

UMT RESEARCH OUTLOOK 2014



LEARNING RESOURCE CENTER
UNIVERSITY OF MANAGEMENT & TECHNOLOGY
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Research Outlook 2014

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Forward

University of Management and Technology (UMT) always encourages and value scholarly activities which are reflected from its strategic priorities. Research is also crucial to assess our programs to develop research based curriculum and preparing students to enrich research endeavor. Even the students can play a vital role in the production of research to moor their academic curiosity, quench their thirst for innovation and augment their creativity. A lot of learning occurs when students do research – learning that does not happen during traditional coursework. Classroom knowledge is reinforced and more completely assimilated when students are given the opportunity to apply that knowledge.

Research invariably leads to a better understanding of and a deeper appreciation for the discipline under investigation. Students' career goals are usually clarified after they participate in research. How do you know you will enjoy being an entrepreneur, for example, without getting a chance to do some of the thinking, researching and writing that an entrepreneur does? Research is also a significant confidence booster. The more students are mentally stretched (wrestling with surprising results or unanswered questions or pertinence to previous studies), the greater their sense of accomplishment upon completion of the project. This is especially true when a caring faculty member guides and encourages the students. Establishing a relationship with a faculty mentor is another big advantage of undergraduate participation in research. It has been shown to increase retention and graduation rates. Students benefit from the wisdom, knowledge and experience of a mentor, while faculty members benefit from the questions students ask, the discoveries they make and the energy they bring to the project.

Universities around the world are coming under greater pressure to increase their productivity, often because of reduced funding in the context of increasing student demand. At the same time, many governments are looking to universities to produce short-term practical outcomes, commercialize their intellectual property, and chase funding, no matter what the implications of winning it. In this context of rapidly changing support, often reflecting short-term electoral cycles and a limited political vision, it becomes easy to overlook the long-term contributions of universities and the significant strategic role they play in helping to develop our society and economy. A focus on the immediate and short-term is simplistic, building on a narrative that does not recognize the complexes ways in which innovation takes place or acknowledge the deeper and more profound contributions which universities make. Taken to its extreme, this approach could prevent universities from making their really significant, fundamental contributions to economic, social and cultural development or environmental sustainability. Ultimately this will lead to more fragile and less resilient societies. Research intensive universities are crucial national assets. They promote the excellence in research and education by emphasizing the mutual dependence of these activities at the highest levels of learning – but they do much more than this.

Muhammad Rafiq Awan
Chief Library Officer

School of Engineering

Department of Mechanical Engineering

Journal Articles

1. Ijaz, H., **Asad, M.**, Gornet, L., & Alam, S. Y. (2014). Prediction of delamination crack growth in carbon/fiber epoxy composite laminates using non-local interface damage model. *Mechanics & Industry*, 15(04), 293-300.. **Impact Factor*: 0.127**

Abstract: The use of composite laminates is increasing in these days due to desired directional properties and low densities in comparison of metals. Delamination is a major source of failure in composite laminates where a crack like entity can initiate and propagate between different layers of composite laminates under given loading conditions. Damage mechanics based theories are employed to simulate the delamination phenomena between composite laminates. These damage models are inherently local and can cause the concentration of stresses around the crack tip. In the present study integral type non-local damage formulation is proposed to avoid the localization problem associated to damage formulation. A comprehensive study is carried out for the selection of different non-local variables. Finite Element simulations based on proposed non-local damage models and classical local damage model are performed and results are compared with available experimental data for UD IMS/924 Carbon/fiber epoxy composite laminate.

Keywords: Non-local Modeling/Delamination/Laminate/Damage Mechanics/Finite Element

2. **Asad, M.**, Mabrouki, T., Ijaz, H., Khan, M. A., & Saleem, W. (2014). On the turning modeling and simulation: 2D and 3D FEM approaches, *Mechanics & Industry*, 15 5 (2014) 427-434. **Impact Factor*: 0.127**

Abstract: For qualitative prediction of chip morphology and quantitative prediction of burr size, 2D and 3D finite element (FE) based turning models have been developed in this paper. Coupled temperature displacement machining simulations exploiting the capabilities of Abaqus r_ with a particular industrial turning insert and a newly proposed geometrical version of this insert have been performed. Limitations of 2D models in defining the chip morphologies and surface topologies have been discussed. The phenomenological findings on the Poisson burr (Side burr) formation using 3D cutting models have been highlighted. Bespoke geometry of the turning insert has been found helpful in reducing the Poisson burr formation, as it reduces the contact pressures at the edges of tool rake face-workpiece interface. Lower contact pressures serve to decrease the material flow towards workpiece edges (out of plane deformation). In contrast, higher contact pressures at tool rake face-workpiece interface lead to more material flow towards work piece edges resulting in longer burr. Simulation results of chip morphologies and cutting forces for turning an aluminum alloy A2024-T351 have been compared with the experimental ones. Finally, it has been concluded that the newly proposed geometry of the insert not only decreases the burr but also helpful in lessening the magnitude of tool-workpiece initial impact.

Keywords: Orthogonal turning / FE model / poisson burr formation / chip morphology / A2024-T351

3. Saleem, W., Ejaz, H., Khan, M. A., & Asad, M. (2014). Weight to Strength Analysis of Topological Optimized UAV Ribs. *Arabian Journal for Science and Engineering*, 1-9. **JCR Listed Impact Factor*: 0.385**

Abstract: Structural topology optimization (STO) has emerged a thriving technique to determine the optimal concept design of mechanically loaded structures. Optimized configuration can be evolved by meeting the objective of optimal material distribution in allocated design domains under strength and stiffness constraints. In this paper, STO technique is emphasized by addressing its imperative material interpolation schemes and a general mathematical formulation for maximizing the structural stiffness under static loading. Potential application of this technique is explored by developing weight optimized configuration of an operative unarmed aerial vehicle wing ribs. Analytical study is carried out to evaluate the performance of different sections of optimized configuration. Weight to strength factor of each section is estimated by determining its shape and inertia factors. Finite element analysis and analytical outcomes of optimized configuration validate its enhanced performance as compared to operative ribs.

Keywords: Structural optimization, Topology optimization, Stiffness, Wing rib

4. Ijaz, H., Asad, M., Memon, A., Ahmed, K. B. , Abbasi, H. & Laghari, A. N. (2014). Strain energy based homogenization method to find the equivalent orthotropic properties of sandwich structures. *Sindh University Research Journal (Science Series)*. 46 (1), 93-98. **(HEC approved Y category)**

Abstract: The purpose of present study is to present a methodology to determine the effective elastic properties of sandwich structures. This methodology is based on strain energy based criteria. Sandwich structures contain core material and face sheet. Earlier work in this domain contains the homogenization of core material and determining its equivalent orthotropic properties. The equivalent properties for core material then modeled along with face sheet for final analysis. In the present study however a direct scheme is proposed. Here core material and face sheet are modeled together to determine the equivalent orthotropic properties of sandwich structure.

Keywords: Homogenization, Sandwich structures, Finite Element Analysis, Orthotropic

5. Haider, K. M. A., & Mufti, N. A. (2014). Mechanical and Microstructural Evaluation of Squeeze Cast Al-4% Cu Alloy Using a Full-Factorial Experimental Design. *Journal of Minerals, Metals and Materials*, 66(8), 1-8. **Impact factor 1.401**

Abstract: A full factorial design was employed to investigate the effect of squeeze pressure in conjunction with thermal parameters, i.e., melt and die temperatures, on the mechanical properties of a squeeze cast Al-4%Cu alloy. Considerable variations in mechanical properties existed between different test

runs, and these were discussed based on cooling rates previously quantified for a squeeze-cast Al-4%Cu alloy. The completeness of a full factorial design not only identified a combination of process parameters for optimum results but also facilitated an evaluation of the minimum pressure required to eliminate porosity and influence the die temperature on the microstructure of the squeeze-cast alloy. In addition to the optimum run, particular importance was given to those runs that had more desirable levels of control factors with respect to energy consumption or tooling life. A microstructural analysis of these runs indicated the possibility of precipitation hardening that can open up further investigations toward the opportunities associated with in situ heat treatment of age-hardening, squeeze cast aluminum alloys.

Keywords: Not Available

Department of Electrical Engineering

Journal Articles

6. **Mushtaq, M. T.**, Hanif, M. S., Khan, M. S., & Koudelka, O. (2014). Spectrum scheduling: The key factor for maximum throughput and optimal resource utilization in cognitive radio network. *Science International*, 26(1), 113-116. **(HEC Approved Local Journal) Z category**

Abstract: The problem of spectrum scarcity becomes with the new devices and applications of wireless communication. The solution of this problem is the cognitive radio Networks. This paper presents the different scheduling techniques for the secondary user and evaluated the results of maximum throughput and optimal resource utilization based on evaluation results of different scheduling techniques introduced at that time for cognitive radio networks. The research proposes one of the key challenges in spectrum sharing that is spectrum scheduling. And on the base of these results we evaluated that spectrum scheduling for secondary user is the key factor for maximum throughput and optimal resource utilization in cognitive radio networks.

Keywords: cognitive radio, spectrum sharing, spectrum holes, resource utilization

7. **Mushtaq, M. T.**, Khan, M. S., Ehsan, S., M.S.Khan, G.Jaffar, I.Khan, Koudelka, O. (2014). Frequency Analysis and Selection for Cognitive Radio using Fuzzy Logic System. *Pensee Journal*, 76(1). **(JCR Listed – IF 0.018)**

Abstract: The spectrum scarcity is a great challenge in the future development of wireless communication devices. The idea of Cognitive radio was proposed for

the solution of this problem. The research work presented in this paper addresses the Frequency Analysis and Selection for Cognitive Radio (CR) using Fuzzy logic based Adaptive Control System. Fuzzy logic controller FLC is designed for this purpose to optimize the use of available radiofrequency (RF) spectrum resources while minimizing the chances of interference due to primary users. The FLC is used to deal with the incompleteness, uncertainty and heterogeneity of a cognitive radio scenario. Two cascaded fuzzy logic controllers are used. The first fuzzy inference system takes four inputs i.e. environment condition, distance between primary user and the secondary user, speed of secondary user and signal power received at SU (P_{su}). The only one output of FLC-1 is P_{su} , which is the signal power of secondary user (SU). The second fuzzy inference system FLC-2 will take four inputs i.e. transmission power of SU (P_{su}), signal to noise ratio (SNR_{pu}), used frequency spectrum and duration of used frequency. The result of FLC-2 is appeared in the form of available frequency hole.

Keywords: Cognitive Radio, Frequency analysis, Adaptive Control, Fuzzy Logic System

Conference Papers

8. **Mushtaq, M. T., Butt, F. A., & Malik, A.** (2014). *An overview of spectrum sensing in cognitive RADAR systems*. Paper presented at the Microwaves, Radar and Remote Sensing Symposium (MRRS), Ukraine

Abstract: The spectrum scarcity problem is occurred due to static allocation of the spectrum and increasing no of applications of the wireless communications. The same problem occurs in the field of radar communication. The solution of the said problem is a cognitive radio. The cognitive radio works on the principle of dynamic access. The essential part of the dynamic access is the spectrum sensing. In this paper, an overview of the spectrum sensing techniques in Cognitive RADAR is given that is available in open literature. These techniques will help in the development of self-aware, environment aware RADAR systems which can adapt the target variations in a real time within a short interval of time.

Keywords: Not Available

9. Shahab, M. B., Ali, U., & **Mushtaq, M.T.** (2014). *Downlink resource scheduling Technique for maximized Throughput with improved Fairness and reduced BLER in 3GPP Long term evolution*. Paper presented at the 37th International Conference on Telecommunications and Signal Processing, Berlin, Germany.
10. Ishtiaq Ahmed, **Adnan Muhammad**, xiao Yan , Yuci Zhang , Zhiyong Feng, Ping Zhang, "Low Complexity Linear Pre-coding scheme for interference management in Femto-Cell Networks", IEEE 80th VTC Fall 2014 pp. 1-5.

11. **Butt, F. A. & Jalil, M.** (2014). Radar cross section analysis for an ogive target (Around Radome or a Missile). Paper accepted at 15th International Radar Symposium scheduled to be held between 16-18 June, 2014 in Gdansk, Poland.

Abstract: Radar cross section and its reduction is an area, which has a lot of room for research and over the past few decades, this particular area has gained significant importance in military and defense applications. Radar cross section is dependent on a number of parameters including shape, orientation, operating frequency, aspect angle, permittivity, permeability, transmitted power and related aspects. The research presented in this paper investigates the radar cross section of an ogive shape structures, which is related to missiles and aircrafts. Simulations for radar cross section are performed for different aspect angles and frequencies. The results show that radar cross section is highly dependent on the aspect angles and hence, significant counter measures can be achieved by using ogive and alike structures.

Keywords: radar cross section; ogive; fuselage; scattering; angle; frequency

12. **Butt F. A., Ahmed, M., & Jalil, M.** (2014). Active Phased Array Radars as an Effective ECCM systems, Paper presented at 35th PIERS (Progress in electromagnetic research symposium) Guangzhou, China

Abstract: Phased Array Radars have started to regain some serious attention over the past few decades owing to its high accuracy, efficiency and less susceptible characteristics. The most basic requirement that one could wish for in a good modern radar is its beam agility, low distribution loss, maximum bandwidth, lower cost, maximum efficiency and effective resource management. Modern phased array radars can be best utilized to achieve characteristics of an effective radar system with minimum tradeoffs. The most basic thing that it can achieve is, that the antennas can be arranged to get the desired radiation pattern. The characteristics and detection abilities of active phased array radar systems are discussed. Moreover, the paper suggests that active phased array radar can be best suited as an electronic counter-counter measure system.

Keywords: Not Available

13. **Akhlaq, A., Ahmad, J., & Umer, A.** (2014). Biologically inspired self-reconfigurable hexapod with adaptive locomotion. Paper presented at the Power Electronics and Motion Control Conference and Exposition (PEMC), 2014 16th International.

Abstract: This paper describes the implementation of biologically inspired self-reconfigurable control system for a multivariable hexapod robot having gait switching ability. It focuses on the control; based on forward and inverse kinematics for systematic locomotion and navigation of robot. Electronic system

have the capabilities to measure physical variables. Force and pressure sensors are mounted on each end of the leg to provide the necessary sense of touch. The paper also explains the reconfiguration ability of the robot in case of any damage to its leg and its capacity to change the walking pattern according to the malfunction caused. The system implementation using multiple microcontrollers in master-slave configuration to produce and control 18 DOF is also shown in the paper.

Keywords: Not Available

School of Business and Economics

Department of Operations and Supply Chain

Journal Articles

1. **Rashid, K., Aslam, H.** (2014) Designing MS Supply Chain Management program using quality function deployment: international journal of business and management study. Vol.1(2), 31-38

Abstract: Course design is an important component in the success of academic programs. The design and execution of the academic programs according to the demand of the industry leads to the success of its graduates in their careers. Current study narrates the process through which academic program for Master of Science in Supply Chain Management (MS-SCM) has been designed by a university in a developing country based on customer demands considering prospective employers as customers. In order to convert customer requirements into the program courses “quality function deployment” (QFD) has been used. The “house of quality” is the tool of QFD that has been used to translate requirements of the prospective employers into the courses to be offered in the program. In order to learn about the voice of customer a small scale survey of the managers from a variety of organizations has been conducted who play a role in the recruitment of new candidates in their respective departments. Based on the demands of the managers, courses with suitable content have been identified that can meet the requirements of the potential employers. This study shows how by using QFD, educational policy makers can customize the academic programs to the requirements of the employers.

Keywords: MS program, supply chain management, quality function deployment.

