantitative test of cress exudates showed the presence of hexoses, pentoses, uronic acid and unsaturated uronic acid. TLC and PC were used as a qualitative tool to separate the different sugars. The bands in the oligosaccharide region were assumed to be biologically active. Paper electrophoresis was then carried out to determine the charge on compounds present in cress root exudates. The compounds present in the exudates migrated with the acidic and neutral markers on paper electrophoretogram. In an attempt to test whether the compound is of high or low M_r, the mucilage was partitioned by gel-permeation chromatography (GPC). GPC on Bio-Gel P-10 and P-2 suggested that the active principle had M_r ~500–750, compatible with oligosaccharide(s), suggesting that a particular oligosaccharide may be the active principle. TLC separation of bioactive fractions from P-2 showed that the bioactive compound migrated between GalA and Gal suggested that the bioactive compound is a disaccharide (lepidimoide).

ABSTRACT No. IMRC-LS-08

6-METHOXYFLAVANONE ATTENUATES MECHANICAL ALLODYNIA AND VULVODYNIA IN THE STREPTOZOTOCIN-INDUCED DIABETIC NEUROPATHIC PAIN

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Diabetic neuropathy is the most prevalent, persistent and debilitating complication of diabetes mellitus often coupled with vulvodynia that may present as an isolated symptom or as a part of constellation of other neuropathic abnormalities. Flavonoids have selective affinity for GABA receptors and 6-methoxyflavanone (6-MeOF) is apositive allosteric modulator of GABA responses at human recombinant GABAA receptors. GABAergic and opioidergic system inhibition have been shown to facilitate neuropathic pain. 6-MeOF was evaluated for analgesic effect in the hot plate test and streptozotocin-induceddiabetic neuropathic pain in female rats using von Frey hairs. The possible involvement of opioidergic and GABAergic mechanisms was investigated using naloxone and pentylenetetrazole (PTZ) antagonists, respectively. The biodistribution of 6-MeOF in plasma and CNS was examined using a validated HPLCanalytical method. The binding affinity of 6-MeOF with opioid and GABA receptors was studied usingmolecular docking simulation approach.6-MeOF (10 and 30 mg/kg) attenuated the acute phasic thermal nociception in the hot plate test while in the case of streptozotocin-induced diabetic neuropathy model, 6-MeOF (10 and 30 mg/kg)produced static/dynamic anti-allodynic (increased paw withdrawal threshold and latency) as well asstatic/dynamic anti-vulvodynic effects (increased flinching response threshold and latency), when compared to the vehicle and standard gabapentin (75 mg/kg). In silico studies depicted the preference of6-MeOF for the delta- and kappa-opioid and GABAA receptors. Moreover, the pharmacokinetic profile revealed a quick appearance of 6-MeOF in the systemic circulation and brain areas with maximum concentration observed after 30 min in the amygdala, brain stem and cerebral cortex.

ABSTRACT No. IMRC-LS-09

ELECTROCHEMICAL DECONTAMINATION OF FOOD DYE LADEN WASTE WATER

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Due to the toxic effect of allura red dye, its removal from wastewater has gained significant attention in concern with green environment. This work investigates the effectiveness of $Ti/Ru_{0.3}Ti_{0.7}O_2$ anode for the electrochemical degradation of allura red dye in aqueous phase. The composition and morphology of the anode was examined by SEM, XRD and EDX analyses. The experiments were carried out in a laboratory scale glass reactor and the effect of different operational parameters such as current density; pH and different conductive salt concentration (NaCl, Na_2SO_4 and $NaNO_3$) were investigated. The discoloration efficiency of dyes was measured using UV-Visible spectroscopy. The maximum degradation (99.71%) of dye (200ppm) was achieved in presence of 0.1m L^{-1} concentration of NaCl under constant current density of 5mAcm^{-2} in 5min of electrolysis. The results obtained demonstrate the efficiency of the electrochemical process using a $Ti/Ru_{0.3}Ti_{0.7}O_2$ anode for the decontamination of wastewater containing allura red dye.

ABSTRACT No. IMRC-LS-16

MOLECULAR CHARACTERIZATION AND GENETIC VARIABILITY OF *CUCUMBER MOSAIC VIRUS* (CMV) INFECTING CUCUMBER *(CUCUMIS SATIVUS)* IN POTHOWAR, PAKISTAN

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Cucurbits including cucumber are known to be tainted by more than thirty-nine different viruses and various are considered as major limiting factor for successful production. Out of these thirty nine viruses *Cucumber Mosaic Virus* (CMV) has more catastrophic effect. *Cucumber mosaic virus*, the type species of the genus Cucumovirus of the family Bromoviridae, is an important plant virus with broad host range and known to infecting more than 100 botanical families comprising more than 500 genera and 1300 plant species. Surveys was carried out in five district of Pothowar region of Pakistan include (Rawalpindi, Islamabad, Jhelum, Attock and Chakwal) in cucumber field during summer 2016. The sample from infected plants of cucumber showing different symptoms like mosaic, necrosis, interveinal chloresis, yellowing, Blisters, Distortion, shoe string, lethal wilting of foliage, stunting, and curling were collected randomly.

Among the five districts, the highest disease incidence of CMV was recorded in district Rawalpindi i.e. (68 %) followed by (58%) in Islamabad, (57%) in Jhelum, (55%) in Attock and (45%) in Chakwal. The virus infected samples were confirmed through Enzyme-linked Immunosorbant assay (DAS-ELISA) and through RT-PCR amplification. High variability was observed in the coat protein nucleotides and amino acid sequence identities of CMV Pakistan isolate, when compared with other reported isolates. Highest nucleotides and amino acid sequence similarity of CMV was observed as 95.5% and 97.5% respectively with Netherlands isolates. Phylogenetic analysis base on CP gene sequence of CMV showed that phylogenetic tree comprises of two divergent clad. Clad I comprises of our isolate (ZAAICu833) while rest of 19 isolates belongs to China, Japan, Netherland, India, Poland, United Kingdom, and Iran fall in clad II. The outcome of this research raised the notion that this notorious virus is a major threat to vegetable production. More study should be carried out to manage this devastating virus.

ABSTRACT No. IMRC-LS-18

EFFECTS OF GOAL SETTING AND PLAYER'S PERFORMANCE AT UNIVERSITY LEVEL: AN EXPLORATORY STUDY

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Main purpose of this research was to study is to view the effects of goal setting and player's performance. It is an effort to spread the concept of goal setting because now a day players, coaches, teachers and parents think that involvement in setting sports goals is very effective strategy to get best outcomes in their sports achievement. For this purpose, researchers selected 200 players (n=200) in which 131 were male and 69 were female players of age from 20 years and above. A random sampling technique was used to draw a sample from the sample population of student players of University of the Punjab, Lahore. The data collection tool was a self-developed questionnaire is consisted of 23 items with close ended questions using 5-point Likert type scale ranging from strongly agree to strongly disagree. SPSS version 20.0 was used to analyze data. Reliability of the tool was measured using Cronbach's alpha (0.876) and validity of tool was measured through expert opinion. The chi square test was done for individual item analysis and interpretation of data has empirically proved that there is significant relationship between goal setting and players' performance at University level. Overall results suggest that players involved in goal setting have higher self-esteem (Sig.=.000), better social skills (Sig.=.000), leadership abilities (Sig.=.000), sportsmanship (Sig.= 0.000), motivation (Sig.=0.000), confidence (Sig.=.000), they can easily achieve success (Sig.=.000) and better performance level (Sig.=.000). Goal setting does improve cognitive development, psychomotor tasks ability, team behavior, cohesion, concen-

tration. So, it was concluded that there are positive effects of goal setting on player performance at university level. Further studies are needed to measure the effect of goal setting on professional players and to generalize the phenomenon.

ABSTRACT No. IMRC-LS-20

ISOLATION AND FUNCTIONAL CHARACTERIZATION OF AN ETHYLENE RESPONSE FACTOR (RHERF092) TRANSCRIPTION FACTOR FROM ROSE (ROSA HYBRID)

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Rose is one of the most important ornamental plants around the world with a huge aesthetic and market value. However, improper postharvest handling and transportation often results in great loss to the quality of cut roses. The phytohormone ethylene plays a key role in opening of rose flowers as well as in the vegetative and reproductive growth and development. Ethylene biosynthesis and homeostasis is regulated by plethora of biomolecular cues within the plant as well as affected by different biotic and abiotic factors. In this study we isolated and characterized Ethylene Response Factor (RhERF092) from the rose (Rosa hybrida) cv. "Samantha" and investigated its role in flower opening and senescence. ERF is a group of transcriptional factors that generally encode transcriptional regulators involved in several physiological processes. The RhERF092 was originally detected in a microarray experiment with a significant increase in its expression after 1hr of ethylene treatment in rose petals. Sequence analysis showed the presence of the canonical AP2/EREBP domain and a C-terminus trans-activation domain. Phylogenetic analysis showed that RhERF092 is an ortholog of the Arabidopsis ERF1 (AT3G23240) belonging to subgroup IX of the ERF gene family. Confocal laser scanning microscopy showed that the gene is localized in the nucleus. Analysis of basal expression patterns through qRT-PCR showed the highest expression at stage 0 of flower opening with a gradual decrease till senescence. However, rapid increase in transcript accumulation was observed up to 1hr of ethylene treatment. Ectopic expression of RhERF092 in Arabidopsis caused various ethylene-related aberrations in plant development including stunted growth, abortion of apical dominance, production of lateral tillers from rosette nodes, branches from the aerial nodes, and sterile inflorescence. Arabidopsis RhERF092-OX plants were found to be sensitive to the ethylene precursor 1-aminocyclopropane-1-carboxylic acid (ACC) with significantly reduced hypocotyl and root system as compared to WT plants with significant reduction in the expression of genes involved in cell proliferation, cell

expansion and cell cycle such as ARGOS, ARGOS-LIKE, SIM, JAGGED, AN3, CYCD3-1, and CYCD3-2. Taken together these results indicate that RhERF092 regulates ethylene-specific responses in rose.

ABSTRACT No. IMRC-LS-23

ISOLATION AND IDENTIFICATION OF BACTERIA RESPONSIBLE FOR URINARY TRACT INFECTION

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Urinary tract infections are widespread problem worldwide. UTI are bacterial infection which may cause many complications such as pyelonephritis, cystitis, urethritis, chronic renal failure, renal scarring and sepsisor even death. Information regarding the type of microorganisms responsible for urinary tract infection, factors yielding to urinary tract infection and awareness on urinary tract infections may support the clinician to pick out the accurate empirical treatment and decrease high incidence of UTI. The purpose of this study was to isolate and identify different bacterial strains responsible for UTI. 150 urine specimens of patients of all ages and both sexes were collected and processed for culture. Among 150 there were 59 (39.33%) males and 91(60.7%) females. All specimens were cultured on prepared sterile medium and incubated for 24 hrs at 37°C. The samples were observed for the growth of bacteria under the microscope. Results found revealed that 31 (31.63%) male specimens were positive and 67 (68.36%) female specimens were positive test subjects. The incidence of UTI with respect to isolated pathogens revealed that *E.coli* (44.90%) was most frequent uro-pathogen followed by *P. aeruginosa* (18.37%), *Enterobacter* (12.24%), *Citrobacter* (10.20%), *S. aureus* (8.16%), *K. pneumonia* and *Morganella morganii* (3.06%).

ABSTRACT No. IMRC-LS-24

MOLECULAR DETECTION OF ACTIVE HEPATITIS C IN PESHAWAR

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HCV infection is the main cause of viral hepatitis and one of the most significant clinical problems worldwide. This infection is a blood-borne virus. The molecular study was carried out on active Hepatitis C virus infection in Peshawar region between April to December 2017. The present study was conducted at GENE Tech Diagnostics and

Research Laboratory Peshawar. A sum of 221 samples were screened from serum and Quantified by real-time PCR for HCV. The results showed that 20% of the study population was infected with HCV, while in general 80% of the population was negative for HCV. The infection of active HCV among men is higher as 11% compared to (8%) women. Male patients were more affected than females. The incidence of 41-60 years old and above the highest age group (16.41%), while 10-20 age group there no signs of infection.

ABSTRACT No. IMRC-LS-33

SOIL APPLIED HUMIC ACID AND ZINC+BORON HELPED TO IMPROVE PRODUCTIVITY OF WHEAT

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The quantity and quality of wheat is affected by application of macro and micronutrients. Zinc is involved in several metabolic and enzymatic processes. Boron takes part in carbohydrate, protein, nucleic acid, cell wall synthesis, phenol and indole acetic acid metabolism. Both Zn and B are synergistic in nature. Humic acid is involved in assimilation of major and minor elements, stimulation of plant growth and finally in biomass accumulation. A field study was carried out at agronomic research area department of agronomy, University of Agriculture Faisalabad during winter season 2016-2017 to study the dynamics of soil applied B, Zn and humic acid in enhancing wheat productivity. The crop was shown on November 18, 2016 with the help of hand drill using seed rate of 120 kg/ha. Randomized complete block design with factorial arrangement was adopted in that experiment with three replications. Treatments included; **(A)** Humic acid: Control and 10 kg/ha. **(B)** Boron and zinc levels; control (0 kg B + 0 kg Zn/ha), (2 kg B + 0 kg Zn/ha), (4 kg B + 0 kg Zn/ha), (0 kg B + 5 kg Zn/ha), (2 kg B + 5 kg Zn/ha), (4 kg B + 5 kg Zn/ha), (0 kg B + 10 kg Zn/ha), (2 kg B + 10 kg Zn/ha), (4 kg B + 10 kg Zn/ha). Data regarding crop growth, yield and quality traits were recorded according to the standard procedures. The recorded data were tested statistically by using Fisher's analysis of variance technique and treatments' means were compared by using Tukey's HSD test at 5% probability level. Application of humic acid as well as zinc+boron significantly affected wheat performance by improving crop stand, yield related attributes and quantity of zinc and boron in seed, Moreover application of humic acid increased uptake of zinc and boron in plant as well as in grains. The results indicated that zinc+boron along with humic acid can be applied to improve performance of wheat.

ABSTRACT No. IMRC-LS-37

EXPOSURE OF BISPHENOL A IN PAKISTANI POPULATION AND ITS ASSOCIATION WITH GLYCEMIC INDEX

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Bisphenol A (BPA) is man-made chemical which is frequently used in a variety of packaging materials for various types of food and plastic items. BPA is generally considered as endocrine disrupting chemical worldwide and maybe a potential risk factor the pathogenesis of diabetes mellitus (DM). The aim of this study was to investigate the BPA exposure by detecting the urine levels of BPA among Pakistani population who are exposed to BPA by any means, particularly working in association with plastic item production, thermal paper printing and consuming packed food items for at least 5 years. We analyzed 74 urine samples by ELISA detection method, including both diabetic and non-diabetic study participants. Majority of the study participants were detected with reasonable BPA concentrations in their urine. The BPA urine concentrations found among the study participants, were ranged from 49.96 ngL^{-1} to9975ngL^{-1} with a median concentration of 362.7ngL^{-1}. We also calculated the HbA1c levels in the blood of study participants to correlate the elevated levels of BPA concentrations with HbA1c and found that elevated levels of BPA were positively associated with HbA1c levels in diabetic study participants. The presence of BPA in the urine samples of study participants showed that BPA is responsible for the induction of DM pathogenesis. Furthermore, toxicological and signaling pathway studies of BPA would definitely elucidate the role of its toxicity in the pathogenesis of DM.

ABSTRACT No. IMRC-LS-39

ANTIHYPERGLYCEMIC AND ANTIOXIDANT EFFECT OF *ARTEMISIA PARVIFLORA* BUCH.-HAM. EX ROXBEXTRACTIN ALLOXAN INDUCED DIABETIC RABBITS

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The sporadic increase in the occurrence and pervasiveness of diabetes mellitus have constrained and overwhelming quest for elective hostile to diabetic restorative approach from therapeutic plants.In vitro antioxidant DPPH (1,1-diphenyl-2-picrylhydrazyl) and antidiabetic potential of perennial *Artemisia parviflora* Buch.-Ham. ex Roxbherb of Asteraceae family were carried out on the extracts. Fifteen healthy rabbits were divided into five different groups including normoglycemic control, Diabetic control, treated with *A. parviflora* extract at the dose rate of 150 mg/kg, 250mg/kg and 350mg/kg respectively with 3 rabbits in each group. The extracts were given orally for 2 days, 50ml extract per rabbit per day. At every 3rd day blood sample was collected, serum separated and glycemic level, total cholesterol level, Triglyceride level were determined by kit method. The body weight was recorded after dosage. The data obtained revealed that *A. parviflora* extract significantly decreased ($p < 0.05$) the high glucose levels. Persistent treatment with these extracts also reduced the total cholesterol level, triglyceride level significantly as compared with diabetic control group. It was observed that the % inhibition of DPPH by extract of *A. parviflora* was 68.00 ($p>0.05$). Therefore, it is concluded that the petroleum ether extract of *A. parviflora* possess the potential to scavenge free radicals and exert hyperglycaemic control in diabetic rabbits.

ABSTRACT No. IMRC-LS-42

EFFECT OF SEED AND ROOT EXUDATES ON GROWTH AND GERMINATION OF *ASPERGILLUSTERREUS*AS ENDOPHYTEAND *ASPERGILLUS NIGER AS* PATHOGEN

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Root exudates have the potential to reshape microbial communities in the rhizosphere by differentially attracting or repelling microbes. Current study was conducted to understand the potential of root exudates to inhibit or promote fungal spore germination. Also, effect of fungal association on root exudation and roots ability

to interact with fungi was evaluated. Fungal strains were isolated from plants collected from the premises of Abdul Wali Khan University Mardan. Endophytic strain was isolated from *Triticumaestivum* L. and pathogenic from *Menthaarvensis*L. On the basis of light microscopy of the slide cultures and DNA barcoading (based on ITS of 18 S rRNA gene) endophytic strainwas identified as *Aspergillus terreus*and pathogenic was *Aspergillus niger*. All isolated strains were subjected to seed and root exudates (induced by pathogen and endophytes and non-induced) of host and non-host plants for checking spores germination and hyphal growth of these strains. Spores of endophytic strain showed no germination in water and equal germination toward both host and non-host plant seed and root exudateswhile remained symptomless. Spores of pathogenic strain were germinated by water, host and non-host exudates. Root exudates from endophyte induced seedlings enhanced spore germination in endophytic strain and inhibited pathogenic strain. Contrary to this, exudates taken from pathogen induced plant support pathogen and discourage endophytes. Similar pattern was seen in case of fungal hyphal growth as well. Interestingly, it was found that tomato exudate as non-host while non-inducedgerminated only secondary spores of endophytes while wheat germinated only conidia as primary spores. So it may be concluded that endophytesonce entersmoothen way for attracting further endophytes and block pathogen. Pathogens are aggressive in mode but can be cooled down by endophytes.

ABSTRACT No. IMRC-LS-44

PERFORMANCE BASED STUDIES OF SECOND GENERATION ANTICOAGULANT RODENTICIDES BROMADIOLONE AND FLOCOUMAFEN IN MICE (MUS MUSCULUS)

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Anticoagulants acts in preventing blood clotting formation factor due to the enzyme lack vitamin K which helps in clotting. Two types of anticoagulant rodenticide are present; first generation and second generation anticoagulant rodenticide Rodents develop resistance against FGAR after being used for several times, therefore SGAR are practiced for most effective purpose. Unlike FGAR, single dose of SGAR is enough to kill the rodents in appropriate time. Anticoagulant rodenticide control rodent population by preventing blooding clotting factor in rodents. Vitamin K is necessary for making protein helpful in blood clotting factors such as prothrombin; these proteins are synthesized in liver. When a SGARs enters the blood, as the blood goes all through the body then this anticoagulant disturbs the vitamin K cycle, as a result blood clotting protein disturbs. Present study was designed into several interval groups such as 6, 12, 24 and 48 hours. Control group were maintained for same interval of time. Bromadiolone and

flocoumafen were given to the mice in the form of bait and mice were exposed to SGARs for 6, 12, 24 and 48 hours. After each time interval the animals were weighted and were sacrifice along with control animal and efficacy of bromadiolone and flocoumafen were noted. After scarification their effects on blood, liver and kidney weight were determined. Efficacy was checked based on oral and acute toxicity study with their effects on blood, liver and kidney. Bromadiolone was found to be more effective than flocoumafen.

ABSTRACT No. IMRC-LS-47

PHOTOCATALYTIC DEGRADATION OF ALIZARIN YELLOW IN AQUEOUS MEDIUM AND REAL SAMPLES USING TIN CHITOSAN CONJUGATED MAGNETIC NANOCOMPOSITES

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In the present study, tin chitosan conjugated magnetic nanoparticles (Sn-CCMN) were prepared by co-precipitation method. The prepared Sn-CCMN was characterized using SEM, EDX, XRD, FT-IR spectroscopic techniques. The SEM results showed the smooth surface morphology with irregular shape of 84±3 nm particle size in which the magnetic nano-particles are well-embedded into the chitosan. EDX analysis showed the prominent peaks due to Fe and Sn along-with C and O peaks while the XRD study revealed the amorphous nature of Sn-CCMN. Similarly, FT-IR analysis envisaged the incorporation and conjugation of Sn magnetic nano-particles into the chitosan polymer matrix with PZC value of 7.75. The photocatalytic activity of the prepared Sn-CCMN was investigated under UV light irradiation (254 nm and 15 W) in the aqueous medium using alizarin yellow (ALY). The photocatalytic process was monitored by UV-visible spectro-photometer under different conditions of irradiation time (0 to 120 min), pH (1 to 12), catalyst dose (0.05 to 1.0 g) and ALY concentration (5 to 50 mg/L). The results showed that the prepared Sn-CCMN displayed excellent photocatalytic activity and degrade 91.5% ALY in the aqueous medium. The prepared Sn-CCMN was recycled and reused maintaining excellent photocatalytic activity for four consecutive batches. The photo-catalytic degradation of ALY was fitted with the first order kinetics with reaction rate constant and rate of reaction of 0.0039 min^{-1} and 0.042 ppm/min, respectively. Under the optimal photocatalytic conditions, the Sn-CCMN were applied for the photocatalytic degradation of ALY in real samples.