Department of Quantitative Methods

Journal Articles

2. Khan, H., & Siddiqi, A. F. (2014). A New Class of Generalized Exponential Ratio and Product Type Estimators for Population Mean using Variance of an Auxiliary Variable. *Journal of Statistics* 21, 206-214. **HEC approved Y category**

Abstract: In this paper, a general class of Estimator and Exponential Ratio and Product Type of Estimators for estimating finite population mean in Single Phase Sampling is considered. The expression for the Bias and Mean Square Error (MSE) of the first order approximation of the proposed class of Estimators are given. The properties of the proposed Estimators have been analyzed for independent units under Simple Random Sampling without replacement (SRSWOR) with ignoring finite population Correction Factor. It has been shown that the proposed Ratio and Product Exponential Type Estimators are more efficient than Simple Random Sampling, Classical Ratio and Bhal and Tuteja (1991) Estimator.

Keywords: Mean Square Error, Bias, Efficiency

3. K. Manrai, A., & Siddiqi, A. F. (2014). An observatory note on tests for normality assumptions. *Journal of Modelling in Management*, 9(3), 290-305.

Abstract: Purpose - The purpose of this paper is to discuss how numerous tests that are available in statistical literature to assess normality of a given set of observations perform in normal and near-normal situations. Not all these tests are suitable for all situations but each test has an exclusive area of application.

Design/methodology/approach - These tests are assessed for their power at varying degrees of skewness, kurtosis and sample size on the basis of simulated experiments.

Findings - It is observed that almost all these tests are indifferent for smaller values of skewness and kurtosis. Further, the power of accepting normality reduces with increasing sample size.

Originality/value - The article gives guidelines to researchers to apply normality assessing tests in different situations.

Keywords: Decision making, Data analysis, Normality assumptions, Skewness, Kurtosis, Normality test

Department of Economics

Journal Articles

4. Satti, S. L., Hassan, M. S., Mahmood, H., & Shahbaz, M. (2014). Coal consumption: An alternate energy resource to fuel economic growth in Pakistan. *Economic Modelling*, 36, 282-287 (JCR Listed Impact Factor: 0.736)

Abstract: This study is an attempt to revisit the causal relationship between coal consumption and economic growth in case of Pakistan. The present study covers the period of 1974-2010. The direction of causality between the variable is investigated by applying the VECM Granger causality approach. Our findings have exposed that there exists bidirectional Granger causality between economic growth and coal consumption. The Cumulative Sum (CUSUM) and Cumulative Sum of Square (CUSUMSQ) diagrams have not found any structural instability over the period of 1974-2010.

Keywords: Pakistan; Economic Growth, Coal Consumption

Conference Papers

5. Ada Jaffery and Rukhsana Kalim (2014), Political competition, rising prices and economic augmentation, an Evidence from Pakistan presented in 4th ICoBM on 26-27 Feb 2014 at IBA Sukkur

Abstract: This paper aims to investigate the empirical relationship of political instability in the form of political competition and inflation using time series data for the period of 1973-2010 in Pakistan. Findings of the paper lead us towards the fact that political competition has a significant and positive association with inflation in both short run and long run. Co-integration Johansson Jeselius Analysis and Error Correction mechanism has been used to check the long run and short run dynamics respectively. Moreover the paper highlights the role of other economic variables i-e investment and economic growth .The estimation of CUSUM and CUSUM square reveals the fact that there exists no structural instability over time in the conceptualized model.

Keywords: Political instability, Political competition, Inflation, Economic Growth.

Department of Management

Journal Articles

6. Raza, A., & Murad, H. S. (2014). Learning in plural cultural context: Methodological framework for multiple pedagogic practices. *Journal for Multicultural Education*, 8(1), 2-12.

Abstract: Purpose – This paper aims to reconstruct the metaphor of classroom learning in plural cultural context. It underscores the essential complexity of the human learning and argues for multiple pedagogical practices as a tool for instructional engagement.

Design/methodology/approach – Technological innovations have given new meanings and interpretations to the social vocabulary of learning across the world. These innovations have created cultural contexts in which metaphor of classroom learning needs to be revisited and reassessed. It discusses the concept of classroom learning in a humanistic cultural context and explores a methodological framework for multiple pedagogic practices a tool for learning engagement based on critique of divergent themes in pedagogical literature.

Findings – It is argued that classroom learning is a complex microcosm of human bodies, minds and cultures, necessitating major adaptations, both from teachers and learners. It is a continuous engagement, borne out of mutual willingness of teachers and learners to become indivisible part of whole living experience of learning. Classroom as a metaphor of learning would continue to inspire the serious learners, have responded to technological innovations, currently experienced by the human societies across the world, and has gone on to become a “cyber-classroom” in the era of globalization.

Originality/value – The paper highlights underlying cultural complexities of human learning and hence underscores the need for a revised and pluralistic curriculum for the global management education and those who are engaged in it.

Keywords: Engagement, Metaphor, Classroom learning, Cultural pluralism, Pedagogic practice, Multiple engagements

7. **Raza, A. & Murad, H.S.** (2014). Learning new management viewpoints: Re-contextualizing strategic leadership in global and regional context, *Business Review* 9 (1).

Abstract: This paper makes a theoretical critique of the current paradigm on strategic leadership and proposes an epistemology of managerial practice as unfolded in the business contexts. It is argued that there exist diachotomic views of managerial practice based on profit-logic versus responsibility- logic throughout the corporate world. The strategic leaders, instead of practicing one of these logics, should try to synthesize best of the both at the cognitive level and then apply them into the business and management environment. The rapid technological changes coupled with the profound cultural heterogeneity at the workplace have also created the determinants of humanly responsive and socially aware strategic leadership, which must respond sensibly to the hyper-transformative forces both at the regional as well as global level. Therefore, this paper suggest that strategic leaders in business, society and industry must cultivate a culture of courage, vision and will to transcend the established strategic straitjackets and usher into the new brave world of strategic opportunities and alliances.

Keywords: Strategic Leadership, Epistemology, Managerial Practice, Profit Logic, Responsibility Logic

8. **Shahzad, K., Murad, H. S., Kitchlew, N., & Zia, S. A.** (2014). Integrating Principles of Care, Compassion and Justice in Organizations: Exploring Dynamic Nature of Organizational Justice. *Journal of Human Values*, 20(2), 167-181. (SJR Listed)

Abstract: This article aims to respond to the long-lived perceived incompatibility between care and compassion and justice in organizational literature. It is argued that principles of care and compassion and principles of justice are compatible with each other and can be integrated in organizations in such a way that both will supplement each other. Previous researches tend to view concepts of care and compassion and justice either as competing or inheriting some fundamental trade-offs. This article argues that the highlighted incompatibility between care and compassion and justice is mainly due to the limited understanding about the nature of organizational justice. Care and compassion carry elements of subjectivity and are dynamic in nature, whereas literature on organizational justice has described justice as an objective, static and linear construct due to which an incompatibility between these two very important phenomena is prevailing. This incompatibility can be removed by changing the way of looking at organizational justice and by exploring its dynamic nature.

Keywords: Care and compassion, organizational justice, dynamic nature of organizational justice, compassionate just organization

9. Sair, S. A., Rafiq, N., Asghar, A., Ulfat, S., Jamil, M. A., Abbas, A. (2014). Which positioning strategy outperforms? *Science International Journal* 26(2). HEC approved Z category

Abstract: The effectiveness estimation of positioning strategies perceived by consumers is a challenge for marketers and confusion is still there in their minds, at the same time in the mind of strategy makers that which strategy is more successful. Successful positioning and its well established perception on consumer side are the symptoms of company's long run progress and product's success. Empirical, the relative effectiveness of taken positioning strategies is measured. A multidimensional scale is used to measure the effectiveness. The scale is constituted by the four dimensions including dissimilarity, uniqueness, favorability and credibility. Each dimension is assessed by the associated elements that are seventeen in total. Practically, three print advertisements from cellular industry are selected with the experts 'opinion. Each advertisement represents the given positioning strategy. Quantitative data were gathered by showing these advertisements to the 100 consumers that are selected via purposive sampling technique. The statistical technique, ANCOVA is applied herein the study. The results showed both benefit positioning strategy and surrogate strategy received the much higher and significant score against the three dimensions of positioning effectiveness (i.e., favorability, dissimilarity and uniqueness) whereas results are not significant for credibility dimension.

Keywords: Positioning, Positioning Strategy, Surrogate Positioning, Direct Benefit Positioning, Indirect Benefit Positioning.

Department of Marketing

Journal Articles

10. Rehman, M. u., & M. Azhar, S. (2014). Shaheen Ballpoints: a project of the Shaheen Group [1]. *Emerald Emerging Markets Case Studies*, 4(4), 1-18.

Abstract: Shaheen Ballpoints is a project of Shaheen Group of Industries who, apart from manufacturing and marketing writing instruments, are engaged in diversified businesses of sanitary fittings, sanitary tiles, baby diapers and plastic films. Launched in 2001-2002, Shaheen Ballpoints had to compete against established ballpoint pen brands in a growing market. Shaheen Ballpoints believed that by setting out new standards for technology and packaging being used in the writing instruments industry, they would be able to compete with these giants. Shaheen Ballpoints experienced a mega launch of its ballpoint pens range in 2002. The wholesale market of Pakistan welcomed Shaheen Ballpoints quite generously and they paid in advance for their stocks which, generally, was not a norm of the writing instruments industry of Pakistan. However, soon after its launching, Shaheen Ballpoints realized some of the technical and marketing issues in its systems and had to pull all its stock back from the market just after six months of its launch. All the major resellers avoided Shaheen's stocks which was a major setback for the Shaheen Group. They re-launched the ballpoints in early 2004.

Keywords: Writing instruments, Strategy, Marketing strategy

11. Haque, M. u., & M. Azhar, S. (2014). Effect of Market Orientation on Channel Strategy - An Empirical Analysis of Pesticide Industry. *Journal of Management and Research*, 1(1), 11-32.

Abstract: Research in market orientation has overlooked the importance of its impact on various aspects of marketing strategy, especially on distribution channel strategy. Using Kohli & Jaworski's framework of measuring market orientation (MO) and pesticide industry of Pakistan as a context, this article explores the relationship between various constructs of MO with channel strategy. This paper draws survey data from the pesticide industry in Pakistan. Given the low response rate, a norm in developing countries, bootstrapping technique is employed and tests are run. The results reveal that level MO has an impact on how channel strategies are formulated. Findings of the research indicate that higher level of MO is associated with selective channel strategy involving low intensity of distribution and higher channel control. The results also suggest that the right channel strategy helps an organization to create differentiation and to improve performance in a commodity market.

Keywords: MO, Market, Orientation, Channel Strategy, Distribution Channels,

Commodity Markets

Department of Finance**Conference Papers**

12. **Ajmal, M. M.**, “Option of Entry into the Family Business: A burden or a Blessing”, 4th International Conference on Business Management, ICOBM, 27 Feb. 2014.
13. **Ajmal, M. M., and Rafay, A.**, “Earnings Management through Deferred Taxes recognized under IAS 12 - Evidence from Pakistan”, Lahore School of Economics Second Annual Business Research Conference 30 May, 2014.

School of Professional Advancement**Journal Articles**

1. **Abbas, R. Z., Murad, H. S., Yazdani, N., & Asghar, A.** (2014). “Extending Kahn's model of personal engagement and disengagement at work” with reference to existential attributes: A case study of HR managers in Pakistan. *International Journal of Social Economics*, 41(1), 2-31. (SJRI Listed)

Abstract: Purpose – This study seeks to explore the existential meaningfulness of HR managers’ work. The purpose of this study is to investigate the influence of four existential attributes that are death, responsibility, alienation and meaningfulness, on the work of HR managers. The study also asserts that the work of HR managers has an existential dimension to it. It also argues that HR managers have human qualities. They react to human predicament and need emotional identification with their work and organization.

Design/methodology/approach – The study is based on the responses of HR managers developed on the basis of an interview guide specifically designed for this purpose. The data have been collected through extensive and in-depth field interactions with HR managers working in diverse organizations. The research approach taken here is to focus on the discrete moments of role performance of HR managers that represent microcosms of the larger complexity. Those moments are windows into the multiplicity of factors that are constantly relevant to person-role dynamics. Focusing on specific moments of work role performance of HR managers is like using the zoom lens of a camera: a distant stationary image

is brought close and revealed as a series of innumerable leaps of engagement and falls of disengagement.

Findings – The study brings out the emotional and human dilemmas of HR managers working in public and private sector organizations. While discussing and linking Kahn’s model with Sartre an thoughts can provide unique perspective within the strategic human resource management especially in Pakistani organizations which was missing not only in Kahn’s model but also in management literature.

Originality/value – The study makes a fresh inquiry into the nature of HRM and the existential realities experienced by the HR managers at work place. The study is unique because of its extensive field interactions based on a well-designed interview guide hitherto unapplied in the organization studies.

Keywords: Pakistan, Existentialism, HR managers, Kahn’s model

2. Yazdani, N., & Murad, H. S. (2014). Toward an Ethical Theory of Organizing. *Journal of Business Ethics*, 1-19. (JCR Listed – IF 1.253)

Abstract: Current organizations are underpinned by utilitarian ethics of Modernity. Pure economic motive driven organizations detach themselves from larger societal interest. Rising number of corporate scandals and intra organizational income inequalities are breeding similar trends in society at large. Current organizations base their competitive advantage on resources and capabilities which boils down to economic supremacy at all cost whether it is named I/O or RBV of the firm. This theoretical article posits Ethics-based Trust as the main competency and capability for attaining sustained competitive advantage. It in no way condemns utility view of the firms but treats it as a natural yet secondary outcome of genuine ethicality of the firm. Cultivating an ethical culture in the firm through identifying antecedents, organizational practices, and the outcomes where profitability is an automatic but secondary outcome under the supremacy of ethics is detailed in the multilevel model presented in this article. The main call of this article is to posit ethics and morality over and above short-term profits so that organizations fulfill their trustee role for society through enacting socio-humanistic theories within organizations. A brief analysis of the proposed ethical theory of firm is undertaken in light of the “schooling” notion in the contemporary organization theory literature.

Keywords: Business ethics, Theory of firm, Quantum organizations, Trust-dependence view of firm, Transformative learning, Ethical leadership, Organization theory schools

School of Science and Technology

Department of Computer Science

Journal Articles

1. **Khan, N. S., Shahzada, A., Ata, S., Abid, A., Khan, Y. D., & Shoaib Farooq, M.** (2014). A Vision Based Approach for Pakistan Sign Language Alphabets Recognition. *Pensee*, 76(3). (JCR Listed – IF 0.018)

Abstract: There is a persistent communication barrier between the deaf and normal community because a normal person has no or limited fluency with the sign language. A person with hear-impairment has to express himself via interpreters or text writing. This inability to communicate effectively between the two groups affects their interpersonal relationships. There are about 0.24 million Pakistanis who are either deaf or mute and they communicate through Pakistan Sign Language(PSL). In this research work a system for recognizing hand gestures for Pakistan Sign Language alphabets in unimpeded environment is proposed. A digital camera is used to acquire PSL alphabet's images with random background. These images are preprocessed for hand detection using skin classification filter. The system uses discrete wavelet transform (DWT) for feature extraction. Artificial neural network (ANN) with back propagation learning algorithm is employed to recognize the sign feature vectors. The dataset contains 500 samples of Pakistan Sign Language alphabets with various background environments. The experiments show that the classification accuracy of the proposed system for the selected PSL alphabets is 86.40%.

Keywords: Pakistan Sign Language (PSL), Discrete Wavelet Transform (DWT), Computer Vision, Artificial Neural Network (ANN), Skin Classification Filter, Back Propagation Learning Algorithm

2. **Hassan, B., Akram, U., Saifullah, Naseer, M., Ali, F., Akhter, S., & Ajmal, M.** (2014). A Publicly Available RGB-D Data Set of Muslim Prayer Postures Recorded Using Microsoft Kinect for Windows. *Journal of Basic and Applied Scientific Research*, 4(7).