ABSTRACT No. IMRC-LS-48

GENOME-WIDE IDENTIFICATION, CHARACTERIZATION, AND EXPRESSION ANALYSIS OF THE DEHYDRIN GENE FAMILY IN ASIAN PEAR (PYRUS PYRIFOLIA)

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Dehydrins (DHNs) are a complex family of plant proteins that play an important role in protection of higher plant cells from dehydration and desiccation damage during environmental stresses, such as drought, high salinity, and low temperature. However, information on DHN genes of Asian pear (Pyrus pyrifolia), an economically important fruit crop grown in temperate regions in East Asia, e.g., China and Japan, is limited. To gain insights into this gene family in pear and to elucidate their roles in floral buds under low-temperature conditions, we performed a genome-wide identification, characteri zation, and expression analysis of DHN genes. Seven PpDHN genes were identified. Sequence alignment analysis of all putative proteins from these genes showed that all of the proteins contained a typical K-domain. These genes were categorized into SK_n $YnSK_n$, YK_n, and K_n groups based on gene characterization and phylogenetic relationships. Hierarchical cluster analyses showed that in non-stressed pear, PpDHN genes were expressed in all vegetative tissues except young leaves and shoot tips, in which PpDHN1, PpDHN2, and PpDHN4 were not expressed. Transcript levels of four PpDHN genes increased significantly in floral buds in response to low-temperature treatment, which indicated that they play important roles during stress adaptation. This study provides evidence that the family of pear DHN genes may function in tissue develop-ment and stress responses. The data will be valuable for further studies of the functions of DHN genes under different stress conditions in pear.

ABSTRACT No. IMRC-LS-50

FLAVONOIDS AS ACETYLCHOLINESTERASE INHIBITORS: CURRENT THERAPEUTIC STANDING AND FUTURE PROSPECTS

Poster Presentation

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Background: Acetylcholinesterase (AChE), a serine hydrolase, is primarily responsible for the termination of signal transmission in the cholinergic system, owing to its outstanding hydrolyzing potential. Its substrate acetylcholine (ACh), is a neurotransmitter of the cholinergic system, with a predominant effect on motor

neurons involved in memory formation. So, by decreasing the activity of this enzyme by employment of specific inhibitors, a number of motor neuron disorders such as myasthenia gravis, glaucoma, Lewy body dementia, and Alzheimer's disease, among others, can be treated. However, the current available AChE inhibitors have several limitations in terms of efficacy, therapeutic range, and safety. Scope and approach: Primarily due to the non-compliance of current therapies, new, effective and safe inhibitors are being searched for, especially those which act through multiple receptor sites, but do not elicit undesirable effects. In this regard, the evaluation of phytochemicals such as flavonoids, can be a rational approach. The therapeutic potential of flavonoids has already been recognized against several ailments. This review deals with various plant-derived flavonoids, their preclinical potential as AChE inhibitors, in established assays, possible mechanisms of action, and structural activity relationship (SAR). Results and conclusions: Subsequently, a number of plant-derived flavonoids with outstanding efficacy and potency as AChE inhibitors, the mechanistic, their safety profiles, and pharmacokinetic attributes have been dis-cussed. Through derivatization of these reported flavonoids, some limitation in efficacy or pharmacokinetic parameters can be addressed.

ABSTRACT No. IMRC-LS-56

EFFECT OF TICKS ON DIFFERENTIAL LEUKOCYTES COUNT IN CATTLE UNDER SUB TROPICAL CONDITION

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Parasitic infestation in cattle is a common phenomenon in sub tropical conditions. The present study was designed to investigate whether the tick infestation effect the differential leukocytes count (lymphocytes, monocytes, esonophilic, basophilic and neutrophil) in cattle under sub tropical conditions in the hilly areas of northern Khyber Pakhtunkhwa, Pakistan. A total of 40 tick infested cattle were divided into four age groups having 10 animals in each group i.e. G1 (3 years), G2 (4 years), G3 (5 years) and G4 (6 years) were evaluated for leukocyte count in the present study. The overall means recorded in the present study were 3144.97±736.62 mm^3, 543.03± 93.28/mm^3, 610.37 ± 154.60/mm^3, 51.4 ± 7.38mm^3 and 32069.175 ± 273.18/mm^3 for lymphocytic count, monocytes count, esonophilic count, basophilic count and neutrophil count, respectively. There were no significant effects of age groups on differential leukocytes count in tick infested cattle except on esonophilic count. The results infer that the leukocytes are least effected by ticks infestation provided the ticks are not carrying any heamo parasite.

ABSTRACT No. IMRC-LS-60

DUAL CO-CATALYSTS DECORATED TIO_2 SPHERES FOR EFFICIENT PHOTOCATALYTIC HYDROGEN GENERATION

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TiO_2 has been widely studied for applications in energy storage, water splitting, photocatalysis and environmental remediation, due to its unique features such as its low cost, low toxicity, high photocatalytic activity, abundance, optical property and high stability. However the rapid recombination of photo generated electron-hole pairs restricts its applications. The effective separation of these charges improves its efficiency. Thus hollow mesoporous TiO_2photocatalysts with dual co-catalysts, were prepared using Polystyrene (PS) as sacrificial templates. Au nanoparticles (NPs) were loaded on the surface of PS spheres and the resulting nanocomposites were coated with TiO_2 using sol-gel reaction. The outer surface of core-shell spheres was impregnated with Ru and the subsequent calcination produced hollow anatase spheres with Au and RuO_2 dual co-catalysts. Photocatalysts were applied for hydrogen generation from water splitting and that with dual co-catalysts showed efficient catalytic activity under simulated solar light. The catalytic activity of photocatalysts with both oxidation and reduction co-catalysts ($Au@TiO_2@RuO_2$) showed hydrogen evolution more than that with just single catalyst ($Au@TiO_2$). Hollow mesoporous morphology with different co-catalysts on inner and outer surfaces is believed to enhance photocatalytic activity which is due to the effective separation of photogenerated charges.

ABSTRACT No. IMRC-LS-65

PRODUCTION OF THREE-WAY CATALYTIC CONVERTER (50 UNITS/DAY) FOR THE REDUCTION OF POLLUTANTS GENERATED FROM INTERNAL COMBUSTION ENGINES

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Environmental degradation is a major concern of the present world. Certainly, chemical and transportation industries are now a vital component of modern society. However, at the same time these industries are also responsible for releasing tons of toxic chemicals into the environment. The effective technologies for the reduction of toxic compounds greatly varies and are still in a development phase, particularly for

automobiles (concentration of exhaust gases are dependent on the engine quality). Besides carbon dioxide (CO_2) and water (H_2O), almost all vehicles emit a considerable amounts of carbon (C), carbon monoxide (CO), nitrogen oxides (NOx), and unconverted hydrocarbons (HC).Nowadays, smart ceramic catalysts are employed in an exhaust line of vehicles for the conversion of HC, CO, and NOx into inactive compounds (CO_2, H_2O, N_2 and O_2). These catalytic composites (Cordierite) have a honeycomb structure, a chemical composition of magnesium oxide (MgO), aluminum oxide (Al_2O_3), and silica oxide (SiO_2), whereas dispersed platinum /rhodium nano particles are the actual active sites . Unfortunately, the cost of catalytic converter unit is too expensive (Rs 40,000) for our local market, thus most of automobiles running on different roads of Pakistan are not environmental friendly. The minerals used for the catalyst preparation are commonly available in our country. For this reason, a research team from the university of engineering and technology Peshawar has recently prepareda detailed process design report for the production of three way catalytic converter. Material and energy balance were applied on each equipment and the designing of process equipment is also provided in present work. The capital cost for the construction of chemical plant was around 20 million rupees. More importantly, the cost of catalytic converter reduced to Rs.2000 per unit. This project will not only be beneficial for our environment, but will also generate huge revenue for our country.

ABSTRACT No. IMRC-LS-66

LETHAL AND SUB-LETHAL EFFECTS OF LUFENURON AND ALSYSTIN ON BRINJAL SHOOT AND FRUIT BORER, *LEUCINODES ORBONALIS* (LEPIDOPTERA: PYRALIDAE)

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Brinjal shoot and fruit borer (BSFB), *Leucinodes orbonalis* is a notorious pest causes around 67% damage to brinjal crop. The larvae attack on the shoots in the early phase of the crop and later it damages the fruit. In Pakistan, farmers mainly rely on insecticides to manage this pest in the field. The assessment of lethal and sub-lethal effects of insecticides is important to interpret the overall insecticide efficacy in controlling insect pest populations. In addition to the lethal effect, sub-lethal effects may also occur in exposed insects. In this study, lethal and sub-lethal effects of two new chemistry insecticides such as alsystin and lufenuron on the development and reproduction of brinjal shoot and fruit borer were evaluated in the laboratory. The results indicated that lethal and sublethal concentrations of both insecticides increased the duration of larval and pupal stages as compared with the control treatment. The percent pupation and percent adult emergence were significantly lower in insects treated with lethal and sub-lethal concentrations of both insecticides as compared with

control. The lethal and sub-lethal concentrations of lufenuron and alsystin decreased the pupal weight of the treated insects as compared with control. The proportion of pairs that produced eggs was not significantly different between treatments. The lethal and sub-lethal concentrations of lufenuron and alsystin also decreased the fecundity of the treated insects as compared with control. The results from this study will be helpful to develop the strategy to incorporate these two insecticides in an integrated pest management programme.

ABSTRACT No. IMRC-LS-67

SYNTHESIS AND ANTIBACTERIAL STUDY OF AZO DERIVATIVES OF 2-AMINO-4,6-DIHYDROXYPYRIMIDINE

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A series of azo dyes were synthesized by diazocoupling of 2-amino-4,6-dihydroxypyrimidine with different aromatic amines and characterized by FTIR and ^{1}HNMR spectroscopic techniques. The products were obtained in moderate yield and showed poor solubility in most of the organic solvents. The compounds were then evaluated for antibacterial activity against four bacterial strains; *Staphylococcus aureus*, *Bacillus cereus* (Gram-positive), *Pseudomonas aeruginosa and Escherichia coli* (Gram-negative), using disk diffusion method. The zone of inhibition for each compound was measured and compared with the commercial antibiotic drug, Gentamicin. Although the compounds having pyrimidine nucleus bearing sulphonamide/aromatic amines and -N=N- functional groups in the same structural frame, no significant biological activity was shown by any one of the tested compounds.

ABSTRACT No. IMRC-LS-74

HEAVY METALS ANALYSIS FROM INFANT FORMULA MILK AND COW MILK COMMERCIALLY AVAILABLE IN RAWALPINDI, PAKISTAN

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Heavy metals were determined in different brands of milk available in the market of Rawalpindi city. Total of 25 samples (10 infant formula and 15 fresh milk samples) were randomly chosen from the market. The heavy metals were analyzed by

using Atomic Absorption Spectrophotometer (AAS). Most the samples of milk contained lead and cadmium above the permissible limits while chromium and mercury were found to be within the permissible limits according to World Health Organization (WHO). The heavy metals concentration in infant milk brands was higher than in fresh milk samples heavy metal concentration in mg/kg of lead, cadmium were 0.31-2.16, 0.126-0.35 respectively in infants milk while in fresh milk concentrations in mg/kg of lead, cadmium were 0.001- 0.884, 0.04 - 0.21 respectively. The concentration in mg/kg of chromium, mercury were 0.06- 0.64, 0.00004 - 0.004 respectively in infants milk while in fresh milk concentrations in mg/kg of chromium, mercury were 0.14- 1.44, 0 - 0.002 respectively. In the current study Cd, Pb and Cr (in 8 of the samples) studied were detected above the permissible limits. If it keeps on increasing than milk consumption may result in greater bioaccumulation in food chain.

ABSTRACT No. IMRC-LS-75

YELLOW RUST RESISTANCE CHARACTERIZATION OF ELITE WHEAT GENOTYPES IN MEXICO AND PAKISTAN

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Growing cultivars with inbuilt genetic resistant to yellow rust is the most sustainable, economical and environment friendly approach for managing the disease. Three hundred and thirty one genotypes of CIMMYT 45th International Bread Wheat Screening Nursery (IBWSN) were characterized at the phenotypic and molecular level for identifying novel sources of adult plant resistance. Field tests at adult plant stage were performed at one location each in Mexico and Pakistan over two (2012-2013) and three (2013-2015) seasons, respectively. Seedling test and molecular tagging of four resistance genes *Yr9*, *Yr17*, *Yr24-26*, and *Yr30* in 331 genotypes were carried out at CIMMYT, Mexico. Based on greenhouse test, 331 genotypes were divided into six groups. Genotypes in Group 1 had seedling susceptibility and were consistent to have 4-5 times Area Under Disease Progress Curve (AUDPC) ranking between 1-30 over five years field testing in Mexico and Pakistan. Group 2 genotypes also had seedling susceptibility but were inconsistent and unstable in their AUDPC ranking over five years testing in both countries. Group 3 genotypes were seedling stage resistant and were consistent to have 4-5 times ranking of their AUDPC between 1-30 over five years. Group 4 genotypes were resistant at the seedling stage but were inconsistent and unstable in their AUDPC ranking over five years field testing. Group 5 genotypes displayed intermediate seedling reaction and were consistent to have 4-5 times of their AUDPC ranking between 1-30 over five years field tests. Group 6 genotypes displayed intermediate seedling reaction but were inconsistent and unstable in their AUDPC ranking over five years' field tests. Four markers including SCM009, Ventriup +Ln2, CYS-5

and WMS533 were used to tag *Yr9*, *Yr17*, *Yr24-26*, and *Yr30* which were amplified in 8, 45, 80 and 75% of the total 331 genotypes, respectively. These identified resistant/adult plant resistant sources are ready reference for utilization in national wheat breeding program and other relevant R&D activities in the country for food security and prosperity.

ABSTRACT No. IMRC-LS-76

EARLY DIAGNOSIS MAY PREVENT RISK OF DEVELOPMENT OF DIABETES MELLITUSIN CARDIOMYOPATHY PATIENTS.

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Cardiovascular diseases (CVD) are considered as the second major life-threatening diseases after cancer. In Pakistan, about 30 to 40 % of deaths occur due to CVD and/or associated complication. Some of these CVD-associated disease conditions remain asymptomatic; however, they develop gradually leading towards serious complications like initiation of disturbance in glucose homeostasis and development of diabetes mellitus (DM). For this purpose, we collected blood samples of 144 non-diabetic cardiovascular patients (having cardiomyopathy and coronary artery disease) from Faisalabad institute of cardiology. Various biochemical parameters were evaluated using these samples including fasting blood glucose (FBG), high-density lipoproteins (HDL), low-density lipoproteins (LDL), triglycerides (TGs), cholesterol, and ALP etc. Interestingly, increase in FBG level was observed in 56% of cardiomyopathy patients while 30% of coronary artery disease patients showed this increase in FBG. Similarly, others parameters like ALP, TGs, cholesterol, HDL and LDL level were found to be significantly high in cardiomyopathy patients as compared to the patients of coronary artery disease. This observation clearly indicates that cardiomyopathy patients are more vulnerable to the risk of developing metabolic disorders like DM. Therefore, such studies can contribute for early diagnosis and hence timely intervention of such conditions in CVD patients leading towards better clinical outcome.

ABSTRACT No. IMRC-LS-77

SPECTROPHOTOMETRIC DETECTION OF HEAVY METAL CHROMIUM (III)

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A Schiff base non-fluorescent chemosensor C6 (2,2'-(1E,1'E)-(hexane-1,6-diylbis(azan-1-yl-1-ylidene))bis(methan-1-yl-1-ylidene)diphenol) was synthesized and characterized by NMR and ESI-MS analysis. It is found that this chemo sensor exhibit good sensitivity for Cr^{+3} over a wide range of alkaline earth metals, alkali metals and other metal ions especially transition metalsions in acetonitrile solution. We get slope =0.0234, and SD value is 0.093.The LOD = 13.34µM and LOQ = 40.43 µM i.e. C6 can detect Cr(III) in this minimum concentration through UV-vis method. The Cr^{+3}recognition of C6 could easily be achieved by means of absorption spectra.

ABSTRACT No. IMRC-LS-80

ANALYSIS OF CLOUD OPTICAL AND RADIATIVE PROPERTIES OVER LAHORE AND KARACHI, PAKISTAN

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According to the Global Climate Risk Index 2018 report, Pakistan has been ranked seventh among the list of countries that have been greatly affected by climate change both in the long-term index and in the index of respective years. A large number of studies conducted over this region have focused on the role of aerosols in affecting the climate. However, no study related to the cloud-radiation interactions has been reported yet. To understand the Earth's climate and its response to natural and anthropogenic activities, knowledge of cloud optical, microphysical and radiative properties is of prime importance. Therefore, the current study addresses the issue of cloud climate interactions by analyzing the spatial and temporal variations in the cloud optical and radiative properties over the two mega cities Lahore and Karachi of Pakistan by using a combination of satellite and model based observations.

ABSTRACT No. IMRC-LS-82

PREPARATION AND CHARACTERIZATION OF BOTANICAL ADSORBENTS: AN ENVIRONMENT FRIENDLY BIOREMEDIATION APPROACH

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The present investigation reports the synthesis of cost effective botanical adsorbents for heavy metal removal from industrial effluents. Bark, gums, leaves and pollen parts of plant species viz., *Prunus armeniaca, P. persica, Acacia nilotica, Eucalyptus camaldulensis, Pinus roxburghii* were collected for the synthesis of adsorbents. Characterization of the adsorbents was done through Fourier transform infrared (FT-IR) spectroscopy, thermo gravimetric analysis (TGA) and scanning electron microscopy (SEM). Batch adsorption studies were carried out at room temperature to evaluate the influence of contact time for metal removal. Concentration of lead, chromium and mercury was done by Atomic adsorption spectrophotometer. Adsorption efficiencies of pollen and pollen chitosan capsules for metal uptake from aqueous solution. The kinetics and isotherm studies were performed for determining the fitness of adsorption data. The results indicate that these adsorbents are efficient for selected metal removal. The adsorbents prepared from bark showed greater adsorption capacity of metals as compare to leaves and Gum. The removal order was found to be Cr>Hg>Pb.

ABSTRACT No. IMRC-LS-83

CHITOSAN BUILT HYDROGEL WITH INDUCED HYDROPHILICITY FOR EXTENDED RELEASE OF DOPAMINE FOR DIABETIC WOUND HEALING APPLICATIONS

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Regarding public health relevance, the potential of Dopamine as a neurotransmitter to normalize the function of endothelial cell in diabetic wound healing is highly stressed. In this paper, chitosan and alginic acid were copolymerized in the form of chemically cross linked interpenetrating networks (IPNs) and were functionalized via carbodiimide-catalyzed coupling of 1,2-Ethylenediamine and 4-aminophenol for extend-ed interfaces of hydrogel with Dopamine solutions. The chemical structure, particle size (Zh,app ≈150-200 nm), Lower solution critical temperature (LCST≈37.0 oC), surface roughness (85-250 nm), and zeta potential (16-32 mv) of native and functionalized hydrogel were investigated by using FT-IR, solid state13C-NMR, TGA, DSC, FESEM, AFM and dynamic light scattering (DLS)

measurements. At physiological conditions, effective drug loading (65%- 75%) and drug release (60%- 81%) profiles were investigated due to electrostatic complexation and extended interfaces of hydrophilic ligands with the aqueous Dopamine. The release of Dopamine from hydrogel with diffusion coefficeint n≈0.7 was established by Non-Fickian diffusion mechanism. Consequently, in-vitro release of Dopamine from the hydrogel matrices at physiological conditions could be highly attractive for Diabetic wound healing applications.

ABSTRACT No. IMRC-LS-84

STRUCTURAL, SPECTROSCOPIC AND BIOLOGICAL STUDIES OF ORGANOTIN(IV) DERIVATIVES OF OXO-ETHYL CARBONODITHIOATE

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Addressing the curative potential of organotin based oxo-ethyl carbon-odithioates as anti-neoplasias, antitumor and biocidal species, a series of organotin thiocarbonates with various alkyl functionalities have been synthesized. The chemical structure, morphology, computational and Drug-DNA binding capabilities of synthesized complexes were analyzed by using FT-IR, NMR (1H, 13 C), AFM, Semi-empirical study and UV-visible spectrophotometer respectively. The in vitro biocidal potential of selective complexes were tested against standard microbial strains to evaluate the effect of alkyl functionalities on the performance of organotin complexes in term of structure-activity relationship. The NMR results revealed four and six coordinated geometry of selective compounds and the AFM analysis exposed the smart surfaces in term of grain size and root mean square roughness (RMS) to suggest the catalytic and biocidal highly desired applications. The invitro biocidal performance of complexes (1-5) evaluates the significant activity against bacterial, fungal, cytotoxic and eishmanial strains with some promising results. The UV-spectroscopic analysis investigated the ligand-DNA binding via intercalative interfaces with red and blue shifts. Consequently, the surface and biocidal characterization suggested the system to lead in finding applications against infectious diseases in controlled pharmaceutical, catalytic and cosmetics industries.

ABSTRACT No. IMRC-LS-91

TOTAL PHENOLIC AND FLAVONOID CONTENTS, ANTIOXIDANT, ANTI-DIABETIC, AND CHOLINESTERASE INHIBITORY ACTIVITIES OF *ECHINOPS ECHINATUS* (GLOBE THISTLE)

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Echinops echinatus, belonging to family Asteraceaeis traditionally used as appetizer, carminative, liver tonic, to treat jaundice, diabetes, and heart diseases. It has been reported to be a rich source of flavonoids with significant pharmacological activities. This study aimed to quantify total phenolic and flavonoid contents, antioxidant, anti-diabetic and anti-cholinesterase activities in its leaves, stem, flowers and seed extracts. Among the extracts of various parts, ethyl acetate extract was the most enriched extract with phenolic and flavonoid contents as well as the most potent free radical scavenger (DPPH IC_{50} 9.16µg/mL, ABTS IC_{50} 6.0 µg/mL). In anti-diabetic activity, leaves and stem methanol extract was the strong inhibitor of α-glucosidase enzyme with IC_{50} values of 379.2 and 360.3µg/mL, respectively. Methanol and ethyl acetate extracts also showed dual cholinesterase enzymes inhibition. Thus, *E. echinatus* could act as a potential source of natural antioxidant agents which might be beneficial upon consumption.

ABSTRACT No. IMRC-LS-92

OXIDATION OF IODIDE BY DICYANOBIS (PHENANTHROLINE) IRON(III) IN AQUEOUS MEDIUM

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This study surfaces the mechanism of the oxidation of iodide; I^- by dicyanobis (phenanthroline) iron (III); $[Fe^{III}(phen)_2(CN)_2]^+$ in aqueous medium. The reaction was studied under the condition of pseudo-first order at 287 ± 0.5 K and 0.06 ionic strength. The data were acquired spectro photometrically and integrated rate equations were used to evaluate the values of the observed rate constant. The reaction underwent a complex kinetics and completed in two phases. Initially, the reaction followed an overall first order kinetics; the zeroth and first orders with respect to $[Fe^{III}(phen)_2(CN)_2]^+$ and I^-, respectively. In the second phase of the reaction, it followed an overall fraction (1.5) order. A fractional (0.5) order with respect to $[Fe^{III}(phen)_2(CN)_2]^+$ and first order in I^-. A third phase was also observed near the end of the reaction, and was termed as the competition phase. In this phase, the rate of the redox reaction and the rate of the

insolubility of the neutral product; $[Fe^{II}(phen)_2(CN)_2]$, competed each other. A sine-wave pattern was observed, as we increased the concentration of iodide ion in the reaction mixture and maintaining all other parameters constant. The effects of ionic strength, protons (H^+), and dielectric constant were also studied. In the view of results, the reactive species have been recognized that control the rate of reaction and involve in the rate-determining step. The effect of temperature on the rate constants showed that the reaction is both exothermic and endothermic in nature, which depends upon the temperature range. At lower temperatures, it is exothermic, and at higher temperatures, it shows endothermic nature.

ABSTRACT No. IMRC-LS-93

ANTIFUNGAL ACTIVITY OF *AGERATUM CONYZOIDES*

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Macrophomina phaseolina is a soil-borne fungal pathogen causing diseases in more than 500 plant species. The present study aimed to identify possible antifungal constituents in different parts of an asteraceous weed *Ageratum conyzoides* for the control of *M. phaseolina* through bioassays guided fractionation. Different parts of the weed were extracted in methanol and antifungal bioassays were carried out using different concentrations (1, 2, …5%) of the extract. Stem extract caused the highest inhibition in fungal biomass (20-83%) followed by leaf extract (16-67%). Methanolic stem extract was partitioned using four organic solvents. Bioassays carried out with different concentrations (3.125 to 200 mg mL^{-1}) of the sub-fractions of methanolic stem extract revealed the highest antifungal potential of chloroform sub-fraction with 56-93% reduction in fungal biomass followed by *n*-butanol, ethyl acetate and *n*-hexane sub-fractions causing 24-76%, 7-75% and 5-70% reduction in fungal biomass over control, respectively. Chloroform sub-fraction with the highest antifungal potential was analyzed by GC-MS. Out of 10 compounds identified in this sub-fraction, 2H-1-benzopyran, 6,7-dimethoxy-2,2-dimethyl was the most abundant followed by hexadecanoic acid, methyl ester with peak areas of 27.58% and 18.85%, respectively. Other dominant compounds were 9,12-octadecanoic acid (Z,Z)-, methyl ester (13.67%) and 11-octadecenoic acid, methyl ester (15.28%).

ABSTRACT No. IMRC-LS-94

EFFECT OF CHANGING CLIMATE CONDITIONS ON PLANT DISEASE DISTRIBUTION IN PUNJAB, PAKISTAN

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In Pakistan climate change has emerged as a serious concern for agriculture especially for vegetable and ornamental plant. Investigations conducted against regular field crops like sunflower, sesame, maize and perishable crops Gladiolus, Tomato, Bitter Gourd and onion against most commonly occurring pathogens viz *Macrophomina phaseolina, Alternara alternata* and *A porri spp, Fussarium spp and Myrothecium roridium* from 2007-2016 on disease distribution pattern of Root rot of Peanut, Stalk rot of maize, Myrothecium leaf spot of Bitter Gourd, Charcoal rot of Sesame and Purple Blotch of Onion (ongoing). Comprehensive surveys were conducted toto identify changes in the distribution pattern of major disesase in relation to different geographical zones. Main objective of these studies was to acquire knowledge about the variation in terms of prevalence, diseases incidence and severity of the diseases with relation to the environmental conditions of the specific zone. The climate change also affected on Sporulation, morphology, new areas of introduction and lesser occur, adaptability physiology. The severity was measured on a 0-5 visual rating scale where 0 stands for no disease and 5 stands for 80% $^{+}$ disease severity. Some of the studies for post harvest quality deterioration in fruit and vegetable markets were also co related with changing climate. A structured questionnaire was also distributed among crop production and protection stake holders from public and privates sector. Data was collected from five Agro ecological zones in Punjab province in Pakistan that are designated as rice, cotton, mix cropping and rain fed or pothohar zone. In these zone farmers concern was noted as Change in inputs requirement: especially irrigation, pesticides and fertilizers, Marketing instability, Post harvest processing, Crop phenology. There is need for regular monitoring of the cropping systems and isolates of the most commonly occurring pathogens of the country. It would help in designing cropping patterns in accordance with the need.

ABSTRACT No. IMRC-LS-95

TRANSPORT OF CR(III) THROUGH SUPPORTED LIQUID MEMBRANE

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This study describes the extraction of Cr(III) through supported liquid membrane(SLM). The SLM was soaked in various carriers and sandwiched between feed and strip solution to optimize various conditions. The complex extracted into organic membrane phase have been determined as $[(LH)_n.Cr_2O_7)]_{n+1(org)}$ for transport of Cr(III). The stability and durability of the SLM for transport of Cr(III) was investigated up to 200 hours and extraction found for each run was greater than 80%. The stability studies indicate that these SLMs can be used comfortably for removal of Cr(III) metal ion on industrial scale.

ABSTRACT No. IMRC-LS-96

TREATMENT OF METHYLENE BLUE IN AQUEOUS SOLUTION BY ELECTROCOAGULATION-ADSORPTION COUPLED BATCH SYSTEM

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In this work, removal of Methylene Blue (MB) in aqueous solution was studied by coupled batch system of electrocoagulation-adsorption process using cellulose as an adsorbent. The influence of operating parameters of pH, current density, absorbent dosage, contact time, dye concentration on the removal efficiency was studied. The kinetic study and the process energy consumption were also determined. As compared to conventional single process, the electrocoagulation–adsorption coupled system showed higher removal efficiencies at shorter contact time with low energy consumption. The experimental results show the improved performance of coupled process hence the EC/Cellulose coupling method could be highly recommended instead of the conventional simple Adsorption/EC process.

ABSTRACT No. IMRC-LS-97

TO INVESTIGATE THE REMOVAL OF METHYLENE BLUE BY CATALYTIC OZONATION PROCESS USING ALUMINA

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In various studies alumina have been embedded with different materials like Manganese to be used in water treatment applications. The objective of the study here is to investigate the alumina—alone effect on water treatment. For that, a 100 ppm Solution of Methylene Blue was prepared. The solution was subjected to ozonation and catalytic ozonation. The study also provides the comparison of ozonation and catalytic ozonation whereby alumina is used as a catalyst. This provides a clear understanding of using alumina as it helps speeding reaction, impact on the ozone dosage. Also, the optimized parameters for catalytic ozonation like ozone dosage, alumina dosage and pH were found out through this study. These parameters can be used to carry forward this study.

ABSTRACT No. IMRC-LS-100

FORAGING BEHAVIOR OF THE GIANT HONEYBEE, *APISDORSATA* F. (HYMENOPTERA: APIDAE) IN SUNFLOWER (*HELIANTHUS ANNUUS* L.) AT PESHAWAR DISTRICT OF PAKISTAN

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Foraging of honeybees is of great importance from pollination point of view, as sunflower production mainly depends on insect visitors in common and honeybee in particular. Keeping in view the importance of pollinators, foraging behavior of the Giant Honeybee, *Apisdorsata*in sunflower, *Helianthus annuus* L. at Peshawar District was studies at New Developmental Farm (NDF), The University of Agriculture Peshawar, (34.01° N, 71.53° E) Khyber Pakhtunkhwa (KP), Pakistan during 2012 and 2013. Observation on foraging activities of honeybee recorded from morning hours i.e. 0800 hr and continued until 1800 hr of the day. It was found that foraging movements of honeybee varied greatly during different hours of the day. Maximum foraging of *A. dorsata*species recorded at 1600 hr and followed by another peak foraging activities of bee visitors at 1200 noon. Minimum foraging activities found at 1800 hr. it was also learnt that foraging of bee visitors' greatly affected by the amount of pollens and nectars on blossoms of sunflower. During 20th and 25th days after flowering on the crop, maximum individuals of *A. dorsata* recorded since numerous plants were in full bloom.

Similarly, less number of bees found while foragingas the crop moved toward maturity. It was concluded that sunflower is such a crop that attracts honeybees which helps in cross-pollination of the crop and ultimately increase grain yield as well as enhance quality of the produce as well. Farmer communities hence should advise to avoid extensive use of insecticides during blossoming stage in order to protect honeybees and other natural enemies.

ABSTRACT No. IMRC-LS-101

STATUS OF THE ACUTE FOOD SECURITY SITUATION OF PAKISTAN

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When sufficient amount of good quality food is available for a sufficiently longer duration of time and the consumer is able to derive sufficient amount of energy, the consumer is said to be food secure for the given time period. According to internationally agreed criteria, food security can be classified into two broader categories based upon the duration under consideration i.e. acute food security which is measured for one to six months (also known as short term food security) and chronic food security which is measured for a period of 1 to 10 years (also known as long-term food security). An approach known as the Integrated Phase Classification (IPC) originally designed by the Food and Agriculture Organization of the United Nations has been used to determine food security status of an area in several countries of Asia and Africa. IPC describes four different pillars essential for the food security of an area i.e. food production, availability, utilization and stability. Each of these pillars is carefully measured/assessed based upon standard indicators each with standard threshold levels used uniformly throughout the different countries that have implemented IPC. This allows for a common language with common parameters, threshold levels and evaluation criteria for the assessment of the food security status of geographically and culturally different countries. IPC classifies an area into five different phases each signifying a different acute food security situation in the form of a table and each phase identified in the form of a specific color on the map. Furthermore, IPC also gives an idea about the future acute food security situation (though only up to a few months). IPC was used to determine the acute food security situation of Pakistan at district level for two consecutive seasons over a period of two years. In the1st season of 2014, a total of 44 districts were classified in phase 1 (food secure) with an average of 53% of the population of the country, 59 districts were classified into phase 2 (moderately food insecure) with 34% population of the country, 33 districts in phase 3 (highly food insecure) with 10% country-wise population and 12 districts were classified into phase 4 (severely food insecure) with 3% population of the country. However, none of the districts in the country were classified into phase 5 (famine or catastrophic conditions).

During the second season of the year 2014, the situation improved a little and the number of districts in phase 3 and phase 4 decreased to 28 and 10, increasing the number of districts in phase 2 to 67. Sindh and Balochistan provinces had the highest acute food insecurity in the country. Similarly, the federally administered tribal areas (FATA) were also found to be highly food insecure. Poverty, poor physical and economic access to quality food, poor utilization of food due to diseases and non-hygienic conditions, negative coping strategies, lack of literacy, regular hazardous events like drought and floods, large scale migrations, internally displaced people (IDPs) and law and order situation were the main reasons contributing to the food insecurity of the country. IPC analysis is a detailed assessment of the food security status of an area based upon standard data. It builds technical consensus, classifies the severity and causes, assures the quality of the analysis and communicates to the responsible government departments for relevant action. IPC analysis results were communicated to the government for policy making and further necessary action in food insecure areas. Chronic food security analysis has also been started in Pakistan and has been conducted only for Sindh province so far.

ABSTRACT No. IMRC-LS-102

ICE-ACTIVE SUBSTANCES AND LOW MOLECULAR WEIGHT CRYOPROTECTANTS PLAY A PIVOTAL ROLE IN THE INTRACELLULAR FREEZING SURVIVAL OF THE ENTOMOPATHOGENIC NEMATODE, TEINERNEMA FELTIAE

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Intracellular ice formation is thought to be fatal for animals. However, Steinernema feltiae can withstand both extracellular and intracellular ice formation, and is a moderately freezing tolerant. The intracellular freezing survival in this species is attributed to the presence of low and high molecular weight compounds that act as cryoprotectants. We investigated the cryoprotectant profiles under different acclimation and freezing regimes that may be associated with its survival. A hexagonal ice crystal growth form in the nematode extract is indicative of the presence of ice-binding substance, most likely a protein. This ice-active substance has ice recrystallization inhibiting activity as detected by splat cooling assay and optical recrystallometry, which is controlling the size and shape of ice crystals after its formation. It is present in low concentration with weak ice-nucleating activity, has no thermal hysteresis and is relatively heat stable. We also detected by gas chromatography the low molecular weight cryoprotectants in nematode extract in response to cold acclimation and to freezing. The principal cryoprotectants detected were trehalose and glycerol with glucose being the minor component. Steinernema

feltiae has two strategies of cryoprotectant accumulation: one is an acclimation response to low temperature when the body fluids are in a cooled or supercooled state and the infective juveniles produce trehalose before freezing. During this process, a portion of the glycerol is converted to trehalose. The second strategy is a rapid response to freezing which induces the production of glycerol but trehalose levels do not change. In summary, low molecular weight compounds protect the nematodes from short-term freezing injury, whereas the high molecular ice-active substances enable S. feltiae to withstand long-term freezing stress.

ENGINEERING AND INFORMATION TECHNOLOGY ABSTRACTS

ABSTRACT No. IMRC-EN-05

PERFORMANCE ANALYSIS OF BUS RAPID TRANSIT STATION FACILITIES UNDER FLUCTUATED PASSENGERS ARRIVAL FLOW CONDITION

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Presently, the Bus Rapid Transit (BRT) system is the modern solution for transportation system. The performance of whole BRT system is greatly affected by the design and infrastructure of the stations. This paper reports the performance analysis of BRT station facilities under fluctuated arrival flow of passengers in the stations and overcomes the shortcoming in the existing studies. The experimental results by using Discrete-Event Simulation (DES) model of station facilities reveal that facilities experience heavy passengers' queue and longer dwell time of passengers in the facilities when the fluctuation of passengers' arrival flow is high. Therefore, during analysis and design of the station facilities, emphasis should also be given to the fluctuation effect of passengers as it depict the actual scenario at the station.

ABSTRACT No. IMRC-EN-06

MECHANICAL PROPERTIES OF DIFFERENT STABILIZED SOILS OF KHYBER PAKHTUNKHWA

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Half of the population of the developing countries is living in some kind of mud houses. In Pakistan about 36% of the building typology consists of mud houses and in Khyber Pakhtunkhwa (KP), Pakistan, it is about 30%. It is therefore, necessary to evaluate the compressive strength of soil of different regions in KP, where mud housing is common. This research is intended to compare the compressive 2" (50 mm) cube strength (as shown in fig. 1) of un-stabilized soil from different regions of KP (Zangali, Parachinar and Sarband) with the cement stabilized soil. To increase the durability of soil, while keeping it workable, the water to soil ratio was increased from 0.17 to 0.25. As expected, the compressive strength of the cement stabilized soil was reduced as compared to the un-stabilized soil, this was because of the high water to soil ratio and less binding ability of cement, except for the Sarband soil whose strength increased by 79%. As Sarband soil was non-cohesive and has certain percentage of particles large enough to get bound by cement get.

ABSTRACT No. IMRC-EN-07

ENGINEERING PROPERTIES & COMPARISON OF POTENTIAL AGGREGATES SOURCES OBTAINED FROM FEDERALLY ADMINISTRATIVE TRIBAL AREA (FATA), PAKISTAN

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The paper present the categorical behavior of coarse aggregates obtains from various existing quarries in the federallyadministered tribal area, FATA Pakistan, for use to make coarse aggregates concrete. The most easily accessible sites were selected because it meets the demands of Peshawar city as well as FATA. The potentiality was checked through numerous scientific tests such as Bulk Density, Soundness of Aggregates, Los Angeles Abrasion, Gradation test of coarse aggregates in these areas. Moreover, the water absorption tests were performed on the collected sample to evaluate their engineering behavior as per ASTM specification. Based on experimental study of this research, sources from the Basai area (lat.33° 40’ to 33° 05’N; long. 71° 04’ to 71° 98’E) (Khyber Agency) and Bazid Khel area (lat. 33° 68’to 33° 40N; long. 71° 51’ to 71° 60’E) Darra Adam Khel (FR. Kohat) revealed the properties as per ASTM. The obtained results reveal that aggregates can be suitable for the structural component. According to ASTM specification Basai and Darra Adam Khel coarse aggregates are good alternatives also these aggregates are cheap due to less transportation near to Peshawar city. The present source can be a readily alternative of coarse aggregates to the construction industry of Pakistan. Kirana hills at (lat. 31° 96’ to 31° 67’N; long.72° 70 to 72° 29’E) and Margalla hills (lat. 33° 74’to 33° 39’N; long.73° 02’to 73° 28’E) are the approved sources of aggregates in Pakistan.

ABSTRACT No. IMRC-EN-08

DETAIL STUDY OF DIFFERENT CRACKS AND FAILURE OF BITUMEN OR ASPHALT

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This paper presents the study of cracks and failure of bitumen or asphalt. For naturally occurring bituminous sands used for petroleum production. The terms bitumen and asphalt are mostly interchangeable, except where asphalt is used as a short hand for asphalt concrete. Asphalt also known as bitumen. Bitumen is a sticky, black, and highly viscous liquid or semi-solid form of petroleum. It may be found in natural deposits or may be a refined product, and is classed as a pitch. Before the 20th century, the term asphalttum was also used .The word is derived from the Ancient Greek. The primary use (70%) of asphalt is in road construction, where it is used as the glue or binder mixed with aggregate particles to create asphalt concrete.

ABSTRACT No. IMRC-EN-09

EFFECT OF PERMEATION GROUTING USING CEMENT BENTONITE GROUT IN A SANDY SOIL

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Grouting is a process of soil improvement in which fluid is injected into the ground which has the ability of forming a gel and binds the soil particle together. Grouting are of three types namely compaction grouting, permeation grouting and jet grouting. Permeation grouting is the injection of high permeability fluid into the loose sand without changing the physical properties of sandy soil to improve their shear strength and bearing capacity. In this research, we will study the effect of cement bentonite grout on the sandy soil. For cement bentonite grouting experimental work we will perform basic tests on cement, tests on sandy soil without bentonite, tests on sandy soil with different percentage of bentonite (5%, 10%, 15%) and cement bentonite grout with different grout ratio 10:1:10 (water:cement:bentonite), 9:1:9, 6:1:6. The grouted experiment is performed by placing the sand in the square tank of 9in x 9in x 9in in which cement bentonite paste is injected through porous PVC pipe. To knowing about the improvement in bearing capacity CBR test is carried out at 3 days and 7 days curing of cement bentonite grout. The experimental results will show that shear strength of sandy soil will increase with increasing the bentonite percentage up to the certain extent (10% bentonite) and the bearing capacity of the sandy soil will increase with increase in cement bentonite ratio.

ABSTRACT No. IMRC-EN-10

PRODUCTION OF LOW COST FOAM MORTAR USING INDIGENOUS MATERIAL

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Conservation of energy in today's world plays an imperative role to improve and maintain the life style and comfort of the people. People are more interested in energy saving so insulation is a process used for this purpose. Numerous researchers have studied the nature and issues related to the proper materials used for building insulation. Foam mortar being one of them can be used as insulating material. This research work is related to the use of indigenous material like locally manufactured fabricated foaming agent as air entraining agents for the production of foam mortar. The present research is an experimental study which consists of two phases. In Phase I, 12 control mix designs and 12 mix designs of foam mortar using detergent were prepared for test purpose. In phase II, 7 control mix designs and 7 mix designs using

detergent were taken in consideration. Through Experiment, it is finally concluded that compressive strength of foam mortar decreases with increase in percent of sand and vice versa. The study further revealed that using locally indigenous material as foaming agent can minimize the cost of the project. The results also show that mortar having indigenous material has more resistance to heat and sound absorbent as compared to mortar which does not have indigenous material. Therefore, foam mortar is found effective to be used in building to make them externally as well as internally insulated that will properly be able to absorb noising and will prove as a sound proof. Thus the material is found with ability to reduce the consumption of energy that will lead to energy saving.

ABSTRACT No. IMRC-EN-12

THE EFFECT OF POLYPROPYLENE FIBERS ON THE TENSILE STRENGTH OF CEMENT STABILIZED MUD

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Soil is the most oldest, economic, environmentally friendly and widely available building material. It is estimated that nearly one-third of the globe population is living in earthen construction. Moreover, almost one half of the developing countries are inhibited in mud houses. In Pakistan it is observed that adobe is the 2nd largest housing typology in Pakistan. Adobe is weak in tension and cracks easily appeared when subjected to tensile forces. In order to enhance the tensile strength of adobe various stabilizers are used such as plant fibers, animal hairs and wools etc. This study focused on the tensile strength of mud using polypropylene fibers of length 12 mm with 10% cement content by dry weight of soil sample. The percentages of polypropylene used were 0.25%, 0.50%, 0.75% and 1% by the weight of soil sample. It was observed that as the amount of polypropylene fibers was increased the tensile strength of briquettes also increased and the crack propagation was also minimized (increased ductility). But in the control samples, brittle failure was observed. Mud briquettes stabilize with poly-propylene with extreme loading was not broken into pieces but remain intact.

ABSTRACT No. IMRC-EN-14

SOIL IMPROVEMENT BY USING ECONOMICAL ADDITIVES

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Geotechnical engineers confronted for the most part of soil having poor execution or by nature they are clayey soil. So, it is important to enhance their properties, so that to fit it for a any type of construction. There are such huge numbers of techniques for development properties of clayey soil. A progression of research facility tests has been executed. Varieties of samples were made by mixing expensive soil with rice husk ash and lime in different proportion i.e. 2%, 4%, 6%, 8%, 10%, 12%. The results of those studies showed improvement in the engineering properties of the expensive soil like diminishing swell behavior, decrease in plasticity index, increase CBR (California bearing ratio) value, increase in shear strength angle, decrease in soil cohesion increase in bearing capacity, and lowering consolidation. In the light of previous study, focus of our project is to blend these materials in pairs like rice husk ash and lime with expensive soil and check the results check the results for different proportion i.e. 3%, 6%, 9%, 12%.we will determine the optimum proportion of mixing each material. From the conclusions of these results, we will determine the best one combination of these materials for geotechnical properties improvement.