Abstract: In computer vision applications, availability of dataset for the training and testing of any newly developed system is always a key requirement. Most of the time, people use dataset built by other researchers. In case of unavailability of particular type of dataset, they built the dataset by their own. The datasets for the evaluation of computer vision systems could be of various types. These could

be of thumb impressions, retinal scans or images of human activities/postures. The prayer performed by Muslim community also comprises of activities/postures which are the subset of the activities performed by an individual. In order to train and test the human activity recognition system on prayer activities/postures, the availability of prayer dataset is much needed. To the best of our knowledge, no such dataset is available in this area. In order to fulfill this requirement, we have recorded a dataset of prayer postures for an individual in a closed environment. The dataset comprises of RGB, Depth and skeleton frames of an individual from different pose and varying distance. We have recorded this dataset by using Microsoft Kinect for Windows sensor. We have captured more than 1700 RGB, Depth and skeleton frames of different actions comprises of positive and negative examples. We have labeled data and provided in various file formats like .xls, .mat and .arff. We are hopeful that the dataset developed by us will not only enforce the research community working on Human activity/posture recognition to test their system on this particular type of dataset but also to add more to the dataset. It will also help provide them understanding that how to record their own dataset using Kinect if need arises. Apart from that, this will also be a publicly available bench mark in this particular domain.

Keywords: Muslim Prayer, Microsoft Kinect, RGB, Depth, Skeleton

3. **Hassan, B., Farooq, S., Abid, A., Daanial, Y., Sabir, N., & Naseer, M. et al. (2014).** Requirement Engineering Practices in Pakistan Software Industry: Major Problems. *Journal of Applied Environmental and Biological Sciences*, 4(7S), 391-397.

Abstract: Requirement engineering is now an essential practice performed in almost every software manufacturing industry around the globe. It increases the amount of project success in a greater way. Sometimes this could be a labelled activity or sometimes not. However, almost every software development environment across the world is using some sort of basic requirement engineering process now days. The situation is not different in a developing country like Pakistan. A good number of software industries are following standard requirement engineering practices completely or partially. There are multiple reasons behind partial implementation such as lack of knowledge about processes, cost in terms of time and money and implementation of processes. In our study, we have collected factual data regarding current requirement engineering practices from Pakistan software industry. We have studied the organizations of varying size and types of projects. We also find out their success rate and problems which are due to partial or wrong implementation of requirement engineering practices. We are hopeful that this study will provide a cost effective solution for improving requirement engineering practices in Pakistan industry.

Keywords: Requirement Engineering, Pakistan Industry, Current Practices, Problems, Parameters.

4. Akram, M. U., Hassan, B., Shahid Bhatti, F. H., & Bashir, J. (2014). A Study on RE Process Models for Offshore Software Development. *Journal of Basic and Applied Scientific Research*, 4(4), 114-119.

Abstract: Increasing trends of cheap and quality software development have raised a great interest in offshore software development. Sub continental software houses are much cheaper than the European or American market. Due to cultural social and linguistic differences the requirement gathering has become difficult for offshore software developers. In this study the requirement gathering issues for offshore software houses are investigated and then the standard requirement engineering models are compared with each other according to different metrics and a comprehensive survey among the sub continental software engineers is carried out to suggest a proper requirement engineering model according to the nature of the project

Keywords: Requirement Engineering, Offshore Software Development, Pakistani Companies, Project Management, Survey for requirement gathering

5. Farooq, S., Hassan, B., Naseer, M., Abid, A., Daanial, Y., & Sabir, N. et al. (2014). Studio Applications and Software Development Kits for Microsoft Kinect: A Survey. *Journal of Applied Environmental and Biological Sciences*, 4(7S), 398-402.

Abstract: The invention of Motion sensing camera “Microsoft Kinect for XBOX” opened new dimension for the research community. First objective of Kinect was to work with XBOX for playing games. However, people started using it for the recognition of human activities. Kinect for XBOX provided two types of information 1) RGB and 2) Depth. People developed tools, drivers and algorithms to work with it. Later, Microsoft itself released the Windows edition of Kinect with a software development kit (SDK). However, several open source and propriety vendors modified the performance of their existing tools and drivers to work with Kinect for Windows. It was now difficult for the newer one to select an appropriate set of studio application and SDK to work with Kinect for Windows. Keeping in view this point, we have presented a study for the Windows edition of Kinect based on several features like platform, file formats etc. Our study will definitely help the research community involved with Kinect for Windows to select an appropriate set of drivers and SDK’s for their work. This study will be a valuable contribution not only for the users of Kinect, also for the owners of various tools.

Keywords: Kinect; Microsoft; studio applications; features; comparative study; software development kit.

6. Daanial, K. Y., Khan, N. S., Farooq, S., Abid, Adnan Khan, Sher Afzal, Ahmad, Farooq, and Mahmood, M. K., (2014). An Efficient Algorithm for Recognition of Human Actions, *Scientific World Journal*. (JCR Listed Impact Factor: 1.725)

Abstract: Recognition of human actions is an emerging need. Various researchers have endeavored to provide a solution to this problem. Some of the current state-of-the-art solutions are either inaccurate or computationally intensive while others require human intervention. In this paper a sufficiently accurate while computationally inexpensive solution is provided for the same problem. Image moments which are translation, rotation, and scale invariant are computed for a frame. A dynamic neural network is used to identify the patterns within the stream of image moments and hence recognize actions. Experiments show that the proposed model performs better than other competitive models.

Keywords: Not Available

7. Farooq, M. S., Khan, S. A., Ali, A., & Abid, A. (2014). What Should Be Taught about Arrays in CS2? *Journal of Applied Environmental and Biological Sciences*, 4(7), 22-32.

Abstract: In this article we have presented a thorough discussion on an important topic, the array which is taught in the fundamental courses in computer programming. To this end, we have presented taxonomy of arrays based on the following four main topics: i) Memory representations; ii) Mapping Functions; iii) Subscript type; and iv) Abstract data types. We also suggest a flow of teaching these topics to the students. We believe that this effort will be useful for the instructors to plan their courses, and will be a good source of learning in general.

Keywords: Array implementation, teach array, arrays mapping, teaching array, abstract data type, teach array CS1, CS2

Conference Papers

8. **Naseer, A., Farooq. M., S.,** (2014) *Exploring Causes of Requirement Change, Proceedings of 2nd International Conference on Computational and Social Sciences (ICCSS-14) Recep Tayyip Erdoğan University Rize, Turkey, Volume 3, Pg. 2641-2648*

Abstract: Software development process is dynamic in nature and it has contrasting impact on software development based on Return on Investment (ROI). It plays an important role in successful software development and can also create difficulties during the software construction in terms of increasing effort, schedule and cost. Factors of changing requirements, prediction of requirement change and the strategies to deal with them are needed to be analyzed for better management of requirement change. Regardless of all research efforts based on requirement change, there is still a need to analyze the factors of requirement change from industrial evidences to minimize its negative impact on software development. The aim of study is to highlight main and sub causes of requirement change that can disrupt software development process.

Keywords: Requirements Change, Requirement Uncertainty, Organizational Considerations, Customer Needs, Technology Change

9. **Anwar, I., Nawaz, S., Kibria, G., Ali, S. F., Hassan, M. T., & Kim, J.-B.** (2014). *Feature Based Face Recognition Using Slopes*. Paper presented at the International Conference on Control, Automation and Information Sciences, Gwangju, Korea.

Abstract: Face recognition from an image is a popular problem in biometrics research. In the last decade, a lot of research has been done in this area. The advantage of face based identification over other biometrics is its wide acceptability as it does not require any keys, tokens, smart cards, PINs, plastic cards or passwords etc. In this work, face recognition has been done using several feature based approaches. Two new methods are presented in which simple yet useful new features are proposed and evaluated. The main contribution of this paper is usage of a slope table along with other features for face recognition. The slopes of different fiducial points of facial components (left eye, right eye, nose and lips) are computed to fill the slope table. These two methods are compared with the existing approaches based on popular features like principal components and ratios of facial components. The results show that our proposed methods Out perform these existing approaches.

Keywords: Not Available

10. **Javed, F., Ali, U., Nabeel, M., Khalid, Q., Arshad, N., & Ikram, J.** (2014). *Smart DSM: a layered model for development of demand side management in smart grids*. Paper presented at the 3rd International Workshop on Software

Engineering Challenges for the Smart Grid, ACM New York.

Abstract: Growing power demand and carbon emissions is motivating utility providers to introduce smart power systems. One of the most promising technology to deliver cheaper and smarter electricity is demand side management. A DSM solution controls the devices at user premises in order to achieve overall goals of lower cost for consumer and utility. To achieve this various technologies from deferent domains come in to play from power electronics to sensor networks to machine learning and distributed systems design. The eventual system is a large, distributed software system over a heterogeneous environment and systems. Whereas various algorithms to plan the DSM schedule have been proposed, no concerted effort has been made to propose models and architectures to develop such a complex software system. This lack of models provides for a haphazard landscape for researchers and practitioners leading to confused requirements and overlapping concerns of domains. This was observed by the authors in developing a DSM system for their lab and faculty housing. To this end in this paper we present a model to develop software systems to deliver DSM. In addition to the model, we present a road map of software engineering research to aid development of future DSM systems. This is based on our observations and insights of the developed DSM systems.

Keywords: Smart grids, software engineering, demand side management, model driven design

Department of Informatics and System

Journal Articles

11. **Munawar, S., Mehmood, A., Ali, A., & Saleem, N.** (2014). *Unsteady Boundary-Layer Flow over Jerked Plate Moving in a Free Stream of Viscoelastic Fluid. The Scientific World Journal.* (JCR Listed Impact Factor: 1.725)

Abstract: This study aims to investigate the unsteady boundary-layer flow of a viscoelastic non-Newtonian fluid over a flat surface. The plate is suddenly jerked to move with uniform velocity in a uniform stream of non-Newtonian fluid. Purely analytic solution to governing nonlinear equation is obtained. The solution is highly accurate and valid for all values of the dimensionless time $0 \leq \eta < \infty$. Flow properties of the viscoelastic fluid are discussed through graphs.

Keywords: Not Available

Book

12. **Ahmad, A., & Javed, I.** (2014). *Short Circuit Stress Analysis in Power Transformer Using FEM: LAP Lambert Academic Publishing.*

Department of Mathematics

Journal Articles

13. **Mardan, S.A. & Rehman, M.A.** (2014). Hybrid Numerical Method for Heat Equation with Nonlocal Boundary Conditions in Parallel Computing Environment. *Research Journal of Applied Sciences, Engineering and Technology*, 7(4), 832-838.

Abstract: A numerical method is developed for solving parabolic partial differential equations with integral boundary conditions. The method is moderately sixth-order accurate due to merging of sixth order finite difference scheme and fifth order Pade's approximation. Simpson's 1/3 rule is used to approximate integral conditions. The method does not involve the use of complex arithmetic and optimizes the results. It is observed that this numerical method can be easily coded on serial as well as parallel computers.

Keywords: Integral boundary conditions, method of lines, Pade's approximations, parallel algorithm, Simpson's 1/3 rule

14. **Sharif, M., & Rani, S.** (2014). Galactic Halo Wormhole Solutions in Gravity. *Advances in High Energy Physics.* (JCR Listed Impact Factor: 3.50)

Abstract: The proposal of galactic halo region is based on the idea that dark halos contain some characteristics needed to support traversable wormhole solutions. We explore wormhole solutions in this region in the framework of generalized teleparallel gravity. We consider static spherically symmetric wormhole space time with flat galactic rotational curves and obtain expressions of matter components for no diagonal tetrad. The effective energy-momentum tensor leads to the violation of energy conditions which may impose condition on the normal matter to satisfy these conditions. We take two well-known (2) models in exponential and logarithmic forms to discuss wormhole solutions as well as the equilibrium condition. It is concluded that wormhole solutions violating weak energy condition are obtained for both models with stable configuration.

Keywords: Not Available

15. Sharif, M., & Zubair, M. (2014). Cosmological reconstruction and stability in $f(R, T)$ gravity. *General Relativity and Gravitation*, 46(6), 1-30. (JCR Listed Impact Factor: 1.725)

Abstract: We study the cosmological reconstruction of $f(R, T)$ gravity (where R and T denote the Ricci scalar and trace of the energy-momentum tensor) corresponding to the evolution background in FRW universe. It is shown that any cosmological evolution including Λ cold dark matter, phantom or non-phantom eras and possible phase transition from decelerating to accelerating can be reproduced in this theory. We propose some specific forms of Lagrangian in the perspective of de Sitter and power law expansion history. Finally, we formulate the perturbed evolution equations and analyze the stability of some important solutions.

Keywords: Modified gravity, Dark energy, Reconstruction, Cosmological stability

16. Sharif, M., & Zubair, M. (2014). Cosmological evolution of pilgrim dark energy. *Astrophysics and Space Science*, 1-10. (JCR Listed – IF 2.407)

Abstract: We study pilgrim dark energy model by taking IR cut-offs as particle and event horizons as well as conformal age of the universe. We derive evolution equations for fractional energy density and equation of state parameters for pilgrim dark energy. The phantom cosmic evolution is established in these scenarios which is well supported by the cosmological parameters such as deceleration parameter, statefinder parameters and phase space of $\omega\vartheta$ and $\omega\vartheta$. We conclude that the consistent value of parameter μ is $\mu < 0$ in accordance with the current Planck and WMAP9 results.

Keywords: Dark energy, Cosmological parameters

17. Sharif, M., & Manzoor, R. (2014). Stability of spherical star in Brans–Dicke gravity. *Astrophysics and Space Science*, 354(2), 497-506. (JCR Listed – IF 2.407)

Abstract: This paper explores dynamical instability of a spherically symmetric anisotropic collapsing model in the context of Brans–Dicke gravity. For this purpose, we develop two dynamical equations using contracted Bianchi identities and apply perturbation approach to Brans–Dicke as well as dynamical equations to obtain collapse equation. We use equation of state involving adiabatic index (Γ) along with collapse equation to study the instability ranges in both Newtonian and post-Newtonian regimes that depend on the structural variables of collapsing star. Finally, we construct some constraints on the positivity of physical variables and conclude that $0 < \Gamma < 1$ always provides instability while $\Gamma > 1$ leads to instability only for one special case.

Keywords: Brans–Dicke theory, Instability, Newtonian and post-Newtonian regimes

18. Mehmood, A., Munawar, S., & Ali, A. (2014). Cooling of a hot stretching surface in the presence of across mass transfer phenomenon in a channel flow. *Zeitschrift für Naturforschung A—A Journal of Physical Sciences*, 69, 34-42

Abstract: This is an attempt to investigate the best possible flow situation in order to optimize the rate of heat exchange between the stretching plate and the ambient fluid. The generalized three-dimensional channel flow of an incompressible viscous fluid has been considered where both the walls of the channel are assumed to be porous and the lower wall stretching in two lateral directions at different rates. The effect of simultaneous suction and injection at the lower and upper walls, respectively (and vice versa), have been studied in detail. It is named as across mass transfer phenomenon (AMT). It is observed that even in the presence of viscous dissipation the across mass transfer increases the rate of heat exchange from plate to fluid. A purely analytic solution has been obtained by homotopy analysis method and results are also compared with a numerical technique. Results are discussed through graphs.

Keywords: Three-Dimensional Channel Flow; Across Mass Transfer; Heat Transfer.

19. Riaz, M. B., Rahman, M. A. and Mardan, S. A., “Flow Problem of Maxwell Fluid

through porous medium by Two Dimensional Differential Transform Method” *Pensee Journal* published online Apr 2014, vol 76, No 4, pp. 111-119. (JCR Listed Impact Factor: 0.018)

Abstract: This paper investigates into the problem dealing with the flow of Maxwell fluid through porous medium between two infinite parallel plates in case when one plate is fixed and other plate is moving with constant velocity. Two dimensional differential transformation method (DTM) is applied to calculate velocity profile of model problem both numerically and analytically. In the end, numerical results of velocity profile reveal that the method proposed herein is highly convergent, very accurate and suitable to solve such problems.