ABSTRACT No. IMRC-EN-23

THE IMPACT OF AEROSOLS ON MICROPHYSICAL PROPERTIES OF CLOUDS OVER KARACHI AND SWAT, PAKISTAN

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Aerosols are the airborne particles in the atmosphere and can be produced both naturally and anthropogenically. The tropospheric layer contains about 80% of the atmospheric aerosols, where this layer is lying at a height of 10 km above sea level. These suspended microscopic particles in the air are of many kinds e.g. soil particles or dust, smoke from power generation plants and cars etc. Due to their various sizes and compositions they can affect not only the climate, but also our health and quality of life. Aerosols act as cloud condensation nuclei, therefore the presence of these particular matters in the air, impact the microphysical properties of clouds which in turn affects

the cloud droplet and precipitation formation. In the present study different parameters have been retrieved using satellite based observation for the analysis of effects of aerosols on the microphysical properties of clouds over Karachi and Swat regions of Pakistan.

ABSTRACT No. IMRC-EN-25

FIS BASED TRANSMITTER END SECURITY ON PHYSICAL LAYER FOR IoT

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The basic concept of the Internet of Things is referred to a Silicon Valley in which all the devices are connected to the internet. It plays a vital role today in human lives. Now distance does not affect human being as they can quickly do their usual work form long distance through IoT like they can park their cars as well as they can control their whole home appliances form their offices. Now a day's customers don't need to visit banks to fulfill their banking needs as they can quickly do online banking and online shopping with just a click. But in IoT environment security issues are creating an obstacle in front of IoT users to perform these jobs in their comfort zone. Researchers do a lot of working on this issue but still needs attentions. In this article, Physical Layer Transmitter Ends Fuzzy Logic (PLTEFL) system is presented for IoT security. The proposed method is providing the protection of the physical layer of transmitter end networking device. This is verified mathematically as well as via simulation using MATLAB.

ABSTRACT No. IMRC-EN-28

COMPLEXITY ANALYSIS OF PFO BASED MIMOOFDMA SYSTEM

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Complexity plays a significant role to boost the performance of any computable system. In this paper, Piranha Fish Optimization Algorithm (PFO) & Opposite Piranha Fish Optimization Algorithm (OPFO) based Multiple-Input-Multiple-Out (MIMO) System of Orthogonal Frequency Division Multiplexing (OFDMA) uplink receiver is considered

for complexity analysis. When both algorithms give same convergence & Bit Error Rate (BER) after a fixed number of cycles, then complexity plays an essential role in the selection of the optimal solution. For this purpose, Drift Analysis is used to calculate the Time Complexity of the PFO & OPFO based MIMO-OFDMA System. PFO found MIMO-OFDMA system complexity (time & memory) is less as compared to OPFO based MIMO-OFDMA system. It also observed that the time complexity of algorithms is directly proportional to some users as well as some cycles. And memory complexity is directly proportional to the only number of users that interact with the system. This is verified mathematically as well as via simulation using MATLAB 2017.

ABSTRACT No. IMRC-EN-49

RAIN WATER HARVESTING, AN ALTERNATIVE WATER SOURCE FOR IRRIGATION: A CASE STUDY OF GULBERG GREENS ISLAMABAD

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Water scarcity due to global warming is one of the challenging issues of the current day and near future. Pakistan is also one of the victims of this burning issue. Among many alternatives, rain water harvesting (RWH) is one of the convenient, practical and economical solutions to cope with water scarcity. The overall aim of the research program is to encourage society with economy, to reduce the irrigation water requirements from other expensive sources. In this study Gulberg Greens Housing Society Islamabad was selected as a project site and the rainwater harvesting potential of farm houses were evaluated. To estimate the RWH potential of the study site, mean monthly rainfall data of the nearest rain gauge station was obtained from Pakistan Metrological Department (PMD) Islamabad for 31 years (1986-2016). The Runoff Curve Number (RCN) method was used to estimate the RWH potential. The study indicates that, the use of RWH fulfills up to 80% of the total irrigation water demand of farm houses. The installation cost and benefits of RWH were evaluated to compute the savings due to RWH. These outcomes encourage farm houses owners to install the RWH system for sustainable landscape irrigation.

ABSTRACT No. IMRC-EN-50

STRUCTURAL HEALTH MONITORING (SHM) OF WARSAK DAM PESHAWAR

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A deformation monitoring system was developed for the Warsak Hydroelectric Generating Station in Pakistan. The concrete gravity dam and powerhouse structures underwent major upgrade and repair works in the 1990s. The structures were subjected to the effects of alkali-aggregate reaction. The structure was monitored in the past; the available data from those efforts has been analyzed and compared to the results of the current effort. The majority of the instrumentation used in the previous monitoring efforts had been destroyed. Geodetic and geotechnical instrumentation has been employed in the current system. As new equipment acquisitions were limited, some previous instruments were repaired and adapted for use in the current system. A monitoring system has been implemented and has provided suitable data for analysis. The analysis of the results indicated that the deformation of the structures followed a general trend of expansion, while the surrounding land was stable.

ABSTRACT No. IMRC-EN-51

JOB SAFETY ANALYSIS AND RISK ASSESSMENT: A CASE STUDY OF FRONTIER CERAMICS LTD

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The aim of this work is to identify those potential hazards that could be the risk of job place accidents and to take preventive measures to reduce the intensity of accidents. Any ceramic industry dealing with the manufacturing of wall tile, glazing is the most important operation for creating lustrous effect tile surface. Glazing line machines composed of such mechanisms that need extremely care to deal with as it may easily cause personal injury to concern operators. In order to minimize the rate of hazards pertaining to glazing line section, appropriate safety arrangement is to be employed for the safe working environment of the workers. In this regard Job Safety Analysis (JSA) technique is conducted to identify potential hazards on each job place. It also creates connection among concerned operator, worker, job place, task, equipment and tools used and the working environment. The section composed of Tile edge

cleaner (grinder), double disc spray booth, glaze pump with agitating tank and vibrator, water scraping machine, automatic glaze tiles printing machine, open chain drives and tiles table conveyor and working with v-belts replacement. The required data for calculating quantitative risk has been collected by direct observation of concerned supervisors recorded at various shifts. The study explored that148 injuries of finger amputations due to V blest replacement were recoded during year 2012.Similarly glaze pump agitating tank and vibrator risk assessment score was recorded at highest level of 20. After conducting the analysis and assessment procedure, a number of possible preventive measures are suggested and communicated to all the employees engaged with glazing line operation. These techniques are designed to provide information for decision making processes in all similar industries dealing with manufacturing processes.

ABSTRACT No. IMRC-EN-52

EFFECT OF LIGHT INTENSITY ON THE POWER AND EFFICIENCY OF MONO CRYSTALLINE PV-CELL

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With the exhaustion of non-renewable energy sources, discovering savvy and productive interchange vitality assets is a noteworthy theme of research now days. Distinctive sustainable power source assets are under thought with sunlight based vitality being one of them. The primary accentuation is on growing new innovations for tackling sun's vitality proficiently. Sun oriented Photo Voltaic (PV) cell is one such innovation that chips away at the rule of photovoltaic impact, with the electric yield created by PV cell is straightforwardly impacted by the measure of light achieving the surface of cell, along these lines any interference that confines the light achieving the surface of cell influences the execution of cell contrarily. ID of those parameters which go about as deterrent amongst light and sun powered cell surface and abatement of the proficiency of cell is critical before finding a way to kill them. Among a wide range of parameters the ebb and flow examine centre around the parameter that are straightforwardly impacted by natural in which these PV cells are introduced i.e. Light Intensity. In this examination tests were directed by utilizing different light intensities in changing amounts to watch their impact on PV cell yield. Results were gathered and contrasted with locate the most affecting residue on the wastefulness of the PV cells. The last outcomes plainly demonstrate an unfriendly impact of light intensity on PV cell. A huge change in productivity is likewise recorded with various light intensity levels.

MANAGEMENT SCIENCES ABSTRACTS

ABSTRACT No. IMRC-MS-09

DOES ENTREPRENEURIAL SELF-EFFICACY MEDIATE THE RELATIONSHIP BETWEEN PROACTIVE PERSONALITY AND ENTREPRENEURIAL INTENTION?

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The field of entrepreneurship is quickly evolving and matures as a discipline that gets considerable attention of researchers. One prevalent area of research in the discipline of entrepreneurship is investigating one's intention to start a business, which is entrepreneurial intention. This is an important construct that warrants ongoing research because entrepreneurial intention is not only a great predictor of entrepreneurial behavior but also an important step in the process of becoming an entrepreneur. Objective of present study is to examine the relationship between proactive personality and entrepreneurial intention directly as well as indirectly through a mediator, entrepreneurial self-efficacy by using simple mediation model for the constructs. In recent times, Pakistan has been a center of glimmer news all through the world. What's more, sadly, not for all the good reasons. Because of all these Pakistani economy has suffered a lot. Social disasters like unemployment have taken its underlying foundations. However, now that all that has happened, we are looking forward towards a way to recover. Entrepreneur in Pakistan can be a key for this. Our two most remarkable difficulties are the slow growth and the youth bulge. Our business community and government can't give enough employments to the youth and in Pakistan youth makes almost two-third of aggregate population, which is an alarming situation. The above issue can be settled down up to some extent by creating and advancing entrepreneurial intention among the students. There is a pressing need to touch off younger minds with the goal that they can begin new businesses and create jobs for the other. Present study is conducted to answer some questions like "to verify the relationship of proactive personality with entrepreneurial intention among university students and if yes then to what extent?", "to verify either, entrepreneurial self-efficacy mediates the relationship between proactive personality and entrepreneurial intention among university students?" Population of present study is final year students enrolled in business administration programs in public sector universities of KP (A province of Pakistan). Due to homogeneous population, non-probability and convenience sampling technique is used. Primary data is collected through adopted questionnaire having Likert type scales. Descriptive statistics comprising mean and standard deviation is used. Hypotheses are tested using Pearson correlation, and PROCESS model 4 by Preacher & Hayes, (2013) is used for mediation analysis.

ABSTRACT No. IMRC-MS-10

AN EXAMINATION OF DEMOGRAPHICS STRUCTURE ON STOCK VOLUME: EVIDENCE FROM ASIAN COUNTRIES

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The study will investigate the impact of investment on the demographic structure of population i.e., peak earning age and retirement age and its impact on the stock volume of 4 Asian countries (Asian countries were selected for analysis purpose which included Pakistan, China, India, and Bangladesh). The current study will employ data of these countries for the period of 1980 to 2017 by using Autoregressive Regressive Distributed Lag (ARDL) approach. There are number of studies about demographic structure of the population in the European countries but not in the context of Asian countries. Thus, this study will fill the gap of demographic structure of population on stock volume in the Asian countries.

ABSTRACT No. IMRC-MS-11

SITUATION AWARENESS, SOCIAL NETWORK AND KNOWLEDGE SHARING IN PESHAWAR UNIVERSITY: AN EMPIRICAL STUDY

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The purpose of this research is to understand the importance of knowledge-sharing factors such as situation awareness and social network on knowledge sharing in University of Peshawar. Data from 244 randomly selected respondents from the target population have been collected through a questionnaire. The questionnaire was tested for its validity and reliability. Multiple regression analysis has been employed to test hypothesis of the study. Findings indicate that situation awareness and social network both are positive and significant predictors of knowledge sharing. Though, social network happens to be the most influential factor within the overall model. This research addresses the gap on knowledge sharing in general and in Universities in particular which appears very sparse. As a social science research, the study has its limitations. The research findings have both practical as well theoretical implications. Recommendations for further research have also been provided.

ABSTRACT No. IMRC-MS-13

PARTICIPATIVE MANAGEMENT AND JOB PERFORMANCE: EXPLORING THE MODERATING ROLE OF ORGANIZATIONAL POLITICS IN NURSING CONTEXT

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This study aims to investigate the role of participative management in determining employee work-role performance among nurses. The notion of participative management refers to active participation of employees in work-related decisions and matters. The study proposes that participative management enhances employee performance as it empowers employees by involving them in decision making. Further, it is proposed that participative management-performance relationship is stronger when level of perceived organizational politics is lower and vice versa. The data were collected from 326 nurses working in public sector hospitals in Lahore. Result showed that participative management had a positive relationship with job performance of nurses which implies that nurses who are given opportunity to get involved and empowered in job related decision making show better and improved performance. Moreover, the results also showed that organizational politics moderated the relationship between participative management and employee performance in such a way that higher level of organizational politics resulted in weak participation-performance relationship and vice versa. Thus, the findings suggest that health care service providers can promote their overall performance by fostering the performance of its paramedical employee through practicing participative management. In addition to that, impact of participative management on performance can be increased by minimizing organizational politics.

ABSTRACT No. IMRC-MS-14

INFLUENCE OF PERCEPTION OF ORGANIZATIONAL POLITICS ON JOB CONGRUENCE AND IN-ROLE PERFORMANCE

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Organization politics plays a crucial role in setting of organization objectives and task accomplishment. Politics and political behaviors in organization's are very common, sometimes it creates troubles with employee's efficiency and effectiveness. Organizations have to transform their strategies for a competitive edge, targets

achievement and goal accomplishment, as well as organizations have to fulfill the demand of their employees. The purposes of this research paper envelope: (i) to find whether, Job congruence impacts employee in-role performance; (ii) to find whether, perception of organizational politics (POP) impact employee in role performance, and (iii) to verify whether POP acts as a moderator between job congruence and employee in-role performance. The data was collected from 256 faculty members of colleges and university in Lahore. The study has used Preacher and Hayes (2008) moderations macros analysis to test the hypothesis and moderating role of POP between the Job congruence and employee in role performance. Findings show that job congruence is negatively related with POP and positively related with In-role performance. POP negatively moderate the relationship between job congruence and In-role performance. Empirical evidence supports that internal organizational/workplace politics create negative impact on employee productivity efficiency and particularly on goal accomplishment and performance assessment. The present research depicts that thriving for improvement in job performance will prove advantageous for organizations. In role employee performance plays a vibrant role in progression of organizational performance so the both factors politics and congruence in working environment have stimulation for the accomplishment of goals.

ABSTRACT No. IMRC-MS-15

THE NEXUS BETWEEN SUPPLY CHAIN INTEGRATION AND SUPPLY CHAIN PERFORMANCE: THE MEDIATING ROLE OF ORGANIZATIONAL TRUST

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Recent developments in the field of supply chain management have led to a renewed interest in collaborative buyer-supplier relations to improve the performance. Presently, firms are trying to build strong and collaborative relations with their partners (both upstream and downstream) in supply chain for the purpose of enhancing performance as well as to achieve and maintain competitive advantage. Supply chain management and supply-chain integration have become important competitive strategies in the new competitive global economy. The purpose of this study is to investigate the impact of external integration on supply chain performance and trust based transaction cost analysis and commitment-trust theory through review of pertinent analysis in electronics manufacturing organization. So far there is a minute juxtaposition of these conceptions is available. Therefore, this study contributes to body of knowledge through integrating two theories including transaction cost analysis and commitment-trust theory in the context of supply-chain integration. The study also

investigates the mediating role of trust between supplier integration and supply chain performance. Results reveal the benefits of acquiring supply chain integration can uplift the supply chain performance through trust. This study provides insights to academicians and managers that trust plays the vital role in supply chain integration chain performance. Moreover, this study endeavors to contribute provision of a new perspective for utilization of transaction cost analysis and commitment-trust theory in supply chain integration.

ABSTRACT No. IMRC-MS-16

IMPORTANCE OF TEST MARKETING IN NEW PRODUCT ACCEPTANCE IN THE MARKET

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New Product Development (NPD) is the most challenging task in a business of any kind. Furthermore, creating demand for that product is more difficult. A tool or measure for making or ensuring the success of the newly introduced product is "Test Marketing". Test marketing plays a crucial role in determining the rate and demand for a new product in the market. In other words, it decides the fate of the new product that whether it will be a success or there is a need to revise the product. In this study, it will be figured out that why test marketing is necessary and what is the importance of the test marketing in the acceptance of the new product. Along with that pitfall in the test marketing will also be part of the study. Test marketing is fundamental in creating the demand and acceptance of a New Product for the purpose, a well-constructed test marketing strategy guarantees the success of the newly introduced product. In this research a survey will be conducted in order to find out the extent to which test marketing plays its role in the acceptance of new product.

ABSTRACT No. IMRC-MS-19

THE IMPACT OF INTERACTIONAL (IN)JUSTICE ON DESTRUCTIVE DEVIANCE WITH MEDIATION OF PERCEIVED SUPERVISOR SUPPORT IN HOTEL AND TOURISM INDUSTRY OF KPK

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The purpose of this study is to examine the relationship between interactional (in)justice and destructive deviance by taking perceived supervisor support as mediator. The study employed equity theory and social exchange theory for theoretical

foundation. Extensive research has been done in destructive deviance in the field of organizational behavior. However, few studies have attempted to examine interactional justice and perceived supervisor support as predictors of destructive deviance. The role of leader/ supervisor is believed to be highly critical in mitigation of destructive deviance. The population for the study consists of Hotel and Tourism industry of KPK province. Sample was 160 employees from the target industry. The study takes into account only three variables for which a single structured questionnaire has been employed. For data analysis SPSS (for descriptive statistics) has been used. Findings of the study were discussed in the light of the existing theories and then compared with the findings of the previous studies in the field of interactional justice and their impact on the behavior of those affected by it. The study is expected to have theoretical as well as managerial implications. Theoretically, it enriched the existing knowledge on interactional justice in a different organizational environment. While on the practical side, these findings will benefit management in terms of its seriousness about supervisory justice which is instrumental in enhancing the morale of employees, thereby reducing the recurrence of negative behaviors. The study has social sciences limitations like sampling, subjective opinion of the participants, limited numbers of the variables, etc. The findings are pretty useful for hotel industry administration in the sense that the supervisor being just and supportive towards subordinates may eliminate or at least mitigate the occurrence of destructive deviance. The findings can be generalized to other sectors like banking, education, health etc.

ABSTRACT No. IMRC-MS-22

HUMAN RESOURCE DEVELOPMENT THROUGH QUALITY ENHANCEMENT OF TEACHING AND LEARNING IN HIGHER EDUCATION

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Human Resource is a key to development of a country, but education is a key to Human Resource Development. Education especially higher education is a major tool of achievement of economic, political and social development because higher education state of a country is an index of her social well being and Human development and Economic growth of nations and countries are greatly dependent on improvement in education. Currently Higher Education is facing a new era due to changes in the way people view the colleges and universities and making increasing expectations of better performance in the form of better teaching and producing competent graduates. But parents, students, businesses, legislators and general public are increasingly becoming dissatisfied with currently provided higher education. Today the biggest challenge for higher education system is to improve the quality, as it is merely quality education which can sharpens the individuals' minds and transforms the society politically, socially

and economically. 'Quality Education' is the success with which institutions provide educational environment, which enables effectively to achieve worthwhile learning goals including appropriate academic standards. To enhance the quality of education in Pakistan Higher Education Commission (HEC) of Pakistan has taken steps during last two decades by establishing quality assurance agencies (QAA), and under them quality enhancement cells (QECs) in Pakistani universities and higher education Institutions. This paper is dedicated to discuss concept of quality in higher education, problems in quality of higher education, parameters, and indicators of quality and steps taken to improve higher education.

ABSTRACT No. IMRC-MS-23

PRINCIPLES OF ISLAMIC EDUCATION AND THEIR EFFECTS ON HUMAN RESOURCE MANAGEMENT

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Human Resource refers workforce working in an organization whereas HRM refers designing of management ring effective and efficient use of human talent for achievement of organizational gsystems or practices enabling organizations to achieve success through people and ensuoals with focus on HRM practices i.e. recruitment, selection, development, motivation, appraisal, compensation and to achieve organizational goals. Effective HRM is crucial for success of every organization because quality of human resources, their sense of fair treatment, enthusiasm and satisfaction with their jobs and their experience all affect the organization's reputation, productivity, customer service and even its survival. In the organizations many HRM issues have their foundations in religions. As regards management issues from Islamic perspective, much emphasis is given on behavioral aspects of organizations. Islamic management principles are unique in their nature as they shape the behavior of individuals spiritually and morally. In Islam the Holy Quran and sayings of prophet are a source of guidance for the principles of management and work ethics. Holy Quran clearly states on significance of honesty, fairness and justice in employees employer relationship. The Islamic approach of HRM refers to the performance of basic HRM functions which are recruitment, selection, training, performance appraisal, and compensation in accordance with guidelines as prescribed in Qur'an and Hadith. This paper is dedicated to explain these Islamic HRM practices in the light of Qur'an, Hadith and practices of pious caliphs.

ABSTRACT No. IMRC-MS-24

OPTIMIZING THE EMPLOYEE ENGAGEMENT THROUGH INTERNAL MARKETING

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Ethical organizations consider employees as the profitable capital and try to optimize the level of employees' engagement at work through their ethical management. The under discussion study aimed at to investigate the relation between internal marketing as an ethical management tool and employee engagement through social exchange process. The analysis of study was made on SEM with M-Plus. The convenience sampling survey data was obtained from 541 respondents of banking industry of twin city Rawalpindi & Islamabad. The results of study indicated the full mediation of trust as an attitude of social exchange process between internal marketing and employee engagement. Therefore, like other instruments for employees' welfare the management should focus on internal marketing to enhance the level of employees' engagement at work.

ABSTRACT No. IMRC-MS-25

IMPACT OF PSYCHOLOGICAL CAPITAL ON TURNOVER INTENTION: MEDIATING ROLE OF ORGANIZATIONAL COMMITMENT (EMPIRICAL EVIDENCE FROM PHARMACEUTICAL COMPANIES OF PAKISTAN)

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The basic objective of this study is to investigate the mediating role of Organizational Commitment between the relationship of psychological capital and turnover intention of medical representatives of multinational pharmaceuticals companies operating in Pakistan. Data were collected from 453 medical representatives of multinational pharmaceutical companies. SPSS and Amos were used for data operation. The results revealed a significant negative relationship between psychological capital and turnover intention. Moreover, the results explored that organizational commitment partially mediated the relationship between psychological capital and turnover intention of medical representative of multinational pharmaceutical companies.

ABSTRACT No. IMRC-MS-30

EARLY DISASTER MANAGEMENT SYSTEM

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Natural disasters are the nightmares for all living species. The effects of disasters like Hurricanes, Floods and Earthquakes are cascading and equally damaging as they cannot always be predicted. In various developed countries, successful mechanisms have been implemented that are capable of predicting most of the disasters correctly minimizing the catastrophic after effects. In Pakistan, being one of the under developed countries, it does not have necessary resources and technology by which any natural disaster can be predicted or people can be warned before. Therefore a lot of innocent lives have been lost in Pakistan during Earthquakes that hit various provinces during 1960's till today. In this paper an attempt has been made to develop an application successfully that takes input from multiple sources, a lot of research has been done to categorize sources as zoo keepers, volunteers and general user. The people under these categories can be really helpful in predicting the natural disaster "Earthquake". The Early Alert Disaster Management System is an interactive mobile application where users can get alerts prior to earthquake and can save their loved ones' lives. Using this mobile app, users can register themselves by answering certain questions of each category. User cannot only receive alerts but can also receive path to the safest location.

SOCIAL SCIENCES ABSTRACTS

ABSTRACT No. IMRC-SC-03

DISCURSIVE COMMUNICATION STRATEGIES IN CONSTRUCTION OF HEADLINES OF PAKISTANI URDU NEWSPAPERS BEFORE THE POLLS, 2018

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Media studies have attained considerable attention of the research scholars across the globe and they are endeavouring to investigate the discursive communication strategies adopted by the discourse producers in representation of certain issues. In this respect, the present study aims at finding the manipulative, exploitative and regulatory tactics used in the construction of political discourse in the selected Urdu newspapers of Pakistan, especially before the elections. **Khabrain**, **Nawai-e-Waqat** and **Jang** are the Urdu newspapers which are widely circulated and have a great number of readership, have been chosen for the selection of required sample that is in the form of headlines. In this concern, 60 headlines, 20 from each newspaper have been collected through simple random sampling technique. The collected data has been analysed by using three-dimensional model of Norman Fairclough (1989). The research findings indicate that Pakistani Urdu newspapers use discursive communication strategies in order to manipulate the opinion of their readership and construct the headlines related to political matters to serve their own vested interests rather than to create awareness.

ABSTRACT No. IMRC-SC-06

WOMEN ROLE IN SOCIAL AND RELIGIOUS REFORMATION: A LITERARY STUDY

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Islam is a comprehensive religion and it provides a complete guidance in each and every branch of life. It has left no branch of life instructions for every branch of life, there is principle and fundamental and complete guidance. In Islam, the social and religious role of women has been fully emphasized. The very solid fact remains that the role of women is very highly important in the construction, development, training and instruction of a society. A sagacious and pious woman can play an important role in intellectual, imaginary, ideological, psychological, social, literary and moral reformations of society because the lap of women is the very first training institution of the nations of the world and they get training and instruction of character building there. There was a woman behind Dr. Abdul Qadir Jilani's boldness of not tell lies to the highwaymen and

to bring them in to the right path. Similarly Hazrat Umar Farooq (RA) was crowded with the ornament of Islam due to his sister. Mosus (AS) escaped from the fury of pharaoh of that time because of women, Aasia Bibi. Our Holy Prophet (Peace be upon Him) was helped financially and encouraged practically in starting the ever great duty of prophet hood by none but a women. In nutshell, Islamic history is full of many such events which exemplify the role of women in character building. These days, women along with their traditionally religious responsibilities are also performing their prominent role in various branches of life. Its main reason is their high and active tendency to get good and modern education. Total man power of Pakistan is consisted of 59.74 million men and women. Women strength is now half of the total population of Pakistan hut owing to social restrictions, in our total man power women are 21.5 %. It is very true to say that a western woman has succeeded in achievement of her social, legal and political rights. However an eastern woman is also taking an active part in adopting her social role. She tries well to occupy a prominent place in democratic, political economical, educational and statuary role and to get various jobs as well. That is why there was a dire need to point out the social and religious role of women and to evaluate their this role of women and to evaluate their this role to its full length, so that might further be made effective in the current environment of Pakistan.

ABSTRACT No. IMRC-SC-12

JUXTAPOSITION OF "HONOUR" AND WOMAN'S BODY: AN EXPLORATION OF CHINOY'S *"A GIRL IN THE RIVER"*

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Saba (the victim) was determined to fight the case against her father and uncle, but due to familial pressure and society burdening her with allegations, she had to drop the case. Thus her father and uncle were not stated guilty by the society or the judicial system at all. In the fear of the neighborhood ostracizing her in-laws, Saba was forced to take her case back with her father feeling no remorse for what he did. This study aims to explore the pressing issue of Honour killing and crimes originating from similar discourses in the light of women's body as a substitute for male honour with respect to the documentary in question. It specifically ventures to identify that who does Chinoy hold accountable in her representation of Pakistani society for honour crimes, either she blames religion or culture, in the Oscar winning documentary *A Girl in the River*.

ABSTRACT No. IMRC-SC-13

DETERMINANTS OF SHADOW ECONOMY IN EMERGING MARKETS: AN EMPIRICAL ANALYSIS OF ECONOMIC, FISCAL, GEOGRAPHICAL AND INSTITUTIONAL FACTORS

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Problem of Shadow economy is rapidly increasing in both developed and developing countries. Limited studies have been conducted to explore the determinants of shadow economy in emerging markets. The present study is an attempt to fill this gap. The objective of current research is to explore the role of economic, fiscal, geographic and institutional factors to determine the size of shadow economy in emerging markets. The study uses panel data for a period of twenty two years (1995-2016) in order to examine the significant determinants of shadow economy in sample countries using a holistic approach. Analysis has been done using panel unit root tests and multiple regressions. Shadow economy is measured by using the data of Ceyhun Elgin (2017). Shadow economy index ranges from 0 to 100 higher values indicate higher the size of shadow economy. This study takes into account economic growth, unemployment, inflation and trade openness as economic determinants, tax burden, public spending, social contribution and transfer payments as fiscal determinants, corruption, rule of law, education and urban population as potential geographic and institutional determinants of shadow economy. These factors are based on their relative importance from previous empirical literature. Empirical findings indicate that economics and fiscal factors are more significant than institutional and geographic factors in determining the size of shadow economy in emerging markets.

ABSTRACT No. IMRC-SC-14

ANALYSIS OF FACTORS INFLUENCING THE ACADEMIC PERFORMANCE OF THE TECHNOLOGY STUDENTS

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Students' performance is their academic life matters. The present study, therefore, focuses on the basic elements like class activities, hostels environment, cafeteria management system, computer facilities, laboratories, library, sports grounds and co-curricular activities that influence the performance of the students. This study targets the undergraduate students of Technology Department, Sarhad University, Peshawar. A sample of 200 respondents of different batches from different technology programs was selected by random sampling method and their responses were noticed through survey

method.A questionnaire comprising of 22 questions was distributed to investigate about the factors related to both in and out of the class activities of the students.Analysis of Variance (ANOVA) was used as a statistical technique to examine the effectsof different factors that influence the student's academic performance. The studyfavors the importance of in-class activities and concludes about its positive impact on the academic performance of the students. The co-curricular activities were found effective for character building and personality grooming. It was recommended through this study that the university should enhance the opportunities to provide further sports facilities for students that would be useful to enhance their overall performance. The study, further, reveals that private hostels where these students live are highly responsible to disturb their academic performance. Hostel life was found with average poor management having lack of basic facilities like gas, electricity and security provision. Majority of the students are found with havingpoor English language skills, low confidence level and poor communication skills. The study observed the prevailing education system at intermediate level as pathetic that indicates that some sort of special trainings would be helpful to improve the skills of the students especially the soft skills.The study, further, illustrates that usage of social media and cellular phones for leisure had affected the academic performance of students by wasting their time in surfing unnecessary stuff that is harmful for their academic record. Several students declared that lack of opportunities in industries in the region have restricted the students' capabilities of learning and grooming technical skills. Academia-industry linkages must therefore be established in the region that may lead to the improvement of academic performances with the help of technical skills. Majority of the students were found satisfied by the self esteem which they receive into the campus where they continue their study. However, some positive changes are needed for the further improvement for which the competent authority as well as the Government Machinery should also play their active role to eliminate the obstacles and bring betterment in the performance of the students under a sound studying environment.

Keywords: Academic performance, technical, ANOVA, social media, co-curricular activities.

ABSTRACT No. IMRC-SC-15

GLOBAL PROSPERITY THROUGH POSTMODERN FICTION: A THEMATIC ANALYSIS OF PAKISTANI ENGLISH FICTION

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Postmodern literature, as an interdisciplinary medium, reflects upon it's utility through incorporation of practical fields like medicine, history, religion, politics, green studies, gender studies, sociology and anthropology. The present research draws it's study on three English novels namely *Our Lady of Alice Bhatti, Breath of Death (2013)*

and *The Prisoner (2015)* by Muhammad Hanif, Saad Shafqat and Omar Shahid respectively. The current study explores the postmodern fusion of fiction and fact as the writers, being journalist, neurologist, and policeman, incorporate their first hand experiences with the people of different nations and faith. This study is significant as it highlights possibility of un-conventional serious national as well global security challenges. The study highlights the religious, social, political, criminal as well as biological and chemical threats that the world may face in near future. This awareness through a variety of insightful fiction contributes for the prosperity of the society as a whole. The current study exposes the profound relation of literature with those of the ground realities and it further highlights the eye opening role of the fiction writers of the contemporary age. The study is qualitative, descriptive and it is founded on postmodernism as a theoretical background. Moreover, the study incorporates textual analysis as a research method that explores the selected texts. It ends with recommendations for future research.

ABSTRACT No. IMRC-SC-16

DOES INFLATION MATTER FOR ECONOMIC GROWTH IN PAKISTAN?

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The association of prices level and economic growth has been widely contested. This study investigates the nexus between economic growth and inflation in the context of Pakistan. Data on Gross Domestic Product measured in millions of PKR, secondary school enrolment as proxy for human capital, inflation measured as consumer price index (2010 = 100), primary Exports, gross fixed capital formation measured in PKR used as a proxy for physical investment, and Trade Openness (TOP) as a ratio of total volume of trade in PKR to gross domestic product in PKR were used from 1973 to 2016. The data was checked for the using Augmented Dickey Fuller (ADF) test and found that all the included variables were stationary at 1^{st} difference (i-e; [*I (1)*]. We found that three lags need to be incorporated. We also found a significant long-run co-integration running from independent variables to dependent variable with error correction term was approximately -0.90.The long-run co-efficient were estimated found that all the independent variables included in the model significantly affected the economic growth of Pakistan in long-run. There exist a negative association between economic growth and rate of inflation. Where there is an increase in inflation by 1% the economic growth of the country decreases by approximately 70%; when it is significant at 1% level. On the other hand, the increase in Human capital, Primary exports and Trade openness increase the economic growth significantly.

ABSTRACT No. IMRC-SC-17

THE ECONOMIC BENEFITS OF PARKS AND WALKABLE PATHWAYS: WHY PESHAWAR NEEDS MORE PARKS?

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Tourism is considered to be the leading and widespread industry of the world. Many countries of the world embraced tourism as a major source of post-industrial employment and foreign exchange to encourage growth. National parks and manmade parks are developed to provide leisure and scenic opportunities to visitors. Parks offer countless benefits to both those who are living nearby and to visitors. Beside its environmental benefits like; protecting plant and animal habitation, reducing air pollution, and purification of water, parks also generate financial benefits for both governments and people. Of the many benefits that parks generate like natural environment and recreational services for the community, one of the utmost ignored benefit is the impact that parks have on economic growth and financial welfare. It is frequently assumed that these services are flexible expenditures, beneficial for providing a standard life, but have little impact on people's financial health. That is why, investment in national parks and other recreational services may possibly be considered less significant than other kinds of investments. Parks have economic, health and social benefits. Its economic benefits primarily stem from the value increase in local tax base and increase in surrounding property and real estate values. It also generates revenue directly from fees and charges. It indirectly generates revenues to local and regional economies from sports tournaments and special events such as music, and holiday festivals. Finally, it contributes to the local and regional economies through generating economic activities from hospitality expenditures, tourism, fuel, recreational equipment sales, and many other private sector businesses. Parks directly contributes to the health of children, youth, adults, and seniors, indirectly contributing to the savings on the expenditures expected to make on diseases avoided. On the social front, these provide identity for citizens. Parks are often considered as one of the most important factors in identifying how livable communities are, as these provide gathering places for families. Parks also lead to lower levels of crime and vandalism in the vicinity. However, given all these benefits, policy makers, urban planners, governments and people are unaware of the rupee value associated to these benefits. They are also unaware of the benefits and willingness to pay for improvement in services or providing additional services in parks. The goal of this study is to estimate the value of Bagh-e-Naran considering its economic, health and social benefits.

ABSTRACT No. IMRC-SC-18

ASSESSMENT OF THE APPLIED ASPECT OF THE ICT IN TEACHER EDUCATION

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In this era of technology, ICT has affected all walks of life including education and teacher trainings. In order to build teachers competitive in global environment, it is expected that they may be efficient employer of ICT in teaching-learning environment. In Pakistan, teacher trainings are offered through different media like distance education, on campus courses and affiliated collages. ICT is taught in the courses of teacher trainings either as a section of course content or as a distinct subject. This investigation was an attempt to explore the teachers' competency of using ICT. It was a quantitative enterprise and the participants of the study were master degree holders of these three media of programs i.e. learners from distance education, affiliated collages and university department. It is evident from the findings that as whole majority of the participants were below average on the applied aspects of ICT. Comparatively, regular students of the university departments were superior. It was also found that teacher trainings courses mainly emphasize the theoretical aspect of ICT and have little practical provisions of using and assessing it. It is suggested that the applied aspect of ICT may be highly emphasized in the teachers' education. It may also be introduced as separate course for teacher training programs at various levels. In addition, the researchers are offered to investigate and propose strategies for effective inclusions of ICT at difference levels of teachers' education.

ABSTRACT No. IMRC-SC-21

A COMPARATIVE STUDY OF "DEYAT" IN THE LIGHT OF FIQA ISLAMI AND CONTEMPORARY PAKISTANI LAWS

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Allah has sent down the Quran and sat it as a law for human being due to whom various measures are taken for the protection and welfare of them. On the one hand, if our wealth is being protected, on the other hand, due to their laws, human life is happier in peace. By following these rules, life creates human life. The amount which is paid to the inheritance of the dead is called Deyat. Thus the definition of Deyat in Pakistani laws which is mentioned in section 323 of PPC: "Diyat means the compensation (specified in Section 323) payable to the heirs of the victim". The summery of all definitions of Diyat is that "deyat" is the name of amount which is fixed

for the heirs of the victim; the amount will be paid by the murder or the closed relatives of the murder. In this paper, the details of deyat will be presented in the context of the contemporary Pakistani laws and Islamic jurisprudence.

ABSTRACT No. IMRC-SC-22

AN ANALYSIS OF PROVINCE WISE FOOD DEMAND IN PAKISTAN

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In developing nation of the world the pattern of food consumption is usually used as a benchmark for measuring the living standard of the people. This paper examines and compare food expenditure pattern of household across provinces in Pakistan using Household Integrated Economic Survey data for the year 2011-12. The study used Linear Approximate Almost Ideal Demand System (LA-AIDS) model for the estimation of elasticities of demand. The patterns of food consumption and expenditure for eight food groups: wheat flour, rice, dairy, Pulses, meats, fruits and vegetables, cooking oil and other food are examined. The study observed differences between consumption patterns of household across provinces. The own price elasticities of all food groups are found negative and consistent with economic theory. All the expenditure elasticities are positive and significant indicating that all food groups are normal. The expenditure elasticities estimated show that dairy and meats are luxury food items in all provinces, while wheat flour, pulses, cooking oil, and other foods are necessities in the diet of Pakistani household. Household spend their major proportion of income on dairy products, wheat flour cooking oil and fruits and vegetables in all the provinces. The demand for the households living in all the provinces is relatively price inelastic.

ABSTRACT No. IMRC-SC-23

VULNERABILITY OF FOOD SECURITY IN THE PRESENCE OF DETERIORATING EXCHANGE RATE REGIME IN PAKISTAN

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Food security is the main component of human security as well as a basic human right. The human development is solely bounded to the food security to provide means for human economic and social activism. Food security may be at risk and can be

vulnerable to some specific economic policies and shocks. A case in point is the impact of currency depreciation on food security. According to the Marshall Lerner Condition, the currency depreciation has been considered to improve the country's trade balance, which may result in higher growth rates. But for a net food importing country like Pakistan the improvements in food trade balance due to imports cut may harm the food security situation if the domestic food is not enough to feed the populace. On the other hand, the food supply shocks may result in food inflation to limit the economic access and worsen the overall food security situation. Pakistan is a net food importing country and is going through the currency depreciation regime. Thus, the current study is an attempt to explain the dynamic response of food security to exchange rates by utilizing the Vector Auto Regressive (VAR) approach. The study will also employ Innovative Accounting Approach (IAA) to highlight the impact of shocks to the exchange rates on food security in Pakistan. The results may provide some policy implication to keep the exchange rate at optimum level so that the human basic rights and security components may not harm.

ABSTRACT No. IMRC-SC-24

ASYMMETRIC RELATIONSHIP BETWEEN EXCHANGE RATE, INFLATION AND ECONOMIC GROWTH IN PAKISTAN: A FRESH EVIDENCE FROM NONLINEAR ARDL

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There has been a long debate on the relationship between inflation and economic growth. According to the Monetarists school of thought, inflation can influence economic growth in the short run but there exists no long run relationship among them. Others, following the Mundell (1965) and Tobin (1965) view that inflation can be growth-friendly via the accumulation of capital. Moreover, a considerable number of researchers is supporting the Fischer and Modigliani (1978) point of view that inflation and economic growth are negatively and nonlinearly related under the new growth theory. Apart from inflation, exchange rate is also debatable for its relationship with economic performance. In some cases, they are considered parallel, however many researchers argue contrarily. Pakistan is a developing country facing the higher inflation rates and currency depreciation regime with slower economic growth rates. The current study, thus, is an effort to investigate the asymmetric relationship among inflation, exchange rate, and economic growth in Pakistan. The study in hand, will analyze the time series data over the period of 1980-2017 by utilizing the Nonlinear Autoregressive distributed lagged (NARDL) approach. The study will further examine the causality relationship between the study variables by using the various causality tests. The long-run outcome of the study under the nonlinear models can be of helpful to the regulatory bodies, academicians, and society.

ABSTRACT No. IMRC-SC-25

THE NEXUS OF TRADE OPENNESS, FOREIGN DIRECT INVESTMENT, FINANCIAL DEVELOPMENT, AND ECONOMIC GROWTH IN PAKISTAN

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The present study attempts to examine the impact of trade openness, foreign direct investment and financial development on the economic growth of Pakistan over a period 1974- 2016. The main concern of the study is to explore the long and short run relationships among the variables over the mentioned period. Based on the unit root results, the study adopted Autoregressive Distributed Lagged bounds test of co-integration. To examine the long run relationship among the variables in the presence of control variables, the study uses Autoregressive Distributed Lagged model. The obtained results concluded that economic growth is positively and significantly affected by foreign direct investment and gross fixed capital formation, while financial development and trade openness have no significant impact on economic growth in the long run. The short-run results reveal a positive and significant impact of FDI on economic growth. The study further posits long-run bidirectional causality between economic growth, gross fixed capital formation, and FDI. The outcome of the study thus suggests that the country should promote exports and adopt export-oriented policies to increase the share of exports towards GDP rather than imports. The study further suggests the Government to focus more on the attraction of foreign direct investment in the targeted areas such as green growth and environment friendly projects. The study recommends an improved role of financial intermediaries to support the growth of the economy.

ABSTRACT No. IMRC-SC-29

CLASSICAL AND BAYESIAN ANALYSIS OF GENERALIZED RAYLEIGH DISTRIBUTION BASED ON COMPLETE AND CENSORED SAMPLES

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The Generalized Rayleigh distribution is considered to be very useful for modeling strength and lifetime data. In this paper, we obtain the classical and Bayesian estimation for the unknown parameters of Generalized Rayleigh distribution based on

complete and type-II censored samples. First we deal with classical method namely maximum likelihood estimation. Further we consider the Bayesian estimates of unknown parameters under square error loss functions. As Bayes estimators cannot be obtained in closed form. We use Lindley's approximation. Monte Carlo simulation study is carried out to compare different methods and the performance of the estimates is judged by the mean squared error values. All the numerically computations are performed in R software. Finally, a real life data set analysis is performed for the illustration purpose.

ABSTRACT No. IMRC-SC-32

DEPRESSION, STRESS AND ANXIETY AMONG INFERTILE COUPLES

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The present study aimed to explore depression, stress and anxiety among infertile couples. Infertility is a multi dimensional stressor which affects the life of individuals. The stress of not having a biological child had been linked to psychological problems such as anxiety, depression, stress etc. In present study for the assessment of depression (α = .84), anxiety (α = .83) and stress (α = .81) DASS-21 (Aslam, 2007) was used. The sample comprised of 180 participants (90 males & 90 females) who were seeking infertility treatment. The Chi-Square results of the study revealed that females significantly experience high level of anxiety, stress and depression than males. Anxiety was only significantly positively correlated with infertility duration in first 6 years of infertility whereas in 7 years or above infertility duration is not significantly correlated with depression, anxiety and stress. These findings suggest that diagnosis of infertility is associated with increased psychological distress therefore on-time treatment and proper referral is essential for the psychological health of individuals.

ABSTRACT No. IMRC-SC-39

التكييف الفقهي لِأخذِ القرضِ وردِّ بدلِه بمساعدة إيزي بيسة (دراسة تطبيقية)

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This paper describes the important parts of loan and it also shows that how can we get help from easy paisa in getting loan and returning it to the lender according to Shariah view point. It also gives a complete idea about paying the charges of easy paisa from the borrower or lender. It also describes that the borrower will pay the charges of easy paisa, but there are some places where lender will also pay the charges of easy paisa.