Keywords: Not Available

20. **Saeed, M., Khan, W. A., & Jamil, R. N. (2014).** Multiplicative Soft Monoids and their Fractional soft Ideals. *Pensee Journal*, 76(6). (JCR Listed Impact Factor: 0.018)

Abstract: In this note we introduce soft (multiplicative) monoids, soft submonoids, soft ideal of soft monoids, and soft monoid homomorphism. Furthermore, we also introduce and discuss fractional soft ideal of a soft monoid, which is a milestone toward the study of multiplicative ideal theory of soft monoids.

Keywords: Not Available

21. **Saleem, M., Haider, A. (2014).** Heat and mass transfer on the peristaltic transport of non-Newtonian fluid with creeping flow. *International Journal of Heat and Mass Transfer*, 68, 514-526. (JCR Listed – IF 2.315)

Abstract: A new mathematical model has been developed for the peristaltic transport of Maxwell fluid with heat and mass transfer, while taking into account the effect of thermal diffusion (Soret), occurring in an asymmetric channel with creeping flow. The inertia terms are omitted from the equations of motion, which leads to solutions that approximately valid for low Reynolds number, i.e. $Re \ll 1$. The walls are kept at different but constant temperatures and concentrations. A perturbation solution is acquired, which satisfies the momentum, energy and concentration equations for the case by choosing a small wave number. Numerical results are evaluated for pressure rise and frictional forces per wavelength. The velocity, temperature and concentration fields have been appraised for diverse values of the parameters entering into the problem. The influence of diverse parameters of interest on pumping, trapping, temperature and concentration profiles has been investigated graphically.

Keywords: Heat and mass transfer; Inertia terms; Maxwell fluid

22. Abbas, M., Ali, B., & Mishra, S. (2014). Fixed Points of multivalued Suzuki-zamfirescu-(f, g) contraction mappings. *МАТЕМАТИЧКИ ВЕШНИК*, 66(1), 58-72.

Abstract: Coincidence point theorems for hybrid pairs of single valued and multivalued mappings on an arbitrary nonempty set have been proved. As an application of our main result, the existence of common solutions of functional equations arising in dynamic programming are discussed.

Keywords: Coincidence point; orbitally complete space; common fixed point.

23. Schenzel, P., & Zafar, S. (2014). Algebraic properties of the binomial edge ideal of a complete bipartite graph, to appear in *An. St. Univ. Ovidius Constanta, Ser. Mat*, 22(2), 217-237.

Abstract: Let JG denote the binomial edge ideal of a connected undirected graph on n vertices. This is the ideal generated by the binomials $x_i y_j - x_j y_i$; $1 \leq i < j \leq n$; in the polynomial ring $S = K[x_1, \dots, x_n; y_1, \dots, y_n]$ where f_i, j_g is an edge of G . We study the arithmetic properties of S/JG for G , the complete bipartite graph. In particular we compute dimensions, depths, Castelnuovo-Mumford regularities, Hilbert functions and multiplicities of them. As main results we give an explicit description of the modules of decencies, the duals of local co homology modules, and prove the purity of the minimal free resolution of S/JG .

Keywords: Not Available

24. Beg, I., & Rashid, T. (2014). An Improved Clustering Algorithm Using Fuzzy Relation for the Performance Evaluation of Humanistic Systems. *International Journal of Intelligent Systems*, 29(12), 1181-1199. **JCR Listed Impact Factor: 1.411**

Abstract: A hierarchical structure is proposed for the performance evaluation of vague, complicated humanistic systems. An improved fuzzy clustering algorithm is developed to produce several partition trees with different levels and clusters according to different triangular norm compositions. Additionally, a fuzzy clustering algorithm is given to produce a partition tree without using the transitive closure composition. The usefulness of the proposed algorithm is illustrated by an example of actual academic data. C _ 2014 Wiley Periodicals, Inc.

Keywords: Not Available

25. Beg, I., & Rashid, T. (2014). Hesitant intuitionistic fuzzy linguistic term sets. *Notes on Intuitionistic Fuzzy Sets*, 20(3), 53-64.

Abstract: Dealing with uncertainty is a challenging problem, and different tools

have been proposed in the literature to deal with it. Intuitionistic fuzzy sets was presented to manage situations in which experts have some membership and non-membership value to assess an alternative. Hesitant fuzzy linguistic term sets was used to handle such situations in which experts hesitate between several possible linguistic values or interval to assess an alternative and variable in qualitative settings. In this paper, the concept of an hesitant intuitionistic fuzzy linguistic term set is introduced to provide a linguistic and computational basis to manage the situations in which experts assess an alternative in possible linguistic interval and impossible linguistic interval. Distance measure is defined between any two elements of hesitant intuitionistic fuzzy linguistic term set. Technique for order preference by similarity to ideal solution is proposed in hesitant intuitionistic fuzzy linguistic term set setting for multi-criteria group decision making. An example is given to elaborate the proposed method for the selection of the best alternative as well as rank the alternatives from the best to worst.

Keywords: Hesitant fuzzy set, Intuitionistic fuzzy set, Linguistic decision making, TOPSIS. AMS Classification: 91B10, 91B06, 90B50, 62C86.

26. Beg, I., & Rashid, T. (2014). Group Decision Making Using Intuitionistic Hesitant Fuzzy Sets. *International Journal of Fuzzy Logic and Intelligent Systems*, 14(3), 181-187.

Abstract: Dealing with uncertainty is always a challenging problem. Intuitionistic fuzzy sets was presented to manage situations in which experts have some membership and non-membership value to assess an alternative. Hesitant fuzzy sets was used to handle such situations in which experts hesitate between several possible membership values to assess an alternative. In this paper, the concept of intuitionistic hesitant fuzzy set is introduced to provide computational basis to manage the situations in which experts assess an alternative in possible membership values and non-membership values. Distance measure is defined between any two intuitionistic hesitant fuzzy elements. Fuzzy technique for order preference by similarity to ideal solution is developed for intuitionistic hesitant fuzzy set to solve multi-criteria decision making problem in group decision environment. An example is given to illustrate this technique.

Keywords: Hesitant fuzzy set, Intuitionistic fuzzy set, Multiple attribute group decision making, Technique for order preference by similarity to ideal solution

27. Kausar, H. R., & Noureen, I. (2014). Dissipative spherical collapse of charged anisotropic fluid in $f(R)$ gravity. *The European Physical Journal C*, 74(2), 1-8. (JCR Listed – IF 5.247)

Abstract: This manuscript is devoted to the study of the combined effect of a viable $f(R) = R + \alpha R^n$ model and the electromagnetic field on the instability range of gravitational collapse. We assume the presence of a charged anisotropic fluid that dissipates energy via heat flow and discuss how the electromagnetic field,

density inhomogeneity, shear, and phase transition of astrophysical bodies can be incorporated by a locally anisotropic background. The dynamical equations help to investigate the evolution of self-gravitating objects and lead to the conclusion that the adiabatic index depends upon the electromagnetic background, mass, and radius of the spherical objects.

Keywords: Not Available

28. **Noureen, I., & Zubair, M.** (2014). On dynamical instability of spherical star in $f(R, T)$ gravity. *Astrophysics and Space Science*, 1-8. (JCR Listed – IF 2.407)

Abstract: This work is based on stability analysis of spherically symmetric collapsing star surrounding in locally anisotropic environment in $f(R, T)$ gravity, where R is Ricci scalar and T corresponds to the trace of energy momentum tensor. Field equations and dynamical equations are presented in the context of $f(R, T)$ gravity. Perturbation scheme is employed on dynamical equations to find the collapse equation. Furthermore, condition on adiabatic index Γ is constructed for Newtonian and post-Newtonian eras to address instability problem. Some constraints on physical quantities are imposed to maintain stable stellar configuration. The results in this work are in accordance with $f(R)$ gravity for specific case.

Keywords: Collapse • $f(R, T)$ gravity • Dynamical equations • Instability range • Adiabatic index

29. **Chowdhury, M. S., Abdou, A. A., & Cho, Y. J.** (2014). Existence theorems of generalized quasi-variational-like inequalities for pseudo-monotone type II operators. *Journal of Inequalities and Applications*, 2014(1), 449. (JCR Listed – IF 0.77)

Abstract: In this paper, we prove the existence results of solutions for a new class of generalized quasi-variational-like inequalities (GQVLI) for pseudo-monotone type II operators defined on compact sets in locally convex Hausdorff topological vector spaces. In obtaining our results on GQVLI for pseudo-monotone type II operators, we use Chowdhury and Tan's generalized version (Chowdhury and Cho in *J. Inequal. Appl.* 2012:79, 2012) of Ky Fan's minimax inequality (Fan in *Inequalities*, vol. III, pp.103-113, 1972) as the main tool.

Keywords: generalized quasi-variational-like inequalities; pseudo-monotone type II operators; locally convex Hausdorff topological vector spaces

30. **Rehman, M., Taj, M., & Mardan, S.** (2014). Fifth order numerical method for heat equation with nonlocal boundary conditions. *Journal of Mathematical and Computational Science*, 4(6), 1044-1054.

Abstract: This paper deals with numerical method for the approximate solution of one dimensional heat equation $u_t = u_{xx} + q(x; t)$ with integral boundary conditions. The integral conditions are approximated by Simpson's 13 rule while the space derivatives are approximated by fifth-order difference approximations. The method of lines, semi discretization approach is used to transform the model partial differential equation into a system of first-order linear ordinary differential equations whose solution satisfies a recurrence relation involving matrix exponential function. The method developed is L-acceptable, fifth-order accurate in space and time and do not required the use of complex arithmetic. A parallel algorithm is also developed and implemented on several problems from literature and found highly accurate when compared with the exact ones and alternative techniques.

Keywords: heat equation; nonlocal boundary condition; fifth-order numerical methods; method of lines; parallel algorithm.

31. Raheem, A. Q. Baig, M. Javaid. (2014) "On Super (a, d)-Edge-Antimagic Total Labeling of A Class of Trees" *International J.Math. Combin.* Vol.4(2014), 47-55

Abstract: The concept of labeling has its origin in the works of Stewart (1966), Kotzig and Rosa (1970). Later on Enomoto, Llado, Nakamigawa and Ringel (1998) defined a super (a, 0)-edge-antimagic total labeling and proposed the conjecture that every tree is a super (a, 0)-edge-antimagic total graph. In the favour of this conjecture, the present paper deals with different results on antimagicness of a class of trees, which is called subdivided stars.

Keywords: Smarandachely super (a, d)-edge-antimagic total labeling, super (a, d)-edge antimagic total labeling, stars and subdivision of stars.

32. Sharif, M., & Rani, S. (2014). Dynamical Instability of Expansion-Free Collapse in $f(T)$ Gravity. *International Journal of Theoretical Physics*, 1-19. (JCR Listed – IF 1.186)

Abstract: In this paper, we analyze the dynamical instability of a spherically symmetric collapsing star in the context of $f(T)$ gravity. For this purpose, we assume power-law $f(T)$ model with non-dissipative anisotropic fluid distribution under expansion-free condition. The perturbation scheme is applied to all matter, metric and $f(T)$ functions. We formulate dynamical equations using contracted Bianchi identities to investigate dynamical instability ranges in Newtonian and post-Newtonian regimes. It is found that the instability ranges of expansion-free fluid are independent of adiabatic index but depend on radial density profile, anisotropic pressure and torsion terms.

Keywords: $f(T)$ gravity • Instability • Newtonian and post-Newtonian regimes

33. Sharif, M., & Manzoor, R. (2014). Lemaitre–Tolman–Bondi dust cloud collapse in Brans–Dicke gravity. *Modern Physics Letters A*, 29(35). (JCR Listed – IF 1.338)

Abstract: This paper investigates the phenomenon of gravitational collapse of Lemaitre–Tolman–Bondi (LTB) model in the presence of Brans–Dicke (BD) scalar field with nonzero potential field. We find a class of solutions by taking perfect fluid as well as scalar field and check the validity of weak energy conditions. It turns out that two different types of singularities are formed in the presence of scalar field. We conclude that the end state of gravitational collapse turns out to be a black hole (BH) contrary to general relativity (GR).

Keywords: Brans–Dicke theory; scalar field; gravitational collapse

Department of Chemistry

Journal Articles

34. Aziz-ur-Rehman, Nafeesa, K., Abbasi, M. A., Nadeem, S., Khan, K. M., Ahmad, I., & Afzal, S. (2014). Synthesis and Screening of in vitro Antibacterial and Enzyme Inhibitory Activity of N,N-disubstituted 4-Chlorobenzenesulfonamides. *Journal of The Chemical Society of Pakistan*, 36(6). HEC approved Y category

Abstract: The molecules bearing azomethine group are known to possess biological activities. In the present work, the synthesis of N'-Substitutedbenzylidene-2-(2, 4-dimethylphenoxy) acetatohydrazide (5a-d) has been elaborated using 2,4-Dimethylphenol (1) as precursor. The molecule, 1, was converted to ethyl 2-(2,4-dimethylphenoxy)acetate (2) on refluxing with ethyl 2-bromoacetate in ethanol in the presence of KOH. Ethyl ester, 2, was refluxed with hydrated hydrazine (80%) in ethanol to yield 2-(2,4- dimethylphenoxy) acetohydrazide (3). The target molecules, 5a-d, were synthesized by stirring 3 with phenyl/aryl carboxaldehyde (4a-d) in methanol in the presence of glacial acetic acid. The synthesized molecules were characterized by spectral data and evaluated for antibacterial and anti-enzymatic activities.

Keywords: 2, 4-Dimethylphenol, antibacterial activity, anti-enzymatic activity, azomethine, hydrazones.

35. Aziz-ur-Rehman, Abbasi, M. A., Nadeem, S., Rashid, T., Ahmed, N., Irshad, M., & Rubab, K. (2014). Synthesis of N-(Un)Substituted-N-(2-Methoxyphenyl/Phenyl)-4-Chlorobenzenesulfonamides as Potent Antibacterial Derivatives. *Asian Journal of Chemistry*, 27(1), 71-74.

Abstract: Sulfonamides belong to a biologically dynamic class of compounds with considerable importance for organic synthetic chemists. In the presented work, a benign series of chlorinated sulfonamides, 3a-b, was synthesized by coupling alkoxy (un) substituted anilines, 2a-b, with 4-chlorobenzenesulfonyl chloride (1) under basic pH control in an aqueous medium. The sulfonamides, 3a-b, were geared up with alkyl/aralkyl halides, 4-6, in a basic aprotic solvent to yield the target molecules, 7a-b, 8a-b and 9a-b. The structures of all the derivatives were furnished by ¹H NMR, IR and EI-MS spectral analysis. All the synthesized compounds were screened for \square chemotrypsin and antibacterial activities.

Keywords: Substituted anilines, 4-Chlorobenzenesulfonyl chloride, Enzyme inhibition study

36. **S. Nadeem**, A.-u.-R., M. A. Abbasi, S. Z. Siddiqui, S. Rasool, I. Ahmad and S. Afzal. (2014). Antibacterial and Enzyme Inhibition Studies of N'-Substituted Benzylidene-2-(2, 4-Dimethylphenoxy) Acetatohydrazides. *Pakistan Journal of Chemistry*, 4(3), 96-100. **HEC approved Y category**

Abstract: The molecules bearing azomethine group are known to possess biological activities. In the present work, the synthesis of N'-Substitutedbenzylidene-2-(2, 4-dimethylphenoxy) acetatohydrazide (5a-d) has been elaborated using 2,4- imethylphenol (1) as precursor. The molecule, 1, was converted to ethyl 2-(2,4-dimethylphenoxy)acetate (2) on refluxing with ethyl 2-bromoacetate in ethanol in the presence of KOH. Ethyl ester, 2, was refluxed with hydrated hydrazine (80%) in ethanol to yield 2-(2,4- dimethylphenoxy) acetohydrazide (3). The target molecules, 5a-d, were synthesized by stirring 3 with phenyl/aryl carboxaldehyde (4a-d) in methanol in the presence of glacial acetic acid. The synthesized molecules were characterized by spectral data and evaluated for antibacterial and anti-enzymatic activities.