ABSTRACT No. IMRC-SC-40

EX-PARTE JUDGMENT UNDER SHARĪ'AH AND LAW IN PAKISTAN: A COMPARATIVE STUDY

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The real judgment is such a principled and distinguished duty that the supreme of the human beings were selected. The object is to help a troubled person and to punish the one who is involved in such coercion and falsification. That's why the office of a Qāḍī is regarded a trust and Qāḍī a trustee for the benefit of the public. It is an acknowledged fact that a trustee is severely asked for his responsibilities regarding the trust. A sub procedure of Ādab al-Qāḍī with the name of "Ex-Parte Judgment" has chosen. There is a discord within Muslim scholars, a judge would take or not take any decision in the absence of any party. In other words, Question is that whether judgment can be awarded without the presence of defendant or not. We intend to bring to light the Sharī'ah point of view on this topic through the comparative method. It means that the concerned sections of Civil Procedure Code, 1908 will be compared with Sharī'ah Principles. The need of the hour is that Islamic Judicial System should be upheld in our country. Here we discuss this subject only in respect of ex-parte judgment. It helps the oppressed and prevents the oppressor. There is a dire need that the Ex-Parte Judgment should be made in accordance with the need of the hour. It should be maintained according to our Islamic traditions, customs, and conducts. Being a Muslims, to make decisions on merit (قضاء بالحق) is the sacred home duty and worship after belief in ALLĀH (سُبْحَانَهُ وَتَعَالَى).

ABSTRACT No. IMRC-SC-41

INVESTIGATING THE ROLE OF TRUST (TRS) AS A MODERATOR, PSYCHOLOGICAL CONTRACT BREACH (PCB) AS A MEDIATOR AND BOUNDARYLESS CAREER ORIENTATION (BCO) AS MODERATED MEDIATION BETWEEN JOB INSECURITY AND ITS CONSEQUENCES.

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The current study aims to investigate the relationship between perception of job insecurity and its various outcomes. It also focuses to investigate the possible role of Trust (TRS) on leadership as a moderator, while Psychological Contract Breach (PCB) as a mediator to explain this relationship. In the final step Boundary Less Career Orientation (BCO) is used as moderated mediation between the effect of JI and outcomes. The

Model is based upon three different theories, as Social Exchange theory (SET) is based to explain the relationship between (PCB) and job out comes, While Conservation of resource Theory (COR) is use to validate the moderating role of (BCO).Finally Stress Theory (STH) was applied to investigate the role of trust as a moderator. Data was obtained from Higher Education Sector. Adopted questionnaires after validation through CFA were used, and response was analyzed through (Preacher and Hayes, 2008) modeling. Results indicate that PCB effectively mediates the relationship between JI and various outcomes (Burnout, Effective Commitment, Life Satisfaction, and Psychological Coping Reaction, Work Satisfaction, and Psychological Distress). On other side (BCO) moderate differently the relationship between Pharmaceutical and Education sector. Even some of the moderation results were positive but in opposite direction. Finally trust in management (Leaders) moderation findings indicate that it buffer the relationship between JI and specific out comes, as Trust is negatively associated with Burnout, psychological distress, normative commitment and coping reaction, while positively associated with employees effective commitment, supervisor satisfaction, and life satisfaction. Findings of the study confirms the earlier theoretical assumption, however the current model is used for the first time to evaluate the intermingling relationship between diversified nature of variables in the prospective of Pakistan.

ABSTRACT No. IMRC-SC-42

TV ANCHORS AND AGENDA SETTING: AN OVERVIEW OF TALK SHOWS IN PAKISTAN

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The aim of this paper was to tap the role of anchorpersons of talk shows in promotion of media agenda through measuring correspondence between times consumed by the anchorperson and slanting of news issues. For the purpose, systematic random sampling technique has been applied to select prime time talk shows - Aaj Kamran Khan Kay Saath of Geo News for one year. On the basis of wide coverage, three issues memo gate scandal, law and order, and corruption were selected to measure the relationship between time consumed by the anchorpersons and expert panels of the shows and slant for the issues. The results show a significant correspondence between slant for the issues and time consumed by the anchors to transfer the salience from media outlet to audiences. Results further revealed that more the time grabbed by anchorpersons, more the programs remained in unfavorable state towards government to furthering the desired agenda. Results also indicated that 70% of total talk shows' time was snatched by the anchorpersons while experts and panel allotted 30% percent time.

ABSTRACT No. IMRC-SC-43

THE CONTEMPORARY ESSENTIALS AND THE TEACHING CODE OF CONDUCT: A RESEARCH EVALUATION IN LIGHT OF SEERAH STUDY

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Education has a prime role in the ups and downs of nations. The historical review of nations exposes the fact that, behind their all advancement there existed the role of education. Similarly is the case of their backwardness. All the conscious and committed nations having admitting this reality, have made extraordinary progress in every field of life. But besides this, the standard of humanity degrades day by day. Now it is necessary to explore the cause of this degradation. If we think about the educational system we shall reach the conclusion that our system is revolving around the material interests. The human welfare is seemed of secondary value. Where the basic aim of education remains the worldly interests there the humanity, manners and ethics are all defeated. The question arises here that what shall be the solution to this human tragedy? The Holy Prophet (SAW) was sent to this world as a teacher and reformer. He taught the lesson of humanity and focused on character building. His techniques of education is a worth following guideline for teachers. If teachers of present day follow these examples that can brought vital changes in the attitudes of learners. In this article, we have explained the professional guideline and code of conduct for teachers with respect to present scenario in light of Seerah study which shall be a useful addition to the research field.

ABSTRACT No. IMRC-SC-44

THE TOMB OF HADRAT BABA FARID GANJ SHAKKAR: A SOURCE OF HARMONY AND INTERFAITH AMONG HUMANITY

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Fariduddin Masud Ganj Shakkar was a great mystic (*Sufi*) master for his time period. He was born in A.D. 1175 in Kothewal, which is a small village. This is ten kilometer away from Multan, Multan is a prominent and chronological city of Punjab. This city is of the great mystics (Sufis). Many mystics were born here and they spread their spiritual education for producing harmony and peace among people. Hadrat Baba Farid was one among them, who served his entire life to produce peace and harmony among human beings. In real meaning, he was a great poet and religious scholar which conveyed his message of harmony among people through his poetry. He is alive and will

be alive for his good deeds, in the hearts of people at the end of this globe. Hazrat Baba had died in A.D. 1266 in Pakpattan, Pakpattan is a village of Punjab and now, his *Urs* (death's anniversary) is celebrated in first Muharram (Islamic month),almost six days, every year. Thousands of visitors and pilgrims come at the tomb, from all over the country and as well as, from the whole world. It can be said, that it is a sign of love with mystic (*Sufi)* master, because, people have a spiritual connection with him. Therefore, after reaching at the tomb, the visitors and pilgrims express their sacred feelings through reading the Quran and praying for resting Baba Farid's soul. This is an expression of affection, believe and respect, which is present among the hearts of his followers in this contemporary era too. The paper will be described that how the great mystic (*Sufi)* worked for unity and humanity. It will be depicted that how the tomb of the mystic plays a significant role in spreading love, respect and religious tolerance in people of all faiths.

ABSTRACT No. IMRC-SC-45

مناہج تحقیق قرآن و حدیث کی روشنی میں اور موجودہ جامعاتی تحقیق

ڈاکٹر منظور احمد ، اسسٹنٹ پروفیسر، شعبہ علوم اسلامیہ و عربی ، گومل یونیورسٹی ڈیرہ اسمٰعیل خان ۔
برکت اللہ خا ن قریشی ، پی ایچ ڈی سکالر ، شعبہ علوم اسلامیہ و عربی ، گومل یونیورسٹی ڈیرہ اسمٰعیل خان
-

تحقیق ایک مسلسل علمی جد وجہد کا نام ہے جس کے ذریعے مسائل و اشیاء کے درست حل اور حقائق تک پہنچا جا سکتا ہے۔تحقیق کا لغوی معنی تلاش، کھوج، تجسس، دریافت چھان بین، وغیرہ کے آتے ہیں۔ اصطلاح میں کسی غیر معلوم امر کی تلاش ، اور چھان بین کے بعد اس کے ثبوت و عدم ثبوت، یا کیفیت اور حقیقت تک رسائی کی کوشش تحقیق کہلاتی ہے، گویا یہ ایک ایسے طرز مطالعہ کا نام ہے جس میں موجود مواد کے صحیح یا غلط کو بعض مسلمات کی روشنی میں پرکھا جاتا ہے۔جسٹس ریٹائرڈ حمود الرحمن کے مطابق " تحقیق کا مطلب اپنے وسیع معنیٰ میں وہ مستعدانہ تلاش و جستجو ہے جو کسی خاص موضوع کے تنقیدی اور عملی مطالعہ کے بعد کسی واقعہ یا اصول کو دریافت کرنے کے لیے کی جائے"۔
اس لغوی و اصطلاحی مفہوم کی روشنی میں تحقیق کے مطلوبہ مقاصد کے حصول کے لئیے کچھ مناہج (Methods) کا استعمال ضروری ہے جن کے بغیر تحقیق ممکن نہیں اور قرآن مجید جو منہج متعارف کراتا ہے وہ بہت جامع ہے جسے ہم "منہج عقلی مبنی بر نقل صحیح "کہ سکتے ہیں۔ اس منہج کے تحت منہج استقرائی تجریبی جس میں محقق جزء سے کل اور خاص سے عام کی طرف جاتا ہے اور یہاں تک کہ کسی عمومی حکم یا قاعدہ کلیہ تک پہنچ جاتا ہے ، منہج استدلالی، منہج استردادی / تاریخی وغیرہ ہیں۔ منہج اسلوب اور راستے کو کہتے ہیں۔ اصطلاح میں حقیقت علم کے حصول کے لیے قواعد عامہ ، عقل سلیم اور معلومات سابقہ کو ایسے منظم طریقے سے استعمال کرنا کہ نتیجہ تک پہنچا جا سکے ، حدیث میں بھی منہج; طریقے کے معنی میں استعمال ہوا ہے۔ اصطلاحا تحقیقی عمل میں منصوبہ بندی، باضابطہ طریقے سے معلومات کو جمع کر کے ان کی تعبیر و توجیہ کے لیے جو اسلوب اختیار کیا جاتا ہے وہ منہج کہلاتا ہے۔اس مضمون میں یہ کوشش کی جائیگی کہ تحقیق کو پایہ تکمیل تک پہنچانے کے لئے جن مناہج کو استعمال کیا جاتا ہے انکو قرآن و سنت (حدیث) کی روشنی میں دیکھا جائے اور پھر جو تحقیق کا کام پاکستانی جامعات میں ہو رہا ہے ان میں استعمال ہونے والے مناہج (Methods) کا اسلامی تعلیمات خصوصا قرآن و حدیث میں کیا ثبوت ہیں ۔

ABSTRACT No. IMRC-SC-48

PROBLEMS LEADING TO ANXIETY OF TEACHERS IN PRIVATE SCHOOLS: AN EXPLORATORY STUDY

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Anxiety is an unpleasant state of inner turmoil, often accompanied by nervous behavior, such as pacing back and forth, somatic complaints and rumination. It is the subjectively unpleasant feelings of dread over something unlikely to happen, such as the feeling of imminent death. The present study is about the anxiety of teachers in private schools. The owners' award them low salaries and they have to perform a number of tasks daily. They carry on periods throughout the day and they have very little time of rest, which is necessary for every teacher when go to the next class. The main objective of the study was to identify the problem faced by the teachers which leads anxiety in teachers. In this study, teachers' problems are discussed by which their anxiety level increase. Therefore, the study was exploratory and qualitative in nature. Ten interviews were conducted from private school teachers. The reason of teachers' anxiety was found out from the study as Students' Individual Differences, Lack of Resources, Lack of Students Interest in Studies, Unfair Teachers' Performance Appraisal, Family and Economic Problems, No Motivation in Teaching Profession for Teachers, Overcrowded Classroom and Overburden Schedule of Teacher.

ABSTRACT No. IMRC-SC-49

زبانوں میں فطری ہم آہنگی اور ہمارے لسانی رویے

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زبان اظہار وابلاغ کا ایک قدرتی وسیلہ ہے، جس کے ذریعے انسان اپنا مافی الضمیر بیا ن کرتا ہے ۔دنیا کی تمام زبانیں بنیادی طور علامات کا مجموعہ ہوتی ہیناور ترسیل،تفہیم اور ابلاغ کا وظیفہ سرانجام دیتی ہیں۔جس طرح اللہ تبارک وتعالیٰ نے تمام مخلوقات (ہم جنس و ہم نسل)میں ایک دوسرے کے لیے کشش،قرب،ہم آہنگی اور اخذ و استفادے کے جزبا ت و احساسات رکھے ہیں بعینہ زبانیں بھی اسی فطر ت پر چلتی ہیں۔فکری و فنی، ادبی و لسانی حوالوں سے ایک دوسرے سے اخذ و استفادہ کرتی ہیں اور یوں رابطے،اظہاور و ابلاغ کا فر یضہ سر انجام دیتی ہیں۔دنیا میں زبانوں کے مختلف گروہ ہیں اور ان کے درمیان معنیات،نحویات اور لفظیات تینوں حوالوں سے اشتراکات کے ساتھ ساتھ امتیازی عناصر بھی ملتے ہیں،تاہم ہم آہنگی اور اخذ و استفادے کا عنصر ان سب میں مشترک ہے۔پاکستان کو کثیر اللسانی زبانوں کا وفاق کہا جاسکتا ہے ۔اردو ہماری قومی زبان ہے جب کہ دیگر قومی(پنجابی ،سندھی،پشتو،بلوچی و غیرہ) اور علاقائی زبانیں بھی موجودہیں۔ان تما م زبانوں میں فطری ہم آہنگی کے لازوال تاریخی،تہذیبی،ثقافتی اور معاشرتی رشتے موجود ہیں۔ہمارے ہاں سیاسی مقاصد کے لیےجس طرح علاقائی یا قومیتی تقسیم کے متعصبانہ نعرے اٹھتے ہیں بعینہ زبانوں کے حوالے سے بھی

بعض اوقات اسی قسم کامتعصبانہ رویہ یا خیالات سامنے آتے ہیں۔گویا زبانوں کو بھی مقامی اور علاقائی سیاست کی محدود اور متعصبانہ سوچ کے دائروں میں بندکرکے منفی انسانی رویوں کا اطلاق کرنے کی شعوری کوششیں کی جاتی ہیں۔ عالمی سطح پر زبانیں کس منطق اور میکنانکی عمل کے ذریعے اپنا وجود برقرار رکھ کر ترقی کرتی ہیں،اس وقتدنیا میں تقریباً ۶۰۰۰سے زیادہ زبانیں کیسے فنا وبقا کی جنگ لڑرہی ہیں،زبان کی زندگی کیسے طویل ہوتی ہے ، انسانی جذبات و احساسات کی ترجمان بن کر عالمی سطح پر اپنی شناخت کیسے منواتی ہے؟جب کہ اس کے مقابلے میں ہمارے ہاں لسانی رویوں کی بنیادیں کیاہیں؟یہ انتہائی اہم سوالات ہیں ۔اس مقالے میں بنیادی طور پر ان سوالات کا جواب تلاش کرنے کی کوشش کی جائےگی تاکہ یہ معلوم ہوسکے کہ زبانیں اپنی فطر ی ہم آہنگی؛محبت ،قرب،اخذ واستفادے پر چلتی ہیں نہ کہ انسانوں کی طرح مذہب، رنگ،نسل اور جغرافیائی تعصب وحد بندیوں پر۔زبانوں کی فطرت میں انسانوں کے لیے یہی درس موجود ہے۔حقائق ،تحقیق و تنقید کی کسوٹھی پر ان لسانی رویوں کر پرکھ کر رہنما اصول پیش کرنے کی سعی کی جائے گی اوراس سلسلے میں عالمی زبانوں اور لسانیات کے اصولوں و نظریات سے بھرپور اخذ واستفادہ کیا جائے گا.

ABSTRACT No. IMRC-SC-50

ESTIMATION OF ECONOMIC VALUE OF AN ARCHAEOLOGICAL SITE: A CASE STUDY OF TAKHT-I BAHI

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Non-market valuations have taken a central role in valuing sites for which markets generally do not exist. It is important to place a value on a site whether it is a recreational site or archeological site for making policies regarding preservation and others relating to the site. This study uses a travel cost method to value the Takht-i Bahi archeological site, located in the province of Khyber-Pakhtunkhwa, Pakistan. Primary data were collected from the visitors through a well-structured questionnaire. Various econometrics specifications were estimated such as ordinary least square (OLS), poisson and negative bionomial to estimate the impact of various factors on the visitation rate. The consumer surplus per person per visit was calculated to be Rs. 2132 approximately equal to 20 US dollars and the total value of the site was found to be Rs. 7,808,102 approximately equal to 74,719 US dollars. The study provides both the theoretical and an empirical method to place a value on a public site. Placing a value on a site of public interest helps to evaluate the expected revenue generated from them and provide guidance about spending on improvements and maintenance of the site. Study like these can be replicated in other areas of cultural and educational importance as policies relating to such sites increasingly depends on their accurate valuations.

ABSTRACT No. IMRC-SC-53

FACTORS AFFECTING THE ADOPTION AND INTENSITY OF AGROFORESTRY

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This study was designed to determine the factors affecting agro-forestry and the intensity of adoption in Tehsil Takht Bhai District Mardan Khyber Pakhtunkhwa. The data were collected by a well-structured questionnaire. The dependent variable of the study was a binary variable indicating whether a farmer adopted agro-forestry or not. The study used the Probit and Logit models to calculate the odd ratio of the adoption of the agro-forestry and to find out the factors affecting the adaption. One of main reasons for farmers adopting agro-forestry could be better revenue compared to the traditional agricultural system. Therefore, the enterprise budgeting was performed first. The enterprise budget indicated that agro-forestry adopters received more revenue as compared to non-adopters. The study also found that age of farmer, education of farmer, total land in acres, and revenues previously received from farming were positively contributing to the adoption of agro-forestry and respective probabilities of intensities were 78 %, 1 %, 2%, and 43%. On the other hand, experience of farming, income from non-farm sources, expenditure incurred on farming were negatively affecting the adoption of agro-forestry and the respective probabilities of intensities were 20% 200%, and 13%. Family size of the farmers did not affect intensity of adoption which may be at odd with the general perception that availability of labour through own family members could be an important factor of adoption and intensity. The study also estimated the break-even prices for wheat and sugar cane crops. The study found that sugar cane was a more desirable crop as compared to wheat. The current study found that if there were a decrease in the output prices of wheat (up to 11.21%) still the crop will generate positive revenue. On the other hand, the breakeven price analysis of the sugar cane showed that if there were a decrease in market price of the crop by 8.66% (from Rs. 180 to Rs.164.41), still it would generate positive revenues. Finally, translog profit function was used to estimate the supply response function for wheat, sugar cane, hay and poplar. The results revealed that a 1% increase in the output prices of wheat and hay will increase the output by approximately 55%. Poplar tree takes approximately 5 years rotation period, and 1% increase in the output prices of poplar will increase the production of poplar by approximately 20%. Increase in sugar cane prices by 1% will increase the production of the crop by approximately 35%. There has been a lack of revenue estimates for the agro-forestry in combination with various crops. It is recommended that agricultural extension depart-ment should conduct some awareness sessions with local farmers to inform them of both revenue as well as non-market benefits. The limitations of the study included the reliability of the collected data as the data were collected for the five years and depended upon the recall by farmers as

proper record of data was not kept. Lastly, we could not collect the data on the non-market benefits of the agro-forestry which could be significant in terms wind breakers, salinity control and many others. Based on the results from this study, it is recommended that training and extension services may be provided to inform the farmers of the benefits that the agro-forestry system offers. Also, the farmers may be trained and encouraged for proper record keeping of the farm activities. Finally, the study could be extended to value the non-market benefits that the agro-forestry system offers.

ABSTRACT No. IMRC-SC-54

ESTIMATING THE EXTENT OF MONEY LAUNDERED AND ITS IMPACT ON INFLATION IN PAKISTAN

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Generally, money laundering is considered the cross-boarders movements of money. Money Laundering has been defied differently by various organizations. However, the generally accepted definitions of money laundering is “the process through which proceeds from illicit means (crimes; either financial or other) is put through a series of transactions to disguise the illicit (criminal) origin and make the proceeds appear legal and show its origin as legitimate”. This study estimates the amount of money laundering in Pakistan and investigates its relationship with inflation. The study estimated the amount of money laundering for Pakistan for a period of 1960-2014. Approximately 3.8% of gross domestic product (GDP) was laundered in 1998, while in 2014, approximately 20% of gross domestic product (GDP) was laundered. For investigating the relationship between estimated amount of money laundered and inflation, national consumption (NC), investment (INV), value added tax (VAT) and employment rate (EMP) were controlled for. Using the Auto-regressive Distributive Lag (ARDL) model, it was found that money laundering affected the inflation rate positively; as when there was an increase in the amounts of money laundering by 1%, it increased the inflation rate in the economy by approximately 22%. The empirical results of the present study revealed that money laundering was one of the key factors contributing to high inflation rate in the economy. Hence, it is suggested that the prevailing Money Laundering Act (MLA) in the country should be modified accordingly and enforced at once; not only for ensuring sound inflation rate in the economy but also for sustainable and smooth growth of the economy.

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حجیتِ اجتہاد، جدید تصورات

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In the present day, Muslim has been polarized in to two groups, traditional lists and modernists. Both, having their own ideology, are absolutely refuting each other in the basic concept of Islam. In this research paper, the research question is that is either ijtihad said to the modification, amendment and addition to Quran and Sunnah or pursuing Shariah ruling from the depth and the vastness of Quran and Sunnah. Traditionalists point of view is that whenever any new issue is raised about which there is no any clear solution or ruling present in the Shariah, then to derive the solution from the depth and Vastness of Quran and Sunnah is called ijtihad. Whereas according to modernists, ijtihad means addition, amendments, modification and reformation of Islamic Shariah.

امام ابو الحسن ماوردی (م ۴۵۰ھ) کے نزدیک اجتہاد کا مفہوم یہ ہے: ھو طلب الصواب بالاءمارات الدلالہ علیہ، اجتہاد قرائن و دلائل کے ذریعے صحیح بات کو پالینے کا نام ہے۔ اسلامی قانون میں اجتہاد ہمیشہ ہی سے اصحابِ فکر کی بحثوں کا موضوع رہا ہے اور عصرِ حاضر میں بھی اسلامی دنیا کا ایک اہم ترین مسئلہ اور دلچسپ موضوعِ بحث ہے۔ اس کی وجہ یہ ہے کہ اجتہاد نہ صرف شدید ترین ضرورت ہے بلکہ مسلمان قوم کی بیداری اور ترقی کا مفید ترین وسیلہ و ذریعہ بھی ہے۔ موضوع کی اہمیت چند امور کو بیان کرنے سے واضح ہو گی۔ ان امور میں سرِ فہرست کچھ غلط فہمیاں ہیں جو ہمارے بعض دانشور حضرات کی مرہونِ منت ہیں۔ ہمارے بعض دانشور لفظِ اجتہاد کا معنٰی و مفہوم سمجھے بغیر اس موضوع پر اظہارِ خیال کرتے ہیں اور عموماً یہی سمجھتے ہیں کہ اجتہاد سے مراد کسی مسئلہ میں آزادانہ رائے قائم کرنا ہے پس یہی سے غلطی کا آغاز ہوتا ہے، در حقیقت آزادانہ رائے کا اجتہاد سے دور کا واسطہ بھی نہیں۔
اجتہاد کی حجیت اور قانونی حیثیت پر جب بھی بحث ہوتی ہے تو دو نقطہ' نظر سامنے آتے ہیں: ایک اصحابِ فکر و دانش کا وہ طبقہ جو اجتہادی صلاحیت کو آزادانہ تمام تر افکار کو قرآن و سنت میں صراحت کے ساتھ بیان کردہ معاملات تک محدود رکھتا ہے اور اجتہاد کی حجیت و قانونی حیثیت کا قائل نہیں۔

اجتہاد کے قدیم تصور کا جائزہ لیا جائے تو اجتہاد کے لیے اہلیت ہونا، شرائط کا پورا ہونا اور قابلیت ضروری ہے۔ نص کی موجودگی میں اجتہاد نہیں اور انتہائی ضرورت کے وقت اجتہاد کے قائل ہونے کا تصور تھا۔ جبکہ جدید تصورات میں دو انتہائیں نظر آتی ہیں، جس کا ذکر اوپر بیان کیا گیا ہے ایک تصور کا اجتہاد کے ہر صورت قائل ہیں اور کوئی خاص اہلیت کی شرائط بھی نہیں۔ اور دوسری طرف وہ طبقہ کی اجتہاد کے بالکل قائل نہیں قرآن و سنت ہی کافی ہیں۔ اس تحقیقی کام میں موضوع کی اہمیت کے پیشِ نظر اجتہاد کے صحیح تصور کو واضح کیا جائے گا اور ہر اس پہلو کو واضح کرنے کی کوشش کی جائے گی جس کے بارے میں اہلِ علم و دانش کے ہاں اختلاف و اشکال پایا جاتا ہے۔

ABSTRACT No. IMRC-SC-57

GENDER ISSUES IN CHILDREN'S LITERATURE

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This research intends to explore the reasons of gender discrimination ethnographically and psychologically in a society at grass root level. Books are always considered a great source to reflect societal values, attitudes, norms and culture with some purpose; therefore, gradually but consciously this material especially the children's literature works on an epic scale to shape and sculpture human personality. This literature is the very spice of an enriched life because it adds life to living and opens up a way to peep into a macrocosm through this microcosm of literature. The charismatic presentation of the characters creates a dreamy environment which deeply impact children. These characteristics have made these fairytales a literature beyond the cultural boundaries and limitations, a universal phenomenon. Instead of taking a stereotype image of genders by following the beaten tracks, I tried to open up new vistas positively. This deviation from these closed minded interpretations to a panoramic understanding regarding both genders would help us to move forward progressively. This study is based on qualitative and quantitative analysis of ten purposively selected fairytales. For the data collection, whole children's literature is considered as population from which the most popular genre of fairy tales was chosen as sample with the corpse of ten English fairytales for content analysis. Description of titles, illustrations of cover pages and content analysis are done to address the research questions. Activities of different characters along with their social and economic status, behavioral traits, gendered messages and thematic roles are analyzed by using coding frame for manifest and stimulus clues for latent information. A detailed analysis of these selected fairytales cites that gender issues start from titles and prevail throughout the fairytales. This is a significant difference that males have proper names but girls are known with their attributive names in the titles. We all need a drastic change behaviorally, psychologically and materially (in our children's literature and particularly in fairy tales) to keep a pace with the current century which demands us to be more creative, active and innovative with scientific approach instead of becoming an escapist. We have made the dissimilarity of the female and male a conviction and we try to strengthen it by declaring this concept as the most stable pillar of our culture. A narrow, close-ended straight jacket of determined, prescribed and described roles negate and undermine the real needs of cooperation, *partnership being an individual and people in society, to* maintain the individuality of both sexes. As both sexes are human beings who have some rights to be honored and duties to perform for the smooth working of the society. Children's literature often models thinking pattern; therefore ideas must be filtered and manipulated to encourage the children to dream big with this conviction

that they can be successful in any field when they grow up. Our identities are created within the relations that we share with others and not wholly as an abstract within ourselves. This research concludes that mental and moral corruption through gender difference is an integral part of these fairy tales which shows female gender inferior to male. Therefore it is useless to find any moral lesson from these tales.

ABSTRACT No. IMRC-SC-58

UNDERSTANDING INTERNAL MIGRATION IN PAKISTAN

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Internal migration is the phenomenon of temporary relocation of residence due to various reasons. Structural transformation in an economy such as a relatively higher growth of one sector as compared to another sector, creates more employment opportunities in the high growth sectors as compared to the low growth sectors. Hence, the employment opportunities in high growing sectors attract more workers, especially from the low growth sectors, where laborers are laid-off due to less demand. This structural transformation leads to migration as laborers mover from one region to another following employment opportunities. Structural transformation has also been happening in Pakistan. Over the past few decades, services sector growth has surpassed the commodity producing sectors of the country. The agricultural used to be the highest contributor to economic growth in the country. The combined growth of both agricultural and industrial sectors has been lower has compared to services sectors. Resultantly, workers have been migrating from commodity producing sectors, especially agriculture which has lower growth than industrial sector, to services sectors. Employment opportunities in services sectors primarily exist in urban areas, and workers tend to migrate from rural areas to urban areas for good living. Economic theories explain migration in different ways. Neo-classical theory states that the decision of migration depends upon the wage differentials and they migrate only in search of the best economic opportunities. According to Todaro model, the decision of migration depends upon the comparison of urban wages with the present wages in rural areas. The Lewis model affirms that the migration from villages to cities is because the supply of labor is more in rural areas. Whereas human capital theory states that migration is associated with the costs and returns. According to Amenities theory individual migrate due to her own choice and entertainment. The new economics of labor migration theory states that the decisions to be taken for their temporary settlement in destination country to achieve the set goals. Furthermore, when the set goals are achieved migrant decide to return. This study estimates the effect of socio-economic factors on internal migration in Pakistan. Studying internal migration helps in

urban planning. Urbanization is an ongoing phenomenon and investigating internal migration helps in the development of the labor and social policies and infrastructures to meet their residential and living requirements. The migration of workers may also create many social problems and urban issues for example slum areas, urban sprawl, congestion of traffic, urban poverty etc. and it is important to plan for these ahead of time. Hence, it is important to understand migration decisions and their implications for urbanization and other socio-economic aspects of life.

ABSTRACT No. IMRC-SC-59

COMPARING FOOD CONSUMPTION EXPENDITURES ACROSS PROVINCES BETWEEN 2012 AND 2016 IN PAKISTAN

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Pakistan ranks sixth most populous country in the world and its 38 percent of the total population is living below the poverty line. Food consumption is the main component of the aggregate demand of the country. About 37 percent of the household expenditure is spent on food items such as wheat flour, cereals, dairy, vegetables, oil, sugar and fruits in 2016. However, this the food expenditure share declined from 40.8 percent in 2014. With the decline in income, households consume more cereals to attain their dietary needs whereas the consumption of dairy products and meat declined. In Pakistan, wheat and dairy products are the dominating food items in household food expenditure as these items together account for 34 percent of the total food expenditure (HIES 2016). Food expenditure pattern has been a matter of study all over the world especially in developing countries where households spend a large share of their income on food consumption. The analysis of changes in household food expenditure pattern over time has a greater significance because food is an important component of consumption expenditure. It would help in planning appropriate and effective policies associated with food production and distribution. Due to the importance of food consumption expenditure, studies have estimated demand functions for food items in the country. While these studies have used sophisticated econometric techniques, however, they ignored the study of expenditure pattern of food over time. These studies provide important information about how food expenditure is influenced by changes in price, income and taxation policies. However, these studies have focused on certain part of the country and ignored comparison across provinces, which is the main focus of this study. The goal of this study is to study and compare household consumption between 2012 and 2016 across the provinces of Pakistan. This study provides the most recent analysis of changes in food expenditure pattern of households in Pakistan. Government policy is heavily concentrated on cereals

production. But if there is a change in household's expenditure behavior overtime then the government policy needs to express these changes by increasing the production in accordance with the households' demand. The result of the study would help in identifying predominant food items consumed by households in Pakistan. This research could give guidelines in the formulation of future food policies and planning future investment decisions regarding demand and supply of food items in the country.

ABSTRACT No. IMRC-SC-60

THE IMPACT OF SOCIAL DEVELOPMENT ON ACADEMIC ADJUSTMENT OF STUDENTS AT SECONDARY LEVEL IN KHYBER PAKHTUNKHWA

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The present study focuses on the important aspect of human development known as social development and its impact on the academic adjustment. A successful social development of the student in and out of school is helpful in his academic adjustment. The study takes into account the factors of Self-Concept, Total Adjustment which include aspects of adjustment at school, parents, society, teachers, peers, Affective Adjustment and Socio-Economic Status which help in process of social development. The sample comprised of 120 male and 120 female students from 10th class. A questionnaire was adapted from Rogers Self-Concept Scale (1951) having 9 items, 11 items were adapted from Zahid Scale of Total Adjustment (2003), 7 items were adapted from E K Sinha and RP Singh adjustment Inventory for School (AISA)(1993) and 8 items were adapted from Index of Self Esteem ISE by Khurshid (2003). The reliability according to Cronbach's α was calculated as .761, .837, .822, .832 respectively for variables Self Concept (SC), Total Adjustment (TA), Academic Adjustment (AA) and Affective Adjustment (AA). Mean, one sample t-test and regression tests were applied to the collected data. The findings show a significant effect of social development on academic adjustment of the students at secondary level. The results of regression test showed that where the explanatory variables Self-Concept (SC), Total adjustment (TA), and Affective Adjustment (AfA) showed statistically significant contribution towards the dependent variable Academic Adjustment (AA), the Socio Economic Status of Parents (SES) variable did not contribute statistically towards the dependent variable AA.

ABSTRACT No. IMRC-SC-61

ABNORMAL EATING ATTITUDES AND BODY IMAGE DISSATISFACTION AMONG UNIVERSITY STUDENTS: AN EXPLORATORY STUDY

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The study was aimed to explore the relationship between abnormal eating attitudes and body image dissatisfaction among university students. **Research Design**: Cross-sectional study **Place of study**: Public, Private and Semi-Government Universities of Rawalpindi and Islamabad. **Sample and Method**: Sample comprised 249 university students including girls (n=136) and boys (n=113) with age range 18-35 years (M=22.79, STD=2.65). Body Shape Questionnaire-34 (Cooper, 1986) was used to assess body image dissatisfaction while Disordered Eating Attitude Scale (Alvarenga, Pereira, Philippi, Estima & Croll 2010) to assess abnormal eating attitudes. Psychometric properties of scales indicted moderate to good reliability for the study sample. **Results**: A significant positive relationship between body image dissatisfaction and abnormal eating attitudes ($r=.60$, $p < .01$) was shown. It was manifested that body image dissatisfaction predict abnormal eating attitudes among university students ($R^2=.37$, $p=< .001$). It means that body shape concerns accounts to 33% of the variance in abnormal eating attitudes. **Conclusion**: The findings from the present results revealed the prevalence of body image dissatisfaction and abnormal eating attitudes among university students.

ABSTRACT No. IMRC-SC-62

پنجابی کلاسیکی شاعری میں انسان دوستی کا تصور

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خلاصہ. یہ بات وثوق سے کہی جا سکتی ہے کہ دنیا کی زیادہ تر زبانوں کے ادب کا آغاز شاعری سے ہی ہوا۔ پنجابی زبان کے ادب کی ابتدا بھی شاعری سے ہی ہوئی اور اس شاعری کو ادباء نے کلاسیکی شاعری کا نام دیا ہے۔ پنجابی زبان میں کلاسیکی شاعری پر غور کیا جائے تو پتہ چلتا ہے کہ یہ دنیا کی کسی بھی زبان کی شاعری سے کم نہیں ہے۔ پنجابی کلاسیکی شاعری کا باقاعدہ آغاز حضرت بابا فرید گنج شکر کے شلوک سے ہوتا ہے۔ بابا فرید کے بعد پنجابی کلاسیکی شاعری کی بھرپور روایت میں بڑے بڑے نامور اور معتبر شعراء شامل ہیں۔ جن کی شاعری میں تصوف، عشقِ الٰہی، اخوت، بھائی چارہ، خوداری اور انسان دوستی کے موضوعات شامل ہیں۔ بابا فرید کے بعد پنجابی کلاسیکی شاعری میں شاہ حسین، سلطان باہو، بابا بلھے شاہ جیسی عظیم شخصیات شامل ہیں جن کی شاعری کی وجہ سے آج پنجابی شاعری کا شمار دنیا کی بہترین شاعری میں ہوتا ہے۔ اس مضمون میں اس بات کو مستند تحقیق کے ساتھ واضع طور پرکھا جا ئے گا کس طرح پنجابی کلاسیکی شعراء نے اس موضوع پر طبع آزمائی کی ہے اور اس سے متعلق عوام الناس کو کیا پیغام دیا ہے۔ اس پہلو پر بھی ایک بھرپور تحقیق پیش کرنے کی کوشش کی جائے گی کہ پنجابی کلاسیکی شاعری میں انسان دوستی کے تصور کو کس طرح اجاگر کیا گیا ہے اور یہ کہ پنجابی کلاسیکی شاعری میں یہ موضوع کتنا جاندار ہے۔

ABSTRACT No. IMRC-SC-63

THE RELATIONSHIP BETWEEN SELF-EFFICACY AND MOTIVATION OF STUDENTS WITH THEIR ACHIEVEMENT LEVEL IN CHEMISTRY AT SECONDARY LEVEL IN KP

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This study aims at to explore relationship between self-efficacy, motivation and confidence of the students and their achievement in the Chemistry subject. All the Public and Private secondary schools of Khyber Pakhtunkhwa were the population of the study. The data was collected through scales "Motivated Strategies for Learning Questionnaire" (MSLQ) (Pintrich & De-Groot, 1989) and "Knowledge Confidence Survey" (CKCS). The Motivated Strategies for Learning Questionnaire (MSLQ) was used to measure two variables i.e., Self-efficacy (SE) and Motivation (MT), whereas, Content Knowledge Confidence (CKCS) (Xin Wu 2013) was used to measure the level of confidence and the same test was used to measure the achievement level of secondary school students (here students' score). The Pearson's correlation results for Self-efficacy and motivation (MOT) estimated at r=.69 at p<.001; while Content Knowledge Confidence with motivation (MOT) estimated at r=0.26 (p<0.001), which showed a positive moderate relationship. Meanwhile, the Pearson test showed a weak positive relationship between motivation and Students' Achievement i.e., r= 0.24 (p=0.000). The contribution of constituted variable Motivation and confident knowledge content towards dependent variable Student's score were 1.128 at p<0.01 and 0.971 at p<0.01, respectively.

ABSTRACT No. IMRC-SC-64

THE STUDY OF THEMES IN ENGLISH TEXT BOOKS AND THEIR PARALLEL ISLAMIC RELEVANCE

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The objective of this study is to determine the significance of the teachings of Islam and ascertain that Islam is the complete code of life. The study ascertains that learning must be equipped with the basic human values presented by Islam to showcase the soft image of the religion that primarily preaches love, peace and tolerance. The each chapter, Surah or even page of the Holy Quran is replete with glorious examples focusing how humanity and morality are the ultimate essence of Islam. The interpretation of the Holy Quran's verses and Surahs can become the part of our

curriculum and syllabus in form of short stories. The method of content analysis has been used for this study. The English text book of Intermediate Part 1 has been taken as a sample. The book has been analyzed on the basis of its themes. The major themes are extracted manually by extensive reading and presented in tabulation form. The incidents, references having Islamic connotation and translated verses have been provided parallel to the extracted themes from the sample book. The study aims to bring forth the practicality of the teachings of Islam in our daily lives. It must be the active part of our academia as was done by King Alfred in England years ago. This study urges that the incidents, stories and didactic aspects from Islamic history and the Holy Quran should be included in the course books of English. The translation of the Holy Quran will help in building cross cultural relationship and awareness among people.

ABSTRACT No. IMRC-SC-67

A PIVOT AFTER THE 'PIVOT': ASIA-PACIFIC REGIONAL PERSPECTIVE

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Since Donald Trump was inaugurated as US President, his Asia-Pacific policy has witnessed continuous adjustments through provocations and counter-actions with a clear priority assigned to major security threats in the region. He has reiterated the United States' commitment to its regional allies, demonstrated the flexibility in US's interactions with other major powers, and highlighted the fundamental role of military might. Donald Trump's victory has the potential to radically redraw the geopolitical landscape in Asia, where Barack Obama has been trying to counterbalance China's growing regional influence with his "pivot" strategy. Compared to the Obama administration, Trump's policy is unorthodox to some extent, but in essence his Asia-Pacific policy are not deviated from the established modus operandi of previous US administrations, especially the core elements of the Republican's policy traditions in the region.

ABSTRACT No. IMRC-SC-69

INVESTIGATING THE NEXUS BETWEEN PRODUCTIVITY AND EXPORT PERFORMANCE OF PAKISTAN

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Productivity can significantly contribute to the export performance of a country. It can increase export performance through increasing the efficiency of the factors of production which results in lowering the cost of domestic production and this in turn makes domestic product more competitive in the international market. The present study investigates the nexus between productivity and export performance of Pakistan by developing the theoretical model using both the factors of production (labor and capital).The impact of other factors such as gross domestic product (GDP), world income, foreign direct investment (FDI), exchange rate, indirect taxes, interest rate and cost to export are also estimated. The study used secondary data for the period 1990 to 2016. Total factor productivity (TFP) is used as an indicator of productivity and is calculated through the growth accounting framework. The ordinary least square (OLS) method is employed for the estimation of results. The findings of the study reveal that total factor productivity (TFP), GDP, world income, exchange rate depreciation and indirect taxes have significant and positive impact on the export performance of Pakistan while FDI and interest rate are significantly and negatively associated to the export performance of Pakistan.

ABSTRACT No. IMRC-SC-70

COMPARISON BETWEEN ISLAMIC AND WESTERN RESEARCH PRINCIPLES

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Literally Islam means to obey but terminologically this word is used to follow the teachings of Quran according to the guidance provided by the last prophet Muhammad (صلی اللہ علیہ وسلم). The word west is used for the direction where sun sets, but here this terminology is used for western countries/Europe. Islam as a religion provides complete guidance in every walk of life. It stress on the obligation of knowledge, research and in the exploration of universe for the benefits of mankind. Several Quranic verses can be presented in the favor of this statement. In Islamic teachings/literature, research rules were established and many Muslim scientists/thinkers presented their valuable work/ theories following these rules. Today western world is exploring the universe on the basis of their research work and is seen dominant in this field. This scholarly work is an attempt to compare the western and Islamic research principles, to find out the bases of

Islamic and western research rules, to explore differences between these rules and their effects on the research, importance of research in Islamic literature and to find answer of question that why European countries are dominant in research and development?

ABSTRACT No. IMRC-SC-71

TRADITIONAL AND ONLINE LEARNING: STUDENT PERCEPTION SURVEY

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Globally researchers have deliberated on two distinctive modes of educational learning system trying to show and prove which one is most effective and better. Beside this, there are different arguments discussing that online is beneficial learning system used to assess the overall teaching and learning components while other state traditional is more effective in this regard. Although students did not recognize traditional and online system to be comparable. On the other hand some put forward that the crossbreed manner of both system will be the most preferred and industrious content delivery system for students. Conversely, students' perceptions in the direction of online learning as compared to traditional learning are largely disregarded. Keeping in view the growing amount of online courses and the established involvement among student perceptions of learning atmospheres and academic effects the objective of this study is made to conduct a student perception survey and investigate the facts towards the online and traditional learning systems for which main campus of Sarhad University of Science and Information Technology Peshawar was selected. During the work a total number of 400 full time regular students of various department were completed an opinionnaire regarding their views on the perceptions for taking online versus traditional learning and sought to determine some reasons for their preferences. For analyzing the survey results a familiar statistical data analyzing test chi square was used to prefer online and traditional learning.

ABSTRACT No. IMRC-SC-72

ECONOMIC COSTS OF THE 'WAR ON TERROR'

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Since 2001, Pakistan has to bear the massive economic costs with the disruption of investments and slower economic growth of being a frontline state in the US-led 'War on Terror'. According to Ministry of Finance, the cost of the war increased from $ 2.669

billion in the Fiscal Year 2001-02 and reached $ 123.13 billion by 2016-2017. This study seeks to examine the direct and indirect costs of the 'War on Terror' to Pakistan's economy. The economic costs include damaged inflicted on various sectors of economy, the war's military expenditures, compensation to war-inflicted population, loss in potential Gross Domestic Product (GDP), reduction in foreign investment, rising trade deficit, costs to local economies, decline in tourism, job opportunities and dealing with Internally Displaced Persons (IDPs). The research for this study was conducted through critical analysis of official reports, papers and documents. Structured and semi-structured interviews with policy makers and intellectuals were also conducted to collect data for the study. It is argued that a substantial portion of national resources has to be diverted to bolster security, rehabilitate the IDPs and repair the damaged infrastructure due to Pakistan's engagement in the 'War on Terror'.