Keywords: 2, 4-Dimethylphenol, antibacterial activity, anti-enzymatic activity, azomethine, hydrazones.

Conference Papers

37. Siddique, S., Shah, Z. H. **Shahid, S.** (2014). Synthesis, characterization and antibacterial activity of zno nanoparticles on broad spectrum of microorganisms. Conference of Frontiers of Nanoscience and Nanotechnology at PINSTECH, Islamabad, June 03-05, 2014.
38. Jabin, S., **Shahid, S.**, (2014). Comparative Study of Pharmacological Activities of *Abutilon indicum*, 25th National and 13th International Chemistry Conference at University of Punjab, Lahore, October 20-22, 2014, page 420

Abstract: There is an increased interest in medicinal plants for various uses

throughout the world which leads to a manifold increase of medicinal plant based industries and Pakistan is perhaps the largest producer of medicinal herbs and is rightly called the “Botanical garden of the World”. *Abutilon indicum* (Linn) (Malvaceae) is a shrub distributed throughout Pakistan. *Abutilon indicum* is known as “Atibala” in Sanskrit. Literally, “Ati” means very and “Bala” means powerful, referring to the properties of this plant as very powerful. The whole plant as well as specific part such as root, leaves, and flower is used to treat various health ailments. The plant is found to possess immunodulatory, anticonvulsant, larvicidal, Lipid lowering, diuretic, and antiulcer activity. Following various folk claims for cure of numerous diseases, efforts have been made by researchers to verify the efficacy of the plant through scientific biological screenings. The present review is an attempt to highlight the various ethnobotanical and traditional uses as well as phytochemical and pharmacological reports on *Abutilon indicum*. Medicinally saponins possess hypoglycaemic and antifungal activities. Linoleic, oleic, palmitic, lauric, stearic, and other fatty acids found in the plant claims analgesic activities. β -sitosterol is reported to possess antipyretic actions and flavonoids having hypoglycaemic activities. Besides, the gum and resin obtained from the plant are used in rheumatism and show antiplasmitary reaction, which support the use of this plant for the various purposes since ancient times. Thus, the phytochemicals found therein possess various applications in the allopathic treatment for better drug rationale therapy.

39. Jamil, M.A., **Shahid, S.**, (2014). Comparative study of Hepatoprotective Activity of *Glycyrrhiza glabra*, 25th National and 13th International Chemistry Conference at University of Punjab, Lahore, October 20-22, 2014, page 394

Abstract: *Glycyrrhiza glabra* (Licorice) contains Glycyrrhizin and Glycyrrhizic acid which contribute to its hepatoprotective activity. The comparative study is aimed for the treating liver injuries by licorice extract caused by CCl₄ or other heavy metals. Male albino rats were sacrificed for observing liver injury treatment. One of the groups was given CCl₄ with licorice extract and expressed the result through histopathological analysis. Huo determined liver index by experimenting Wistar rats. Four groups are treated as controlled group which consumed licorice along with CCl₄ in their normal feed. Others were given only CCl₄. Lee observed the treatment of liver injury by licorice (13%) in Spargue Dawley induced by CdCl₂ dissolved in saline injected through vein. Lal investigated accumulated hepatoprotective effect of mixture of nine herbs including licorice. Swiss albino rats were given CCl₄ intraperitoneally as well as administered orally. Homogenated liver was estimated by biochemical analysis. Rasool administered male albino rats, a mixture of Silymarin and Glycyrrhizin extract. Biochemical assay was analyzed after intraperitoneally administration. The hepatoprotective effect is more pronounced when used in combination with other extracts such as *Silybum marianum*. Licorice shows hepatoprotective effect which may be used singly or in formulation. Licorice is anti hepatotoxic because it participates in

scavenging free radicals, stimulating antioxidant enzymes and block inflammatory cytokine production. Administration of combination of Silymarin and Glycyrrhizin remained very effective to reduce oxidative stress of liver than using a single extract. This may be more effective if given in higher dosages.

40. Qamar, M.A., **Shahid, S.**, (2014). Comparison of anticancer activity of *musaceas* plant extracts, 25th National and 13th International Chemistry Conference at University of Punjab, Lahore, October 20-22, 2014, page 335

Abstract: Over six million people die due to cancer each year worldwide. Researchers have identified phytochemicals as agents inhibiting cancer activities. *Musa* species is one of the valuable plant species having especially as anti-cancer value. Cell quest, a musaceas plant extract (tannin complex), inhibits proteasomal activity and induce tumor cell death using cell extract (6 µg) of Jurkat T cells, incubated for 60 min at 37°C with 20 µM of the fluorogenic peptide substrate in 100 µl of the assay buffer (50 mM Tris-HCl, pH 8.0), and results were 95% inhibition at 1:10 dilution. Cancer chemo preventive activity of the bioactive alkaloid extract from *Musa sapientum* flowers was determined through clastogenicity bioassay and micronucleus test using 2% alkaloid extract which was able to inhibit transcription of various genes such as DNA and RNA. Anthocyanin extracts from *Musa acuminata* bract shows the chemo preventive effects against human breast cancer cell line (MCF-7). At concentration of anthocyanin 1000 µg/mL, the growth dilution of MCF cells is 12.24%. The cytotoxic activity of Musaitinerone and musanolone Etolated from *Musa itinerans*, was evaluated against human K562 and A549 cell lines, respectively. Musaitinerone and musanolone E exhibited weak effects against the A549 cell line, as compared with Adriamycin, also these do not exhibit any growth inhibition against K562 cells. When ethanol extract of *Musa acuminata* tested for cytotoxicity at the highest concentration of the tested dose (256 µg/ml), the maximum rate of inhibition observed was 50.32%. The above comparison shows that Cell quest proves much effective as an anticancer extract as compared to others.

41. Haider, F., **Shahid, S.**, (2014). Comparison of Antileishmanial activity of Plant extracts and essential oils, 25th National and 13th International Chemistry Conference at University of Punjab, Lahore, October 20-22, 2014, page 383

Abstract: Leishmaniasis is a disease caused by protozoan parasites of the genus of *Leishmania*. It spreads by the bite of female phlebotomus sandflies. Leishmaniasis can present in three ways that are: cutaneous leishmaniasis, mucocutaneous leishmaniasis and visceral leishmaniasis on the basis of symptoms. For the treatment of leishmania many drugs are used but they have many side effects. So many essential oils and plants extracts are used for the treatment of this disease. There are more than 37 plants specimens which were collected. The essential oils and aqueous extract of these plants were used as antileishmania. Most effective plants include *Pentagonia spathicalyx*, *Piper augustum*, *Spaeropteris* sp., *Bixan orellan* and the extract of Waorani. Only two essential oils

(from *T.hirtus* sp. *algeriensis* and *R.chalepensis*) were more effective against the parasites. Methanol extracts of the plants were mostly found to possess antileishmanial activity. The level of activity exhibited by the crude solvent extracts or the isolated constituent(s) depended largely on the type of solvent used for the extraction and also on the plant part used. The array of plants that have demonstrated antileishmanial activity suggests that the hope to discover novel antileishmanial drugs is high.

42. Afzal, M.I., **Shahid, S.**, (2014). Comparison of Antimicrobial Activity of Five Essential Oils against Broad Spectrum Bacteria, 25th National and 13th International Chemistry Conference at University of Punjab, Lahore, October 20-22, 2014, page 399

Abstract: Essential oils are secondary metabolites of plants and have been widely used in almost all parts of the world as fungicide, antiparasite, bactericide, and virucide and as medicines since ages. Mostly extracted through distillation from plants, essential oils contain a large variety of aliphatic and aromatic components. In vitro studies demonstrated that they show antimicrobial activity against both Gram-positive and Gram-negative bacteria. This study compares the antimicrobial activities of oils extracted from clove(*Syzygium aromaticum*), garlic(*Allium sativum*), ginger(*Zingiber officinale*), onion(*Allium cepa*) and black pepper(*Piper nigrum*) against *Escherichia coli*, *Staphylococcus aureus* and *Salmonella typhimurium*. All the oils tested displayed some antimicrobial activities. However, the efficiency differed and depended both on the type and concentration of the oil, as well as the tested microbial strain. Oils were obtained either by fractional distillation or with acetone using Soxhlet apparatus or directly from market. Cultures of *Escherichia coli* 8007, *Staphylococcus aureus* 10657, and *Salmonella typhi* were used. *Syzygium aromaticum* oil showed the highest antimicrobial activity against both Gram-positive and Gram-negative bacteria with *P. nigrum* next to it. Due to their strong antimicrobial effects, this essential oil may be used as safe food preservatives with minimal side effects.

43. Saleem, Q., **Shahid, S.**, (2014). Comparative study of Antidiabetic Activity of Aqueous and Ethanolic Extracts of *Cynodon dactylon*, 25th National and 13th International Chemistry Conference at University of Punjab, Lahore, October 20-22, 2014, page 409

Abstract: *Cynodon dactylon* (Bermuda grass) is a common grass; especially it is inhabitant to the warm temperate and tropical regions. The plant has been loaded in metabolites remarkably proteins, carbohydrates, minerals, flavonoids, carotenoids, alkaloids, glycosides and triterpenoids. The plant of *Cynodon dactylon* holds several biological activities like as antibacterial, antimicrobial, antiviral and abrasion curative properties. In addition, it has been extensively used in traditional medicines to treat varied ailments such as cough, headache, diarrhea, cramps, epilepsy, dropsy, dysentery, hemorrhage, hypertension, hysteria, measles, snakebite, sores, stones urogenital disorders, tumors, and

warts. Aqueous extract by solvent extraction of *Cynodon dactylon* at the doses of 250, 500 and 1000 mg/kg body weight, has significant effect in reducing blood sugar. The dose of 500 mg/kg was identified as the most effective dose. Aqueous extract lowers blood glucose level around 31% after 4 h of administration in normal rats.

44. Sattar, A., **Shahid, S.**, (2014). Comparison of Medicinal Herbs with Anti-Ulcer Activity, 25th National and 13th International Chemistry Conference at University of Punjab, Lahore, October 20-22, 2014, page 372

Abstract: A peptic ulcer is erosion in a segment of the gastro intestinal mucosa. It may occur typically in the stomach (gastric ulcer). Ulcer is not only caused by spicy food but also most commonly due to an infection of *Helicobacter Pylori* and long term use of medications. As synthetic drugs are used in the management of ulcers but elicits several adverse effects. Therefore herbal plants proved active in antiulcer therapy. Herbs use in analysis were; *Physalis Minima* Leaves, *Utleria salicifolia* rhizome, *Passiflora foetida*, *Asparagus racemosus*, *Calophyllum brasiliense*. The *C. brasiliense*, gave maximum while *Utleria salicifolia* rhizome gave minimum antiulcer activity. The plant kingdom provides a useful source of new anti-ulcer compounds for development as pharmaceutical entities or alternatively, as simple dietary adjuncts to existing therapies. In this comparative study herbs were found quite effective for the treatment of peptic ulcer.

45. Aslam, S., **Shahid, S.**, (2014). Comparative study of antimicrobial activity of five different species from grape family (Vitaceae), 25th National and 13th International Chemistry Conference at University of Punjab, Lahore, October 20-22, 2014, page 422

Abstract: The species of vitaceae family are found almost all around the world. A reasonable amount of phenolic compounds are present in these plants. These compounds are likely to be used as anticancer, antioxidant and antimicrobial agents. Now-a-days we are depending mostly on synthetic drugs and consequently being resistant to these drugs gradually and we are compelled to use fourth generation of antibiotic with severe adverse effects. This comparison study covers five species, *Ampelopsis megalophylla*, *Vitis thunbergii* var. *Taiwaniana*, *Vitis vinifera*, *Cissus quadrangularis* L. and *Ampelocissus grantii*. This study revealed that species of Vitaceae family are incredibly effective against many microorganisms and are being used as folk medicines for different diseases. The essential oil or plant extract were tested for antimicrobial activity using disc diffusion method and broth dilution assay. Indeed there is a lot of data available showing the antimicrobial activity of natural compounds but the main feature is that these are effective on some of resistant-human pathogens. The MIC and MBC showed that *Ampelopsis megalophylla* showed incredible result on *staphylococcus epidermidis*. These studies also revealed that gram positive bacteria are more sensitive to these extracts as compared to gram negative bacteria. Different extract of organic solvents give different results on gram

positive bacteria. The comparison of this study will encourage the scientist to return their research to natural products as these natural medicines are safe, easily available and affordable as compared to synthetic drugs.

46. Fatima, U., **Shahid, S.**, (2014). Comparison of Antiulcer Activity of Leaf Extracts of different Herbs, 25th National and 13th International Chemistry Conference at University of Punjab, Lahore, October 20-22, 2014, page 333

Abstract: Ulcers are sore of the skin or mucus membrane characterized by sloughing of inflamed dead tissue. These are lesions on the surface of mucous membrane characterized by a superficial loss of tissue. Ulcers on the digestive tract membranes are called peptic ulcers. Once believed to be caused by spicy food and stress, these have been found merely to be aggravating factor, and the real causes have been found by research [1-2] to include bacterial infection (*Helicobacter pylori*). This may cause abdominal pain, heartburn, anemia, bad breath or chest pain. Different drugs are being used as a traditional medicine for the treatment of various ulcer diseases and reported that herbal medicines are more effective than synthetic medicine [3-5]. In this study five herbs; *C. asiatica*, *T. capensis*, *C. trifolia* Linn, *B. prionitis* and *B. tomentosa* had been compared that give protection against ulcer. Leaves extract of different herbs given by alcohol induced ulcer to albino male rats (wt. range from 25-250g) & dose ranging from 100-600mg/kg were used and introduced orally. All the herbs show significant reduction in ulcer, but *C. asiatica* shows maximum protection against ulcer i.e. 99.15 % (dose 400mg/kg). It can be concluded that, aqueous extract of *C. asiatica* possessed maximum significant antiulcer activity (among these herbs), when compared to control group. This activity thus lends pharmacological approval to the recommended use of *C. asiatica* as a natural therapy in the treatment of supervision of ulcer.

47. Umair, M., **Shahid, S.**, (2014). Comparative Study of Hepatoprotective Activity of *Chenopodium album* Linn, 25th National and 13th International Chemistry Conference at University of Punjab, Lahore, October 20-22, 2014, page 404

Abstract: Liver is an important organ of the body that plays a pivotal role in regulating physiological processes in the body. The activity to decrease or eliminate the liver diseases is called hepatoprotective activity. Hepatic disease is one of the serious health problems that are the major cause of the deaths of human beings. Liver diseases are mainly caused by toxic chemicals such as alcohol, high doses of paracetamol or carbon tetrachloride, etc. *C. album* has great medicinal importance and has anticancer, anti-inflammatory and hepatoprotective activity. This plant belongs to family chenopodiaceae and commonly known as 'fat hen' and 'lamb's quarter'. The main objective of this study was to use the natural remedies from medicinal plants which are considered to be effective and save alternative treatments for hepatotoxicity. Different allopathic medicines have used for the treatment of hepatotoxicity but most of them have side effects or less effective than the natural medicines.