ABSTRACT No. IMRC-SC-76

THE NEXUS BETWEEN NET EXPORTS, FDI AND ECONOMIC GROWTH OF PAKISTAN: AN EMPIRICAL ANALYSIS (1990-2017)

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The difference between total value of exports and imports of a country are commonly known as net exports. Net exports can be either positive or negative base on the value of exports and imports of the country. Therefore, it is important to make efforts to maintain trade surplus where aggregate exports are greater than aggregate imports. Unfortunately, Pakistan remained a victim of trade deficit over past several decades. Thus, the current study is an attempt to investigate the relationship between net exports, FDI and economic growth in Pakistan. For this purpose, secondary data has been utilized over a period of 1990-2017. The study employed Autoregressive Distributed Lagged Model (ARDL) to investigate the short and long-run relationship between the variables and Granger causality test. The results show that exports and FDI inflow has positive and significant impact on economic growth of Pakistan. On the other hand, imports have no effect on GDP of Pakistan. The Granger causality test shows that exports granger cause GDP of Pakistan.

ABSTRACT No. IMRC-SC-78

ہائر ایجوکیشن کمیشن اسلام آباد پاکستان کے بی ایس اردو نصاب کا جائزہ

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The system of Higher Education in Pakistan is passing through an age of transformation with the introduction of BS (4 years degree program) in the country. BS system has changed the conventional scenario. It has brought comprehensiveness in courses by presenting five categories i.e. compulsory, general, foundation, major and major elective. Instructional strategies have been added with the compulsory involvement of students through presentation and assignments. Evaluation system has also been strengthened by assigning weightage to sessional work and mid-term exam along with the final term exam. The article under study deals with the detailed analysis of the aforementioned factors and highlighting the main features of the BS Urdu curriculum. Conclusion and findings of the study have been categorically presented at the end of the article.

ABSTRACT No. IMRC-SC-79

HIGHER EDUCATION COMMISSION BS URDU SYLLABUS: A CRITICAL ANALYSIS

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Higher Education Commission, Islamabad, through its notification, has implemented BS Programme by replacing BA/BSc and MA/MSc. The purpose of this innovation is to synchronize our degree programmes with international standards. BS Urdu programme has also been introduced in KP and all over Pakistan. HEC has developed a comprehensive syllabus for BS Urdu. The purpose of this article is to analyze different aspects of that syllabus by exploring the following questions: a. The syllabus meets national and international requirements of language and literature?; b. Which genera have been included in the syllabus?, c. Prominent literary figures and their respective works have been incorporated?; d. The basic objective of literature is to develop the aesthetics of the students. The said syllabus fulfills this primary objective?; and Compatibility of the syllabus with different multidisciplinary fields and programmes and walks of life? By focusing on the above mentioned areas and points, syllabus of HEC BS Urdu would be analyzed by measuring its qualitative and quantitative merits.

ABSTRACT No. IMRC-SC-80

خیبر پختونخوا کی جامعات کا بی۔ایس اردو نصاب اور کالج سطح کے اساتذہ کی مشکلات،حل ،عصری تقاضے

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تحقیق و جستجو فطرت انسانی کا تقاضا ہے۔وہ ہمہ و قت حقائق کی دریافت کی ٹو میں لگا رہتا ہے۔تاریخ انسانی میں انہی اقوام نے دنیا پر حکمرانی کی،جنہوں نے تحقیقی و علمی میدانوں میں کار ہائے نمایاں انجام دئیے۔عہد جدید میں علمی تحقیق کی ضرورت و اہمیت سے انکار ممکن نہیں ہے۔ خیبر پختونخوا کی یونیورسٹیوں اور کالجوں میں بی۔ایس اردو پروگرام کا اجراءہا ئیر ایجوکیشن ڈیپارٹمنٹ کا نہایت احسن قدم ہے۔تاہم یہ جان کر تاسف ہوتا ہے کہ کالجوں میں اردو تدریس کے فرائض انجام دینے والے بیشتر پروفیسرصاحبان اعلی تحقیقی اسناد (ایم ۔فل۔پی ایچ۔ڈی)کے حامل نہیں ہیں۔بی۔ایس اردو کی سند تحقیقی مقالے سے مشروط ہے۔یہ تحقیقی مقالہ ہر طالب علم کوبی۔ایس پروگرام کے آخری سال میں لکھنا ہو گا۔تحقیقی کام صرف وہی اساتذہ کروا سکتے ہیں جو از خود سندی تحقیق کرنے یا کروانے کا علمی تجربہ رکھتے ہوں گے۔اصول تدوین اوراصول تحقیق اور روایت جیسے مضامین پڑھانے کے لئے اساتذہ کا ایم ۔فل یا پی۔ایچ۔ڈی کا سند یافتہ ہونا از حد ناگزیر ہے۔بصورت دیگر اس نصاب کی تدوین اور تدریس سے وہ ثمرات حاصل نہیں ہو سکیں گے جن کے حصول کے لئےاس کی تدریس کی جا رہی ہے۔لہذا اس امر کی شدید ضرورت ہے کہکالج یا یونیورسٹی سطح کے وہ اساتذہ اکرام ،جو تحقیقی اسناد یافتہ نہیں ہیں انہیں خصوصی تربیت دی جائے ،اور ایم فل اور پی ایچ ڈی میں داخلوں کی ترغیب دی جائے

ABSTRACT No. IMRC-SC-81

خیبرپختونخواہ کے جامعات کا بی۔ایس اُردو نصاب اور کالج سطح کے اساتذہ کی مشکلات ، ان کا حل اور عصری تقاضے

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The B.S Degree Program recognized worldwide was started in 2001 in Pakistan. At the level of fertility this system in Khyber Pakhtunkhwa although does not face too much problems at Universities Level. But at the very beginning various difficulties took place at Colleges Level, which is becoming the obstacle to the success of this system. The major difficulties faced were lack of qualified teacher, difficulties in arranging staff for Major subjects of English and Computer Science, different curriculum of different universities and colleges of Khyber Pakhtunkhwa although all are according to HEC standard. The article will highlight such problems and solution will be recommended for the success of B.S program in the Universities and Colleges of Khyber Pakhtunkhwa.

بی۔ایس نظام پاکستان میں تقریباً ۲۰۰۱ء کے بعد سے شروع ہوتا ہے۔خاص طور پر خیبرپختونخواہ میں جامعات کی سطح پر اگرچہ اس نظام کو زیادہ مسائل کا سامنا نہیں۔ مگر کالجز میں اس کے آغاز کے ساتھ ہی مختلف مشکلات نے جنم لیا، جو اس نظام کی کامیابی کی راہ میں رکاوٹ بن رہی ہے۔ خاص طور پر نصاب کے حوالے سے ہر یونیورسٹی نے ایچ۔ای۔سی کے بنیادی نصاب کے خاکے پر اپنا نصاب ترتیب دیا ہے۔ جو دوسری

یونیورسٹی سے موضوعات کے حوالے سے قدرے مختلف ہے۔ کالج سطح پر چونکہ ایم۔فل، پی۔ایچ۔ڈی اساتذہ کی تعداد نہ ہونےکے برابر ہے، اس لئے بھی ہائی۔لیول پر جاکر اساتذہ کے لئے مضامین کی فکری سطح پر وضاحت مشکل ہو جاتی ہے۔ نصاب بناتے وقت جو بنیادی مسئلہ درپیش تھا وہ کم وقت میں جلد از جلد نصاب بنا کر بی۔ایس اردو شروع کروانا تھا۔ جس کے لئے افراتفری میں نصاب کو تشکیل دیا گیا، جس کی بنا پر اس میں بے پناہ خامیاں رہ گئیں۔ کئی کالجز میں تو بی۔ایس اردو پروگرام، یونیورسٹی سے پہلے شروع کیا گیا، جس کے لئے کسی باقاعدہ یونیورسٹی کی سطح پر کوئی بورڈ آف سلیبس تشکیل نہیں دیا گیا ۔ ان کالجز میں منتشر انداز میں مضامین آگے پیچھے شروع کئے گئے، جو آگے جاکر امتحانات میں مشکلات کا سبب بنے، جن میں بنیادی مسئلہ پرچہ بنانا اور نصاب کی ہفتہ وار تقسیم کی ترتیب میں فرق تھا۔ انہی مسائل کی وجہ سےان کالجز کا نصاب ایک دوسرے سے مختلف تھا، جس کی بنا پر ایک سا پرچہ بنانا ناممکن تھا اور پھر الگ الگ کالجوں کے الگ الگ پرچوں کی جانچ کی وقت ایک جیسے نمبر دینا ناممکن امر تھا۔ انگریزی اور کمپیوٹر لازمی مضمون ہونے کی وجہ سے دوسرے ڈیپارٹمنٹ سے اساتذہ کی فراہمی بھی ایک بہت بڑا مسئلہ بنا۔ کالج سطح پر اگرچہ یہ اتنا بڑا مسئلہ نہیں رہا کیونکہ کالج میں ہر مضمون پڑھانے کے لئے اساتذہ موجود ہوتے ہیں۔ لیکن یونیورسٹی سطح پر دوسرے ڈیپارٹمنٹ سے اساتذہ کی فراہمی ایک مشکل امر تھا۔ اس طرح بے شمار مسائل ہیں جو بی۔ایس اردو کے حوالے سے موجود ہیں، جس کے حل اور عصری تقاضوں کے مطابق کارآمد بنانے کے لئےتجاویز میرے اس آرٹیکل میں پیش کئے جائینگے.

ABSTRACT No. IMRC-SC-82

BS URDU IN COLLEGES: AN UNPLANNED ACADEMIC ADVENTURE

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B.S Urdu programme was started in 2015 by HEC. SBBWU and its 7 affiliated colleges started this programme in 2016. There ware a lot of problems being faced by the affiliated colleges, the reason being: their teaching faculty is not trained and most of them are not highly qualified and another problem is lack of recommended books in all institutions. In this article we will discuss all the problems and their solutions to improve the teaching skills.

ABSTRACT No. IMRC-SC-86

EFFECTS OF POSTNATAL STRESS ON PERCEIVED PERFORMANCE OF WORKING WOMEN: A CASE STUDY OF UNIVERSITIES OF HYDERABAD

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Postnatal depression is identified as one of the major issues that is being faced as a perfunctory challenge by working women. Yet they have been found to be fortitude in fulfilling the assigned duties. The World Development Report 2012 uncovers that the female interest in the work power of Pakistan is a minor of 28%.According to medical studies first year of post-natal period is crucial for the health and development of mother and infant respectively. This is particular this period in which mother becomes

vulnerable to persistent stress. This research aims to investigate the effects of postnatal stress on perceived performance of working women in academia of public and private universities of Sindh province. Twenty faculty members are selected from universities located in Jamshoro and Hyderabad cities for the qualitative in-depth interviews. The questionnaire is adopted from Edinburgh Postnatal Depression Scale (EPDS) and adapted through modification related to the socio-cultural aspect of Sindh region. The data is qualitatively assessed through the content analysis by developing themes for the proposed conceptual theoretical framework. The analysis of data identified that lack of sleeping hours, absence of family support, long working hours, lack of supervisor's empathy are some finding that have negative effect on performance. As the study is conducted in the public and private sector universities, therefore research findings specifically draw policy implication for the maternity benefit ordinance and leave policy. Owning to the socio-cultural diversity among the provinces of Pakistan, a future research at national level might provide an additional in insight on the nature of postnatal depression and women performance. Also research finding from inter-provincial data might provide policy implication for the revision of national maternal leave policy.

ABSTRACT No. IMRC-SC-87

URDU AUR PASHTO KEY LESANI RAWABIT--AIK JAIZA (A SURVEY OF LINGUISTIC RELATIONSHIP BETWEEN URDU AND PASHTO)

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Urdu language has a unique characteristic pertaining to its openness to every color and creed without any discrimination. It has the ability of absorbing other linguistic character. Different nations have played their active role unequivocally in development and progress of this language. In this context, it's obvious that Urdu and Pashto languages have a deep, strong, direct and indirect relationship. These two languages have also a great deal of commonality in grammar and composition. Presence of Afghan population in sub-continent left a large impact on the evolution of Urdu language in preliminary period. Therefore, both languages intermingled generously. In short, historically and culturally, Urdu and Pashto have many similarities. Moreover, both languages are of Arya origin. In this article, a deep survey of linguistic relationship between Urdu and Pashto is made to understand the existing link between two languages.

ABSTRACT No. IMRC-SC-89

GENDER DIFFERENCES IN CREATIVITY AMONG HIGHER SECONDARY SCHOOL STUDENTS

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This study aims to find out the gender differences in creativity among the higher secondary school students. A test of creativity in science (TCS) was developed on inspired by low cost teaching material .The (TCS) includes six aspects: sensitivity to problem, fluency, flexibility, originality, elaboration & redefinition. A study was conducted on the sample of 60 higher school science students (30 boys and 30 girls) of XIth and XIIth classes of Oxford Education Academy Batkhela, Khyber Pakhtunkhwa, Pakistan. To analyze the collected data through test of creativity for science t-test was used in SPSS -17 versions. A significant difference between boys and girls in different dimensions of creativity test was found. It was concluded that girls more creative than boys.

ABSTRACT No. IMRC-SC-90

EFFECTS OF CANNABIS ON THE ACADEMIC PERFORMANCE OF STUDENTS AT COLLEGE LEVEL AT DISTRICT PESHAWAR, KHYBER PAKHTUNKHWA

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This study, seeks to confirm the correlation between academic performance and the use of cannabis at Colleges level. The study is descriptive exploratory in nature. The assessment of various reasons as to why students abuse drugs and the various types of drugs available to the students in colleges were highlighted in the study. The sample was selected through snowball and convenient sample technique. Data collected through quantitative method and survey questionnaire were used as an instrument. On Likert scale questionnaires were designed. The reliability and validity of the instrument were tested as well. The study revealed that along with cannabis most of the students are using cigarets. The drugs are nearly available to students is another reason of widely using due to which the students concentration diverted from studies and as a result poor academic performance, increase absentees, no participation in academic activities.

It was suggested that cannabis and all sorts of drugs are stricklybanned by government and administration of all academic institutions. As well as an awareness campaign on the media and in colleges on regular bases initiated which pinpoint the disadvantages of the use of cannabis and all sort of drugs.

Keywords: Cannabis, drug abuse, poor academic performance

ABSTRACT No. IMRC-SC-92

CASE MARKING ON GENDER IDENTIFICATION IN ENGLISH AND URDU LANGUAGES

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This study aims to investigate the gender identification of English and Urdu languages. The former language is international lingua-franca while the latter is national language of Pakistan and is also spoken in a vast area and by large population of India. Both the languages belong to two different cultures where the idea of gender in each language has its own social and cultural orientation. To explore the significant differences in both the languages, the data has been collected in the form of speeches of the politicians by using simple random sampling technique. The collected data has been analyzed hermeneutically. The findings showed that Urdu language is verb-specific which is referred back to the subject but does not depend upon it for any type of change in gender identification. On the other hand, these are the pronouns; 'he', 'she' and 'it' which are used as grammatical subject but have no effect on the gender representation through the use of verbs.

ABSTRACT No. IMRC-SC-93

DOES LAXITY IN ENVIRONMENTAL REGULATIONS LEAD TO MORE FOREIGN DIRECT INVESTMENT AND EXPORTS? TESTING THE VALIDITY OF POLLUTION HAVEN HYPOTHESIS FOR PAKISTAN

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The relationship between trade liberalization, foreign direct investment (FDI) and environmental quality have been debated for a long time. These relationships in case of developing countries are hugely important as there is a concern that the laxity of

environmental laws results in attracting dirty industries and thereby specialization in those products as well. This paper takes the time series data ranges from 1980 to 2016 to investigate the pollution haven argument. For industrial flight hypothesis study utilized aggregate level data and besides other traditional determinants of FDI, carbon dioxide (CO_2) emission is used as a proxy for environmental regulations. ARDL bound test applied to evaluate cointegration among variables. Findings of the study validate pollution haven hypothesis and concluded that CO_2 emission in Pakistan is a most influential determinant that attracts FDI. While concerning export competitiveness hypothesis research used disaggregate level data for Pakistan seven most polluted sectors. The analysis was performed with Trade Balance Index (TBI) and found weak indication in support of the pollution haven hypothesis. Overall findings of the study come out in support of the pollution haven hypothesis, call for effective policy implication to solve the ongoing dilemma.

ABSTRACT No. IMRC-SC-94

خیبر پختونخوا کی جامعات کا بی ایس اُردو نصاب اور کالج سطح کے اساتذہ کی مشکلات

روبینہ رشید لیکچرار شعبۂ اُردو شہید بینظیر بھٹو خواتین یونیورسٹی پشاور

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کسی بھی قوم کی تعمیر و ترقی کے لئے تعلیم کی اہمیت سے انکار نہیں۔ خصوصاً اعلیٰ تعلیم تو اس سلسلے میں ریڑھ کی ہڈی کی حیثیت رکھتی ہے۔ جامعات میں تعلیم کے مختلف منازل کو مزید پرکشش اور بامعنی بنانے کے لئے بی۔اے اور ایم۔اے کی سندوں کو باہم ضم کر کے بی ایس بنایا گیا۔ بعد میں ہائیر ایجوکیشن کمیشن کی تجاویز کی روشنی میں کالجز میں بھی یہی پروگرام شروع کیا گیا۔ یہ پروگرام وقت کی بچت کے لحاظ سے خاصا مفید رہا ہے لیکن جامعات اور کالجز میں اس پروگرام کے حوالے سے بہت سی مشکلات پیش آتی ہیں۔ وہ مشکلات چاہے نصاب کے متعلق ہوں یا نصاب میں شامل مضامین کی بھرمار سے ہوں۔ ان کا سدباب کیسے کیا جائے۔ موجودہ مقالہ انہی خطوط پر استوار کیا گیا ہے اور ان سوالات کو حل کرنے میں مدد و معاون ثابت ہوگا۔

ABSTRACT No. IMRC-SC-95

LANGUAGE BARRIERS IN STUDY AND ITS IMPACT ON STUDY SCORES: STUDY OF UNIVERSITY OF SINDH, PAKISTAN

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English is international language, compulsorily used as medium of instruction in universities of Pakistan. Sindh is one of the five provinces of Pakistan, in which local language is Sindhi and national language is Urdu but in universities of Sindh lectures are delivered in English. Students who are unable to understand and speak English language for them English language is a barrier in understanding lectures and that too affects the results of students. This is a survey study conducted to analyze the impact of language barriers on getting study scores of students in university of Sindh. Questionnaire is used as data collection tool. Sample size comprises 100 samples, selected by simple random sampling method. 50% samples are taken from natural sciences and 50% samples are taken from social sciences. Data is analyzed with help of SPSS, data is presented in pie charts. Results are interpreted and discussed in light of available scholarly literature on topic to draw accurate results.

Conference Recommendations

The basic aim of this conference was to provide a multidisciplinary platform to the research community on a large scale. And after conducting the conference, the qualitity and quality of the research papers being presented by the presenters across the globe in the conference have proved that, in real sense, this mega event has proved successful in achieving its aim. We believe that the papers presented and key note speeches made by the national and international guests would have benefited the researchers and would contribute towards the socio-economic development. It is, further, believed that the conference has provided golden opportunity for sharing knowledge and experiences with the hope to have engendered the young researchers and scientists to play their role in the world of research.

Keeping in view the prime objective of Higher Education Institutes i.e. promoting research culture in the country through research events on international scale, IMRC is one the initiatives that the partnering universities have undertaken. Such research events have always proved instrumental in tackling the challenges of the fast moving scientific era with a sanguine wish to have its trickle down impact on socio-economic development. In this context, special emphasis has been placed by the researchers on intrinsic relationship between people, nature, cultural values coupled with science & technology.

IMRC 2018 aimed to bring together a wide range of multi-disciplinary research professionals active both at the theoretical and practical level of research in order to better understand the link between people and technology with particular reference to the developing economies to focus on sustainable development through research and innovation.

IMRC 2018 provided a stimulating environment of multi-disciplinary and cross cultural exchange and the researchers highlighted the richness in the variety of challenges and innovative approaches in almost all domains of life and particularly addressed those who are really desirous of socio economic development.

IMRC 2018 concluded that the academia has played a very important role in developing human resources into renowned researchers who turned the production process into a miracle and inspired the young scholars to introduce new techniques of production to help in emancipating world population from the clutches of poverty. In this regards, it was recommended that the most important thing to focus for academe is “Industry-Academia Linkages” particularly for the universities in the less developed parts of the world.

It was concluded that IMRC will lay a cornerstone for the continued sharing of practical experience and lessons learned particularly from the international keynote

speakers and will help the local researchers to exploit this opportunity and develop linkages with international researchers in their areas of interest.

IMRC 2018 recommended broadening concept of research by involving local communities so the research should have a trickle-own impact on the lives of the ordinary people as well rather than the careers of research scholars and the rankings of the higher education institutions. In this connection it was recommended that coordination and cooperation between the partner universities and their stake holders should be further enhanced and there is a need for strengthening sustainable ties between the above mentioned institutions for sustainable development and applied research.

The conference also recommended that there is a dire need of looking into and exploring further opportunities for collaboration with other public and private sector universities to join hands for this noble cause of community service through academe.

The conference speakers emphasized on the need of promoting basic research to strengthen the foundations of research with modern research approached and techniques and ot aquaint the young researchers with state of the art research tools. Side by side, it was also emphasized the experienced research should focus on applied research to explore practicable solutions to the actual problems being faced by the people and the corporate sector.

The participants with diverse disciplines hailing from different regions and localities expressed their sincere gratitude to the Organizing Committee of IMRC 2018 for organizing the conference in the best possible manner.

4th IMRC-2018 Statistics

Total Receive Abstract	**340**
Total Accepted	**277**
Total Registered	**160**

Detail of Parallel Sessions

#	Discipline	Tracks	No. of Paper
1	Agriculture Science	3	16
2	Bio-technology & Genetic Engineering	1	4
3	Chemistry	3	11
4	Civil Engineering	3	12
5	Climate Change & Environmental Sciences	1	4
6	Economics	4	18
7	Education	2	12
8	English	1	5
9	Islamic Studies	2	10
10	Management Sciences	4	20
11	Medical Lab Technology	2	8
12	Natural Sciences	1	5
13	Pharmacy	1	5
14	Physics/Computer Science	1	6
15	Sociology	1	6
16	Statistics/Psychology	1	5
17	Urdu	2	9
18	Veterinary Sciences	1	4
Total		**34**	**160**