Solvent

Extraction method was used to collect the extract from different parts of the plant *C.album*. Wister albino rats of different weights were used for experiments and silymarine was taken as reference drug. Hepatoprotective activity assessed by measuring the levels of biochemical markers such as serum enzyme level, SGPT, SGOT, ALP, AST, ALT and bilirubin. It was observed that the levels of biochemical markers were increased due to presence of toxic chemical groups which have extreme bad effects on liver. After treating with *C.album* extracts the levels of biochemical markers decreased to near normal level and prevent liver from hepatotoxicity.

48. Bashir, M.W., **Shahid, S.**, (2014). Comparison of Ulcer Index in Anti-Ulcer Activity of *Ficus Religiosa*, 25th National and 13th International Chemistry Conference at University of Punjab, Lahore, October 20-22, 2014, page 406

Abstract: *Ficus religiosa* is used in Ayurvedic and traditional medicines for the treatment of gastric ulcer. The aim of the study is to use the ethanolic extract of different parts of *F. religiosa* to validate the anti-ulcer activity. Leaf ethanolic extract of *F. religiosa* was used to investigate the gastro protective activity in rats. The ethanolic extract (100, 200, 400 mg/kg) of stem bark was evaluated by indomethacin, cold restraint stress induced gastric ulcer and pylorus ligation. The ethanolic extract (250 and 500 mg/kg body weight) of leaves was also evaluated by cold water inversion method and with the help of ulcer area and histopathological screening. In all assays the ulcer index was reduced by ethanolic extract, pH of gastric juice increased while volume of gastric juice is reduced at the same time. Ulcer area and gastric secretion was prevented by extract treatment in a dose dependent manner. The presence of flavonoids in extract was identified by phytochemical analysis. The value of ulcer index was decreased by *F. religiosa* when it was compared by control treated group. The presence of saponins, tannins and proteins was revealed by phytochemical analysis. The volume of gastric acid, free and total acidity and ulcer index was decreased by ethanolic extract proving this herb as an efficient remedy for ulcer treatments.

49. Ikram, M., **Shahid, S.**, (2014). Comparison of Antileishmanial Activity of a Linalool-rich Essential Oil, 25th National and 13th International Chemistry Conference at University of Punjab, Lahore, October 20-22, 2014, page 398

Abstract: Leishmaniasis is a chronic disease caused by protozoan parasites belonging to the genus *Leishmania*. The antimicrobial and anesthetic activities of linalool-containing essential oil have been reported. This study demonstrates the usefulness of the essential oils as a promising alternative to treat leishmaniasis by comparing IC₅₀ value of different plants essential oil against linalool. Leaves solvent extract of different plants were used to validate the IC₅₀ value in rats. Solvent extracted *C. cajucara* containing Linalool was identified by GC-MS. 0.015ug/ml of essential oil was able to kill 100% *L. amazonensis* promastigotes. Oil from *Piper auritum* showed IC₅₀ value of 22.3 µg/ml against peritoneal

macrophages. Colombian plants *Lippia alba*, *Lippia Origanoides*, Thymol & S-carvone were also studied for the same with GC-MS and found to have IC₅₀ of 5.5 µg/ml, 4.4 µg/ml, 3.2 ± 0.4 µg/mL and 6.1 ± 2.2 µg/mL. Similarly essential oil of *Vanillosmopsis arborea* (VAEO) and its major compound alpha-bisabolol and essential oil showed IC₅₀ 7.35 and 4.95 µg/mL resp. and intracellular amastigotes (IC₅₀ 12.58 and 10.70 µg/mL, resp. Neither product showed any cytotoxicity on treated macrophages. In all studies it was observed that sand fly saliva suppresses macrophage leishmanicidal activity, inhibiting nitric oxide production. Therefore the finding that macrophages pretreated with *C. cajucara* and other essential oil produced twice the amount of nitric oxide as the nontreated macrophages. The results presented in this paper further support that the oils have no effect upon mammalian cells, enables linalool-rich essential oil to be a source of a new lead compound for novel antileishmanial drugs.

50. **Mohyuddin, A., Inam, M, Bhatti, A.A.** (2014). Optimized synthesis and physical properties of the biodiesel from fresh and waste vegetable oil, paper presentation at 25th National and 13th International Chemistry Conference, University of Punjab Lahore, Pakistan (October 20-22, 2014).

Abstract: The increase in the demand and prices of petroleum products as well as the environmental concerns resulting from the burning of fossil fuels in electricity production has resulted in focusing on the use of environmental friendly renewable alternative energy resources, like solar, hydro, tidal, wind, geothermal and biomass energy. There has been plenty of research done so far on engine performance and biodiesel production. Biodiesel was produced from fresh oil (BFO) and waste vegetable oil (BWO) on using biofuels for electricity generation. The engine performance tests were conducted with petroleum diesel and biodiesel samples at different loads and variable speeds. On comparing the electrical efficiency of generator and brake specific fuel consumption (BSFC) values, it was observed that less fuel is required for same power output when BFO (0.19 kg/kWh) and BWO (0.18 kg/kWh) were used in place of petroleum diesel. Moreover, an increase in BSFC values of BFO and BWO as compare to petroleum diesel at different speeds leads to the same interpretation. Higher efficiency and lower BSFC values of BFO (Efficiency: 43.25%; BSFC: 0.19 kg/kWh) and BWO (Efficiency: 41.34%; BSFC: 0.2 kg/kWh) due to complete combustion and reduction in calorific value of the fuel. In case of BWO, the operational efficiency (41.34%) was found less than the diesel-fueled condition.

Keywords: biodiesel; engine; efficiency; brake specific fuel consumption;

School of Social Sciences and Humanities

Department of Special Education

Journal Articles

1. Akram, B., & Hameed, A. (2014). Adaptive Emotional Abilities of Adolescents with Hearing Impairment. *Pakistan Journal of Psychological Research*, 29(1). **HEC approved Y category**

Abstract: The present study was conducted to explore the levels of adaptive emotional abilities of adolescents with hearing impairment as well as to find the roles of socio-demographic variables in the development of their emotional abilities. For this purpose an indigenous instrument, the Adaptive Emotional Abilities Scale was developed based on Emotional Ability Model proposed by Mayer and Salovey (1997). A comparative sample of 1050 hearing adolescents was also recruited. The scale was administered to 469 randomly selected adolescents with hearing impairment and 1050 hearing participants between the age range of 12 and 18 years. The instrument was found to have acceptable level of validity and reliability. Proportion Consensus Method (Barchard & Russel, 2006) was used for scoring. Results showed that hearing participants were significantly higher on Adaptive Emotional Ability Scale than the adolescents with hearing impairment. On the other hand, it was found that socio-demographic variables; such as access to hearing assessment and speech services. time of intervention, presence of hearing impaired family member, preferred language of family, and preferred language of the participants themselves regardless of their hearing loss; play important roles in developing the adaptive emotional abilities of the adolescents with hearing impairment. The results clearly indicated that hearing impairment itself is not the only reason of poor performance of the adolescents with hearing impairment.

Keywords: Hearing impairment. adaptive emotional abilities, consensus responses, adolescents

2. Qadir, M. J., Pacurar, E., & Hameed, A. (2014). Teachers Perception about the usefulness of IT Labs Project in Schools of Punjab, Pakistan. *World Journal on Educational Technology*, 6(1).

Abstract: ICTs can provide relevant and high quality knowledge and this knowledge helps students in field work. A strong ICT framework in education is an essential for knowledge- based development. The Punjab IT Labs was the first project of its type launched by the provincial government of Punjab. 4286

computer labs were established in public secondary schools of province Punjab in 2009 under this Project. The objective was to investigate the views of teacher about the usefulness of Punjab IT Labs Project. The population of the study was included all teachers of Govt. Secondary and Higher Secondary Schools equipped with IT labs in Punjab. Six (6) districts were selected randomly among all 36 districts for study. Data was collected by developing survey questionnaire. The questionnaire was consists of questions designed to collect data concerning perceptions of teacher about the usefulness of Punjab IT Lab Project. A five points Likert scale questionnaire was adopted for measuring teachers' perceptions about the usefulness of Punjab IT Lab Project. SPSS 19 was used to analyze the data. Most of the teachers do not use IT Lab due to lack of time and lack of knowledge about computer. The study recommended that the teachers should be provided training about computers. There is also need to provide technical support and maintenance fund to get better results of this mega project.

Keywords: IT, teachers, secondary, project.

3. Bashir, R., & Hameed, A. (2014). Social exclusion of students with hearing impairment in home environment. *Pakistan Journal of Special Education*, 15, 167-179. *HEC approved Z category*

Abstract: The main purpose of this study was to identify the causes of social exclusion of students with hearing impairment with reference to home. An intensive review of literature covered related topics such as characteristics of social exclusion, dimensions of social exclusion, different models of social exclusion, and attitudes of family members toward children with hearing impairment. A self- developed and validated Likert scale (Cronbach alpha: 0.82) was employed for data .collection from a sample of (560) students with hearing impairment (males=302, females=zo S selected through random sampling technique belonging to seven divisions of the Punjab, Pakistan. Data were analyzed' by using SPSS. Descriptive and parametric statistics were run to have an overall picture of social exclusion encountered by' students, with hearing impairment in home environment. Major findings revealed that parents show overprotective behavior and have low priority toward education and healthcare of children with hearing impairment. Family discouraged initiatives taken by children with hearing impairment and were reluctant in assigning independent tasks and responsibilities. Parents of children with hearing impairment should be coun~eledand literate to provide inclusive and participatory environment in home and create fair and equal chances for children participation in home. Guidelines may be provided to parents

regarding the potential of their children with hearing impairment.

Keywords: Social exclusion, Home environment, Students with hearing impairment

4. Fazil, H., & Hameed, A. (2014). Assessment challenges faced by the University teachers in inclusive classrooms. *Pakistan Journal of Special Education 15*, 203-217. **HEC approved Z category**

Abstract: The educational assessment process reveals what a student understands, knows and can do. This information is very much important in making educational decision about him. The global movement on inclusive education mandates that every school needs to be inclusive in its orientation and service delivery. In Pakistan, during last decade efforts have been made by the private and non govt. organizations to bring about a change in the education system in order to make it inclusive in theory and practice. Many pilot projects have been conducted by the Federal Directorate of Education, Directorate of Special Education and international and national non government organizations. Consequently, students with disabilities have entered into higher education. Many challenges have surfaced as a result of their presence in a regular classroom at higher education level. Challenges in educational assessment of students with varying learning abilities happened to be the most challenging. This paper will address some of these challenges of educational assessment and will provide a guideline to address them. A total of 47 university teachers across various academic disciplines and universities of Lahore who have recently taught in inclusive classrooms were interviewed for this purpose. The findings of these interviews are presented in this paper.

Keywords: Educational assessment, Inclusive education, Adaptation, inclusive classroom, Higher education, Assessment challenges.

5. Hameed, A., & Manzoor, A. (2014). Identifying biases in national policy for the persons of disabilities 2002 using the bise free framework. *Pakistan Journal of Special Education 15*, 275-285. **HEC approved Z category**

Abstract: This critical review of National Policy for persons with Disability 2002 and its Plan of Action 2006 is based on BISE FREE Framework: A practical tool for identifying and eliminating social biases in health research developed by Burke & Eichler (2006). The National policy of any country is a reflection of the perceptions of its government and its relationship with people. Any form of discrimination in policy always lead to injustice and hatred culminating always in violence. Since most of the national policies in Pakistan do not reach to the

implementation stage the negative impact of such policies remains invisible. Even then, they keep affecting the life of people through institutional actions such as courts, police and social service institutions. The interpretation of the actual text of the policy in the light of the framework concluded that the National Policy for Persons with Disabilities 2002 and its Plan of Action 2006 are highly biased and need extensive revision by a team of experts who are capable to formulate a bias free policy for persons with disabilities.

Keywords: BISE Free Framework, National Policy, Person with Disabilities, Plan of Action.

6. **Hameed, A., & Manzoor, A. (2014).** Access to free and compulsory education: The case of children with special needs in the subcontinent. *Pakistan Journal of Special Education*, 15, 287-303. **HEC approved Z category**

Abstract: There has been a move to enact constitutional provision for free and compulsory education in the Subcontinent. Surprisingly enough, the legislative cover with its wording is very similar in Pakistan, India and Bangladesh. Various studies indicate that the school enrollment rate of children with disabilities does not go beyond 4 % in these countries. It can be argued that because of the segregated policies these children have been systematically marginalized. Few studies suggest that the children with disabilities are not only out of school but they remain invisible in various census reports. Consequently they are left out of all educational planning. They are not visible enough as right bearers to claim their right to education. Other reasons for such marginalization include poverty, unhygienic living conditions, poor health and societal neglect. The demographic distribution of these countries indicates that over 60% of school age children with disabilities live in rural areas whereas the special educational services are only available in urban areas. It is encouraging that movement of Inclusive Education is gaining momentum in this region. Unfortunately, these are also confined to urban areas. There is a fear that the major chunk of children with disabilities will be left unreached even with all legislative measures. This study aims to propose a strategic plan for the inclusion of these invisible children. The existing public school network needs to be revamped to reach out and bring these children into fore. The Government primary school for example, is strategically located at the doorstep of all children including children with disabilities. A workable and affordable improvement plan for the school needs to be prepared so that it can accommodate all children irrespective of their diverse needs. Once they are made visible enough as a right bearer for the right to education, they will not be left behind from the movement for free

and compulsory education.

Keywords: Free and compulsory education, Marginalization, Inclusion, Children with Special Needs, School Improvement, Subcontinent.

Conference Papers

7. Hameed, A., & Manzoor, A. (2014, March 10-11). *Making the Children Visible as Right Bearers for Education* Paper presented at the International Education Conference on the Theme "Education as a right across the levels: Challenges, Opportunities and Strategies", New Delhi

Department of Education

Journal Articles

8. Tatlah, I. A., Iqbal, M. Z., Amin, M Quraishi, U. (2014). Effect of leadership behavior of principals on students' academic achievement at secondary level: a comparison of the leaders and teachers perceptions. *Journal of Research and Reflections in Education*, 8(1). **HEC approved Y category**

Abstract: This article reports a study aiming to investigate the affect of leadership behaviour of secondary school leaders on the academic achievement of the 10th grade students from public and private sector schools in Punjab, Pakistan. This study also explored if there was any difference in affect of leadership behaviour of principals as described by them and as described by the observers regarding students' academic achievement. A survey was conducted using Leadership Practices Inventory Self and Observers (LPI- Self & LPI-Observers). These inventories were comprised of 30 items separately. LPI-Self was served over 64 secondary school leaders / principals and LPI-Observer was served over 128 secondary school teachers who were the observers of the prevailing practices. Students' achievement score was taken from the annual examination results declared by the Board of Intermediate & Secondary Education. Regression Analysis was conducted to find out the effect of leadership behaviour and t statistics was applied to find out any difference between both of the perceptions. Moreover, there was effect of leadership behaviour of principals on students' academic achievement but there was a significant difference between the view point of the leaders and observers regarding this affect. A significant contrast between the observations regarding the affect of leadership behaviour on students' achievement as described by the principals themselves and as described by the observers was noted.

Keywords: leadership behaviour, students' achievement, observers, leaders

Conference Papers

9. **Iqbal, M.Z.**, Tatlah, I A. and Akhter, M. "Relationship between Leadership Behaviour of Principals and Students' Academic Achievement" at Secondary Level." Paper accepted for presentation in the conference SOC10-1NT14-International Conference on Social Sciences and Humanities to be held in Istanbul, Turkey, from 8th—10th Sept. 2014.
10. Munir, Hina and **Iqbal, M.Z.** "A Study of Relationship between Leadership Styles of Principals and Job Satisfaction of Teachers in Women Colleges" Paper accepted for presentation in the conference SOC10-1NT14-International Conference on Social Sciences and Humanities to be held in Istanbul, Turkey, from 8th—10th Sept. 2014.

Department of Psychology

Journal Articles

11. **Javaid, M. & Ahmad, I.** (2014). Adolescent girls are hurt more by the body mass than thin-ideal media images of females. *Journal of Behavioral Sciences*, 24(1).

HEC approved Y category

Abstract: This study aimed to identify factors that affect body self-image satisfaction and negative mood among adolescent girls. Positive and Negative Affect Schedule, Self Esteem Scale, Body Image Satisfaction Scale and Figure Rating Scale was administered to 97 female undergraduate students to have a base-line data for the study. Overall, self esteem and body mass predicted body satisfaction significantly. Of these 47 participants volunteered to appear in the second phase of the study as well, after a week, and were shown thin-ideal images of women on power point as an intervention and were asked to complete Positive and Negative Affect Schedule and Body Image States Scale for the second time in view of their recent and fresh feelings and views. It was found that the participants of different body weight showed no change in their body image satisfaction than before except in the case of overweight participants. They were significantly affected on negative mood after viewing the thin ideal images. Comparing three groups with different body mass index, one-way ANOVA revealed significant difference on negative mood as well as body image satisfaction. This revealed body mass (index) is a potent and table factor that could strongly affect body satisfaction. Overall, participants' actual body mass was a negative predictor of body image satisfaction and self esteem appeared as a moderator of mood affectivity. These results were corroborated with another finding of this study: Participants whose perception of their body shape and that of their ideally desired body shape was markedly discrepant had gone to

significantly low level of body image satisfaction as well as self esteem than those with low discrepancy. The thin-ideal images seemed to affect influence body satisfaction and mood of the oversized women more than the average ones.

Keywords: Body image satisfaction, thin-ideal images, media, mood affects, self esteem

Conference Papers

12. **Saqib, T.** (2014). "Development and Validation of an Indigenous Scale: Children Measure for Moral Reasoning". Paper presented in International Conference on Educational Psychology held at National Institute of Psychology, Quaid-i-Azam University, Islamabad.
13. **Afzal, S., & khalid, R.** (2014). Social Support and Postnatal Depression. Paper presented at the International Conference on Social Psychology. GCU. Lahore

Department of Clinical Psychology

Journal Articles

14. **Naeem, F. , Mahmood, Z. & Saleem, S.** (2014). Dyslexia a myth or reality: Identification of dyslexia in school children of grade fourth and fifth *I. FWU Journal of Social Sciences*, 8, (1), 1-9. **HEC approved Y category**

Abstract: The concept of dyslexia has been with us for nearly 200 years, yet the controversy about its existence has been a debatable issue among Researchers, Educationalists and Psychologist. The scope of dyslexia expanded from Word Blindness to spectrum of Specific Learning Difficulties affecting school children. Dyslexia manifests itself in the area mainly in reading and for some children writing and arithmetic difficulties co-occur, creating discrepancy between ability and achievement. Recently the debate about the diagnosis of dyslexia has been raised particularly its relevance in third world countries. The purpose of current study was investigate Spectrum of specific learning difficulties in young school children of grade 4th and 5th. The assessment was carried in group and individual setting. 900 school children boys 433(48.3%) and girls 467(51.7 %), age ranges from 9-12 years; were assessed. series of tests used specifically assessing symptoms of specific learning difficulties. The results showed much wider range of cognitive deficits across three level of achievement, yet it is not consistent with the diagnosis of dyslexia. The results were discussed in the light of observation drawn from the third world countries, where difficulties in academics mimic dyslexia.

Keywords: dyslexia, school children, under achievement, gender, assessment

15. Saleem, S., Khalid, T. & Mahmood, Z (2014). Self Reported Depressive Symptomatology in Adolescents: A Psychometric Study, *FWU Journal of Social Sciences*, 8, (1), 57-66. **HEC approved Y category**

Abstract: This study attempts to explore cultural-specific manifestation and expression of depressive symptomatology in adolescents. 40 school children referred by their teachers to the school counsellors were interviewed to explore the expression of depressive symptomatology. A list of 32 elicited items was given to 10 school counselors for empirical validation. All those items receiving 90% agreement from the experts were retained. A final list of 27 items converted into a self report measure (Depressive Symptomatology Scale, DSS) was piloted on 30 children. In the final phase, a 385 participants selected through stratified sampling were given the DSS, the Self-Concept Scale (Perveen, Saleem, & Mahmood, 2011), and the Child Depression Inventory (1992) for concurrent validity and a demographic performance. Principal Component Factor analysis yielded a four factor solution; Sadness, Indecisiveness, Irritability and Psychosomatic symptoms. The DSS was found to have high internal consistency, test-retest reliability, and concurrent and discriminant validity. Results are discussed in terms of gender differences, school counseling and cultural differences.

Keywords: adolescents, gender, depressive symptomatology, culture, reliability and validity

Department of Political Science

Conference Papers

16. Hina, Gull. (2014) *Quaid-i-Azam Residency: The Ashes of a Lost Heritage*. Paper Presented at the 3rd national Conference on "Quaid-i-Azam Muhammad Ali Jinnah", GCU, Faisalabad.
17. Hina, Gull. (2014) *Reconstructing History through Oral Tradition: Dying culture of Das Kulcha Community of Walled City Lahore* at 2nd International Conference of History on "Colonial and post-Colonial Punjab", GCU, Lahore.

Department of International Relations and Media Studies

Journal Articles

18. **Rahman, H.** (2014). Pakistan's Soft Power: Prospects and Limitations. *Journal of South Asian Studies*, 2, (3), 257-263.

Abstract: The contemporary world is shifting its focus from hard power to soft power. This new approach is really influential in bringing stability in the present times. It is largely used in international affairs for progress at national and global level. All developed countries are now particularly paying attention towards building their soft power. Britain, United States of America, China, Russia and India; all big states are concentrating towards soft power since long along with hard power. Pakistan needs to spot on its soft power seriously. Unfortunately terrorism, feeble tourism industry and corruption have already tarnished the soft image of the country worldwide. Pakistan needs to promote its soft image through media, tourism, literature, art and painting, information technology, music and theatre. Pakistan has unlimited things which can be used to offset the dark shadow of the country. The lacking object is the focus on soft power which should be initiated because only it can help to portray Pakistan in a positive way on the global level.

Keywords: China, Hard power, Pakistan, Soft power, Terrorism, United States.

Department of Social Science

Conference Papers

19. **Sajjad, F.** (2014). *The Post 9/11 Demand to Reform Madrasa Education & Its Response in Pakistan*. Paper presented at the 3rd International Conference on "Education in Pakistan: Practices and Challenges", University of Education, Lahore.
20. **Sajjad, F.** (2014). *The Madrasa Myth and the Missing Perspective*. Paper presented at the 2nd International Conference on Research in Education, Punjab University, Lahore, Pakistan.
21. **Sajjad, F.** (2014). *Faith. Peace, Education; Perspectives of Active Faith based Educators in Pakistan*. Paper presented at the 7th International Conference on Education, Research and Innovation, Seville, Spain.

Abstract: Pakistanis take pride in calling themselves a faith based nation. Faith based actors in this country have always had a good share in shaping popular views. But faith in this country's short, troubled history has mostly remained a

source of conflict rather than harmony. Faith based peacebuilding on the other hand is an emerging discipline within peace and conflict studies, generating a vast literature in recent years. The role of faith in conflict transformation and building peace is the key theme of this discipline. For peacebuilding in Pakistan, the post 9/11 academic discourse emphasizes the role of education and faith based actors . Formerly the madrasa reform and then public education reform has remained the focal point of academic and policy papers on Pakistan for many years after 9/11 . Many recent studies recommend engaging faith based actors and reforming education to promote peace in Pakistan. This study aims to examine the ideas presented in two vast sets of literature; literature on faith based peacebuilding and education reform for peace in Pakistan. This study then seeks to explore the possibility of engaging faith based educators in Pakistan for building peace in the country by collecting their perspectives on issues related to faith, peace and education. This study shall contribute significantly to the existing discourse on education and faith based peacebuilding in Pakistan as it seeks to explore the perspectives of institutions actively involved in faith based education in Pakistan, significantly shaping the educated, middle class worldviews and previously not sufficiently covered in education and peacebuilding discourse.

Keywords: Faith based education, faith based educators, peacebuilding, madrasa, Pakistan, perspectives.

22. **Sajjad, F.** (2014). *Religious Education for Peace in Pakistan*. Paper presented at the The Inaugural Asian Education for Peace and Interfaith Congress, Hiroshima , Japan.
23. **Sajjad, F.** (2014). *Faith as a Human Security Concern, The Case of Tehrik Taliban Pakistan*. Paper presented at the Fourth International Human Security Conference, Istanbul , Turkey.

Department of Sociology

Journal Articles

24. Munawar, R., **Ali, V., & Haq, I. U.** (2014). Religious Knowledge, Women Empowerment and Da'wa. *Al- Adwa, XXIX(XLII)*. **HEC approved Y category**

Abstract: Since the independence of Pakistan and the inception of the Islamic Republic, there had been no formal institution functioning for the empowerment and authority for women in the religious domain of the country. Following the traditional norms of the Islamic society, women in conservative families were constrained in their households. Their position for decades was in the contours of

typical custodian or mentor in the house. However, in 1980's and 90's a sizable number of mosques and Muslim organizations opened their door to women and started to provide prayer rooms, religious instructions and other services particularly for women believers. The number of these organizations continues to increase incessantly. One can argue for that this new found autonomy of the Muslim women would eventually polarize the phenomena of religious authority itself and as a consequence would cause her own interpretative to dominate. Moreover, this affair would sooner or later rejuvenate the very roots of authority, opening the path for women to become authorized interpreters of religious sources.

Keywords: Not Available

Conference Papers

25. **Inam -ul- Haq & Saqib, T.** (2014) Exploring the phenomenon of gambling in local context. Paper presented at International Conference on Social Psychology held at Government college University, Lahore

Department of Islamic Thought and Civilization

Journal Articles

26. **Salik, M. A., & Gulzar, S.** (2014). Pakistan main islami bankari ki koshasheen: (1980-2012) Tarekhe and tajazyati mutalya. *Pakistan Journal of Islamic Research*, 15, 143-163.

Abstract: Islam has prohibited Riba due to its disadvantages such as, accumulation of wealth by a group of society, inflation, trade cycle and poverty etc. Due to various disadvantages of Riba, interest free banking industry is growing rapidly all over the world as well as in Pakistan. State bank efforts for the promotion of Islamic banking are large focused on providing the requisite financial infrastructure in shape of Shariah compliance, legally, regulatory and supervisory framework. The sole purpose of conventional banking is to make money for the banking institute by lending out capital at interest, where in Islamic financing is always based on illiquid an asset that is a feature of the transaction. Profit to Islam financing is generated through bonafide sale of these assets. Islamic banks are introducing Islamic mode of financing such as Murabaha, Ijara, Bai Muijja, Bai Salam, Istasna, Musharaka and Mudaraba. Murabaha and Diminishing musharaka have remained the most favoured mode of finance of all Islamic Banking Institutions not only in Pakistan but at the global level as well. However, it is important to note that mudaraba and musharaka have small share in overall financing portfolio. For the development of Islamic banking, it is indispensable to promote mudaraba and musharaka based mode of financing.

Keywords: Interest, Islamic Banking, Conventional Banking, Mode of financing, Skuk.

27. Gulzar, S., & Salik, M. A. (2014). The impact of 9/11 on Pakistan economy and teachings of islam: An analytical study. *Aezah*, 28.

Abstract: After the Incident of 9/11 Pakistan decided to become the ally of America and lay an important role in fighting terrorism on both domestic and global fronts. This war has destroyed the peace of Pakistan and has affected the Economy of Pakistan desperately. The decision of Pakistani government to fight the so called war on terror with America only to get the financial and political support of America was clearly against the teachings of Islam. However, Pakistan did receive financial benefits in this war. The important development in the wake of 9/11 is that Pakistan became the biggest beneficiary of us economic aid in the South Asian region. Despite the GDP growth, foreign aid, foreign investment, better record of foreign exchange reserve, worker remittances and debt rescheduling Pakistan's economy did not show the desired results. The change in the Pakistan's economy during this period is not sustainable in economic term. Due to the war on terror law and order situation has become worst. At present Pakistan is facing most unique, difficult and gruesome faces of terrorism. In this situation fiscal policy in Islamic perspective is prerequisite for the peace and economic development of Pakistan.

Keywords: Not Available

28. Nadvi, M. J., & Abdullah, M. (2014). Pre-requisites of Muslim-Christian Relations in 21st Century. *Gomal University Journal of Research*, 30(1). **HEC approved Z category**

Abstract: Muslims and Christians have been involved in exchanges over matters of faith and morality since the dawn of Islam. Attitudes between these faiths today are deeply coloured by the legacy of past encounters, and often preserve centuries-old negative views. The interest of the Muslims and Christians in understanding each other is also phenomenal in history. In view of this scenario, this paper attempts to propose some reflections on Muslim-Christian Relations in the 21st Century in the view of these questions: What kind of relations does Muslims and Christians want in this century? What are some of the obstacles and challenges to be considered? And what steps can be taken to overcome these obstacles or meet these challenges? These questions have been answered in this paper for the kind of Muslim-Christian relations to be anticipated for and worked for.

Keywords: Pre-requisites, Muslim-Christian Relations, 21st Century

Books

29. **Mustafa, M. T.** (2014). Tarekh-e- Tafseer wa Asul-e- Tafseer: Al-Faisal, Lahore.
30. **Mustafa, M. T.** (2014). Tarekh-e- Hadees wa Asul-e- Hadees: Al-Faisal, Lahore.

School of Governance and Society

Journal Articles

1. **Maria, B.** (2014) Geopolitical modernity and Pakistan foreign relations: How relevant? *Khazar Journal of Humanities and Social Sciences*, 17(12).

Abstract: This article aims to explore the way modernity has been impacting Pakistan's foreign relations and policy, and whether it is relevant to use modernity as a political concept in order to understand them. The article is also an attempt to contextualize International Relations beyond the norms of Western Enlightenment by highlighting the real possibility for adoption of an interdisciplinary ground in order to approach foreign relations. To be sure, most of International Relations theoretical basis used to study Pakistan foreign relations is situated within the realist paradigm. This fact comes with no surprise give the historicity of this young nation, and the context on which its foreign relations were built over the past sixty years, with particular attention to the Cold War scenarios, which left a significant mark in South Asia region in general and in Pakistan in particular.

Keywords: Not Available

Conference Papers

2. **Feyyaz, M.** (2014). Voids, limitations and implications of national counter-narrative for CT – A case of Pakistan. Paper presented at the Terrorism Expert Conference, Ankara, Turkey.

School of Textile & Fashion Design

Journal Articles

1. Tusief, M. Q., **Amin, N.**, Saddique, M. & Mahmood, N. (2014). Impact of various wrinkle free finishes on wrinkle recovery property of cotton fabric under different variables. *Journal of Textile Science & Engineering*

Abstract: Today everybody wishes for that his/her dress retains just ironed shape. Wrinkle free finishes provide wrinkle free and soft look fabric. Wrinkle free finishes are broadly used in the textile industry to impart wrinkle-resistance to cellulosic materials such as cotton fabric. The application of wrinkle resistance (permanent or durable press) finishes on the fabric improves their wrinkle resistance property. Because of increasing demand for pure cotton fabrics, permanent press finishes are being used on these clothes. In conventional durable press finishing, there are two types of products used (resin type and reactant type). Both of these products contain formaldehyde which cause human carcinogen. Hence durable press finishes free of formaldehyde with trade names Texicil DC, Knittex RCT, Arkofix NEC and Arkofix ELF (Dihydroxi ethylene urea and Demethyldihydroxi urea) were used in this research study. The present work endeavors to optimize the application of these wrinkle free finishes at various concentrations trying different techniques of applying these finishes on pure cotton fabric for best manufacturing results. The results revealed that the finish Arkofix ELF and Arkofix NEC showed superior results at the concentration level 120 g/l under Pad-flash –cure method of application for the wrinkle free property of the fabric.

Keywords: Wrinkle free finishes; Wrinkle recovery; Fabric finishing techniques; Cotton; Woven fabric

2. Tusief, M. Q., **Aminb, N.**, Mahmood, N., & Iqbal, W. (2014). Tensile Properties of Cotton Yarn as Affected by Different Yarn Singeing Machine Variables. *Series A: Physical Sciences*, 57(3), 172-175.

Abstract: The present study endeavours to optimise the yarn quality in respect of its tensile properties by choosing the best combination of the yarn singeing machine variables for excellent manufacture results. This research study revealed that different values of winding speed, gas pressure and air pressure of yarn singeing machine put significant effect upon the tensile properties of cotton yarn after singeing.

Keywords: air pressure, gas pressure, tensile properties, winding speed, yarn singeing

Conference Papers

3. **Avais, M., & Abbas, M.** (2014). *Energy efficiency calculations and improvement proposals for humidification plants in textile industry*. Paper presented at the International Conference on Business, Economics, Energy and Environmental Sciences (ICBEEES), Kuala Lumpur, Malaysia
4. **Avais, M., & Abass, M.** (2014). *Finding efficient energy proposals for humidification plants in textile industry*. Paper presented at the 25th National and 13th International Chemistry conference, University of Punjab Lahore.

Book

5. Tauseef, Q., **Amin, N.**, & Rehman, A. u. (2014). *Study of Organic Cotton Yarn Quality for Various Spinning Techniques*: Lambert Publishing.

School of Commerce and Accountancy

Books

1. **Mahmood, M. T.** (2014). *Fundamentals of Accounting: For Undergraduate*. Lahore: Ilmi Book House.
2. **Mahmood, M. T.** (2014). *Financial Accounting: For Undergraduate*. Lahore: Ilmi Book House.
3. **Mahmood, M. T.** (2014). *Introduction to Accounting - Study Text: For CA*. Lahore: Ilmi Book House.
4. **Mahmood, M. T.** (2014). *Introduction to Accounting - Q&A: For CA*. Lahore: Ilmi Book House.
5. **Mahmood, M. T.** (2014). *Financial Accounting & Reporting 1 – Study Text: For CA*. Lahore: Ilmi Book House.

6. **Mahmood, M. T.** (2014). *Financial Accounting & Reporting 1 - Q&A: For CA*. Lahore: Ilmi Book House

School of Communication and Cultural Studies

Journal Articles

1. **Riaz, S.** (2014). "Multiculturalism: Rhetoric or Reality" *Pensee Journal*, Vol 76, No. 5. (JCR Listed – IF 0.018)

Abstract: This paper aims at exploring the common ground and tension between rhetoric and reality. Reality can be a manifestation of rhetorical latent contents that accentuate how the rhetorical matter is not secluded in partisanship as long as the option of 'becoming' and realizing the dream exists. Yet the effectiveness of rhetoric is not evaluated by the measure of its success in turning the dialogical stance into its physical presence. Its success is in stimulating the discourse and a counter discourse to meet the criterion of political, economical and cultural flux of a multicultural world. This point is supported through Nietzsche's 'anti-God rhetoric' and Henry Miller's 'for God' notion. For a better comprehension, the undertaken subject is contextualized in feminist and postcolonial discourses to see the working of rhetoric and reality as essentially inseparable or as extremely two opposite poles wherein rhetoric can be seen as having an edge not only certified but imposed upon human beings. The discussion is further carried on by interrogating the role of rhetoric and reality in multiculturalism.

Keywords: Not Available

Conference Papers

2. **Zafar, A.** (2014). *E-teaching approach for language teaching in Pakistani context: A teachers' perspective. Paper presented at 3rd International Language Conference (ILC).*

Abstract: This research paper discusses the language teachers' use of Information and Communication Technology (ICT) in urban private school of Lahore with a particular emphasis on improving the quality of language teaching. The sample of the study is taken from the middle and senior school language teachers. It focuses on the internal factors of influence on teachers use, or lack of use, of technology in the classroom. Moreover, the discussion attends to the technological literacy, pedagogical expertise related to technology use and the motivating effects of ICT on teachers. These factors are discussed in the light of significant

infrastructure and other external issues. It concludes by drawing out a number of academic implications for initial teacher education and professional development to bring schooling within developing contexts.

Keywords: Information and Communication Technology (ICT), E-teaching, E-education, Computer Aided Language Teaching (CALT)

Learning Resource Center

Journal Article

1. **Awan, M. R,** Mahmood, K., Idrees, H.(2014). Leadership Style, Culture and Commitment: An Analytical Study of University Libraries in Pakistan: *Library Philosophy and Practice*, 1(7). **(SJR Listed)**

Abstract: This study aims to find relationship of leadership style of Chief Librarians, with organizational culture and employee commitment in university libraries in Pakistan. Data for the research were collected through a survey of public and private sector universities in Punjab (province) and federal capital of Pakistan. The university libraries having more than three library professionals were included in selected sample. The perception of Chief Librarians' leadership style was taken from their subordinate professionals and its relationship was found with the culture of organization and job commitment. 115 respondents' data, collected through structured questionnaire, based on t-test, Chi-square and ANOVA tests to find the relationship among relevant variables has been presented in this paper. No significant relationship was found between leadership style and organizational culture in public sector universities, while private sector university libraries exhibit that there is significant relationship between leadership style and organizational cultures in private sector universities. There is no relationship between leadership style and employee commitment in public and private sector university libraries. A significant relationship between organizational culture and employee commitment in was found in both private and public sector universities.

Keywords: Leadership Style, Public Sector University Libraries; Private Sector University Libraries, Organizational Culture, Employee Commitment, Universities of Pakistan

2. **Naveed, M. A. & Anwar, M.** (2014). Nonagricultural information needs of rural Pakistanis. *Pakistan Library and Information Science Journal (PLISJ)* 45(2). **HEC approved Y category**

Abstract: This study aims to explore the information needs of male adults residing in a Pakistani village. The results will not only assist the government in the development of 'National Information Policy' considering rural inhabitants but also

help the local government and information providing agencies to develop a unified and adequate information delivery system for rural communities. Face-to-face interviews were conducted by using a semi-structured interview schedule. Descriptive statistics, e.g. frequency and percentages, were applied in order to analyze data. From the results, it emerged that these respondents needed information, in general, in the areas of health, finance, political, and legal. With regard to the health, they required information on water purification techniques, nutrition, disease control, vaccinations, pregnancy related issues, and child care. In terms of financial information needs, they needed information in the areas of insurance, loans, savings and investments. Regarding political and legal issues, they required information on national and local news, current affairs, government policies and decisions, property related legal issues, and court procedures. They depended mainly on inter-personal relationships rather than mass-media and printed materials. Untimely access, low level of education, and language barrier were the main problems that the rural residents faced while meeting their information requirements. All the respondents showed their intention to use public library, if it was made available in the village. The results will not only assist the government in the development of 'National Information Policy' considering rural inhabitants but also the local government and other information providing agencies to develop a unified and adequate information delivery system for rural communities.

Keywords: Information Needs; Information Behavior; Non-agriculture; Rural; Qualitative Research; Integrated Rural System Pakistan

3. **Naveed, M. A. (2014).** *Understanding rural farmers' information behavior. Rice Plus Magazine, 6(1), 13 - 14.*

Abstract: Indeed, farmers have an inevitable need for information to perform their daily farming activities efficiently and effectively. The information concerning improved agro-technologies created by agricultural scientists should be disseminated in a way that is compatible with, and results in the farmers' satisfaction. Agricultural production in Pakistan is quite lower than its potential in spite of the hectic struggle by the agriculture departments and other allied agencies. It may have various reasons. Farmers' lack of awareness of the current agricultural information and technologies is one of the major reasons for low agricultural productivity

Keywords: Not Available

Institute of Applied Sciences

Journal Article

1. **Aslam, M., & Rasool, S.** (2014). Investigating the Impact of Major Variables Influencing Food Security in Lahore, Pakistan. *International Journal on Advanced Science, Engineering and Information Technology*, 4(3), 19-23.

Abstract: The current research examines the determinants of three aspects of food security in Pakistan that are food availability, accessibility and absorption. For this purpose a models is applied on household level data. The consumption of food related items relates positively with food security. Some other factors like infant mortality and sick person relates negatively with food security. For this purpose primary data approach was used. A representative sample of 90 respondents from high populated city (Lahore) of Pakistan The data about explanatory variables collected through questionnaire. This data was further analyzed using OLS technique. According to findings of the study value of R² was 96% and F value was 23. Econometric analysis revealed that strong policy implications required increasing economic access to food. Production of food commodities should accelerate to ensure food availability. Further analysis demands that proper health facilities and education sector also should make appropriate policies to access the poor households which cannot afford it economically and this health and education related policies will lead to become food secure at domestic level.

Keywords: Food security, food availability, food accessibility, food absorption, infant mortality

2. **Rasool, S., Ghafoor, A., & Aslam, M.** (2014). Examining Consumer Preferences for Inland Fish in District Faisalabad, Pakistan. *International Journal of Agriculture and Applied Sciences* 6(2), 12-19. **HEC approved Z category**

Abstract: The present study was basically carried out to examine the effects of consumer preferences for the inland fish in Faisalabad district by using primary source of the data. The representative sample size of 40 inland fish consumers was chosen by using the stratified random technique of sampling. The influence of main variables influencing the consumer preferences for the inland fish was checked by using the double log type of the regression analysis. The adjusted R² value and F-value were 0.69, 14.10 respectively in our research. The empirical findings of our analysis depicted that the income of the consumer, family size of the consumer,

winter season and purchase price of the inland fish were the significant variables of the fish consumption in district Faisalabad. In addition, significant price volatility for the same breed of inland fish in the wholesale fish market of Faisalabad was also noticed which persuades the consumers. It is recommended that the purchase prices and the supply of inland fish should be sustained through supervising by the concerned authorities specifically in the season of winter.

Keywords: Inland Fish, Consumer Preferences, Faisalabad, Double Log egression Analysis

3. **Aslam, M., Rasool, S., & Mehmood, I. (2014).** *Socio-Cultural Determinants of Women Education: A Case Study from District Faisalabad, Punjab, Pakistan. THE WOMEN, 6(4).* **HEC approved Z category**

Abstract: Multi stage sampling technique was used to evaluate these major determinants. Five Tehsils of district Faisalabad viz. Tehsil Faisalabad, Chak Jhumra, Summandri, Jaranwala and Tandianwala were selected. At initial stage tehsil Faisalabad was stipulated purposively. At second stage Faisalabad tehsil was classified into three components low class areas, middle class areas and high class areas. Two area of each class was selected with simple random sampling technique at third stage. The total sample was comprised on 120 respondents and 40 respondents from each class were picked randomly. An inclusive questionnaire was developed keeping in view the research objectives and data was assembled with personal interview. A statistical package for social sciences (SPSS) was mainly used to analyze the data. The final results of research shows that increase in poverty, surge in family income, and removal of societal barriers eminently influenced the women education. Government should have to pay cogitation to condense the poverty and acts to initiate new industries to increase the family source of income in order to revamp the women education in Pakistan.

Keywords: Not Available

Conference Papers

4. **Aslam, M. (2014).** *Determinants of Seed Cotton Prices: A Case Study of Small Cotton Growers in District Khanewal, Pakistan.* Paper presented at the Asian Society of Agricultural Economists (ASAE), Dhaka, Bangladesh.
5. **Aslam, M. (Presenter)** and S. Rasool. 2014. "Determinants of Youth Crime in Punjab, Pakistan". Paper Presented at two days International Conference on Law & Order and Criminal Justice held at Government College University Faisalabad (GCUF) dated 10-11 December 2014.

6. **Aslam, M. (Presenter)** S. Rasool. 2014. Factors affecting Remittances and their Impact on the Economy of Pakistan. Paper Presented at Two Days International Conference on Migration, Education and Development in South Asia 27-28 March 2014. Fully Sponsored by Quaid-e-Azam University, Islamabad.
7. Rasool, S., **Aslam, M. (Presenter)** and Z. Ali. 2014. Factors affecting Production and Consumption of Fresh Milk in Punjab, Pakistan. Paper Presented in 4th International Conference on Business Management (ICoBM) from 26th February to 27th February 2014 at IBA Sukkur, Pakistan. Fully funded by IBA, Sukkur.
8. **Aslam, M. (Presenter)** S. Rasool and Z. Ali. 2014. Rising Menace of Juvenile Crime in Punjab, Pakistan. Paper Presented for 2nd Pakistan Urban Forum-1st South Asian Cities Conference from 9th January to 12th January 2014 in Karachi.

Book

9. **Aslam, M.,** A. Ghafoor and S. Rasool. 2014. Determinants of Supply and Demand of Fresh Milk in Pakistan. LAP LAMBERT Academic Publishing Agency Germany (November 4, 2014), ISBN-10: 3659626066

Table – 1
School/Center/Department Listing of Publications

School/Department Name	Journal Articles	Conference Papers	Books	Total	SJR Approved	JCR Approved	HEC Approved (local journals)
School of Engineering (SEN)							
• Department of Mechanical Engineering	5	-	-	5	-	4	1
• Department of Electrical Engineering	2	6	-	8	-	1	1
Sub Total	7	6	-	13	-	5	2
School of Business & Economics (SBE)							
• Department of Operations & Supply Chain	1	-	-	1	-	-	-
• Department of Quantitative Methods	2	-	-	2	-	-	1
• Department of Economics	1	1	-	2	-	1	-
• Department of Management	4	-	-	4	1	-	1
• Department of Marketing	2	-	-	2	-	-	-
• Department of Finance	-	2	-	2	-	-	-
Sub Total	10	3	-	13	1	1	2
School of Professional Advancement (SPA)							
• School of Professional Advancement	2	-	-	2	1	1	-
Sub Total	2	-	-	2	1	1	-
School of Science & Technology (SST)							
• Department of Computer Sciences	7	3	-	10	-	2	-
• Department of Informatics and System	1	-	1	2	-	1	-
• Department of Mathematics	21	-	-	21	-	13	-
• Department of Chemistry	3	14	-	17	-	-	2
Sub Total	32	17	1	50	-	16	2
School of Social Sciences & Humanities (SSSH)							
• Department of Special Education	6	1	-	7	-	-	5
• Department of Education	1	2	-	3	-	-	1
• Department of Psychology	1	2	-	3	-	-	1
• Department of Clinical Psychology	2	-	-	2	-	-	2
• Department of Political Science	-	2	-	2	-	-	-

• Department of International Relations and Media Studies	1	-	-	1	-	-	-
• Department of Social Science	-	5	-	5	-	-	-
• Department of Sociology	1	1	-	2	-	-	1
• Department of Islamic Thought & Civilization	3	-	2	5	-	-	1
Sub Total	15	13	2	30	-	-	11
School of Governance & Society (SGS)							
• School of Governance & Society	1	1	-	2	-	-	-
Sub Total	1	1	-	2	-	-	-
School of Textile & Design (STD)							
• School of Textile & Design	2	2	1	5	-	-	-
Sub Total	2	2	1	5	-	-	-
School of Commerce and Accountancy (SCA)							
• School of Commerce and Accountancy	-	-	6	6	-	-	-
Sub Total	-	-	6	6	-	-	-
School of Communication and Cultural Study (SCCS)							
• School of Communication and Cultural Study	1	1	-	2	-	1	-
Sub Total	1	1	-	2	-	1	-
Learning Resource Center (LRC)							
• Learning Resource Center (LRC)	3	-	-	3	1	-	1
Sub Total	3	-	-	3	1	-	1
Institute of Applied Science							
• Institute of Applied Science	3	5	1	9	-	-	2
Sub Total	3	5	1	9	-	-	2
Total	76	48	11	135	3	24	20